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Asbru Web Content Management System

Installation Guide

*Easily & Inexpensively
Create, Publish & Manage Your Websites*



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Asbru Web Content Management System

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Introduction

This document is the installation guide for the Asbru Web Content Management System. The installation guide describes how you, the system administrator and website administrator, install and configure the Asbru Web Content Management System to create, publish and manage your websites.

Installing and configuring the Asbru Web Content Management system is easy and should take no more than a few minutes if you are familiar with web servers and database servers.

This installation guide is divided into eight main parts:

Section 1 describes the system requirements and what you need to do and know before you install the Asbru Web Content Management system.

Section 2 describes how to download and install the Asbru Web Content Management system program files.

Section 3 describes the initial minimal quickstart configuration of the Asbru Web Content Management system to get it running on your website with your database.

Section 4 describes how to proceed when the Asbru Web Content Management system has been installed and configured.

Section 5 describes how to upgrade the Asbru Web Content Management system program files and database to a newer version.

Section 6 describes how to translate the Asbru Web Content Management system to other languages than the included default languages and how to use alternative languages.

Section 7 describes how to install and configure custom and third-party add-on modules and extensions as well as programming API scripts.



Table of Contents

INTRODUCTION	4
TABLE OF CONTENTS	5
1 SYSTEM REQUIREMENTS.....	12
2 DOWNLOAD AND INSTALLATION.....	14
2.1 .NET Installation and Server Configuration.....	15
2.2 JSP Installation and Server Configuration	15
2.2.1 Cache	15
2.2.2 Logs	15
2.3 Spell Checking	16
2.4 Amazon Web Services (AWS) Cloud Deployment.....	17
2.4.1 Asbru WCMS software licenses	17
2.4.2 Platform Architecture / Planning	17
2.4.2.1 Media Storage	18
2.4.2.2 Database Server	18
2.4.2.2.1 MySQL, Amazon Aurora MySQL and MariaDB	18
2.4.2.2.2 Oracle Standard and Enterprise Editions	18
2.4.2.2.2.1 PHP	18
2.4.2.2.2.2 .NET	18
2.4.2.2.3 Microsoft SQL Server Express, Web, Standard and Enterprise Editions	18
2.4.2.2.3.1 PHP	19
2.4.2.2.4 IBM DB2.....	19
2.4.2.2.4.1 PHP	19
2.4.2.2.4.2 .NET	19
2.4.2.2.5 Availability and Capacity	19
2.4.2.2.5.1 Single-server instance.....	19
2.4.2.2.5.2 Replicated standby server instance.....	19
2.4.2.2.5.3 Writer / reader(s) server instances	20
2.4.2.2.5.4 Serverless	20
2.4.2.2.5.5 Global	20
2.4.2.2.6 Backup.....	20
2.4.2.3 Web/Application Server	21
2.4.2.3.1 Platform.....	21
2.4.2.3.2 Availability and Capacity	21
2.4.2.3.2.1 Single-server instance.....	21
2.4.2.3.2.2 Multiple server instances - serverless	22
2.4.2.3.2.2.1 Load balancer	22
2.4.2.3.2.2.1.1 Encrypted HTTPS and SSL	22



2.4.2.3.2.2.1.2	Sticky sessions.....	22
2.4.2.4	Session Manager	23
2.4.2.4.1	JSP.....	23
2.4.2.4.2	.NET	23
2.4.2.4.3	PHP	23
2.4.2.5	Cache Server	23
2.4.2.6	Website Domain Name	24
2.4.2.7	SSL Certificate	24
2.4.3	Deployment Checklist & Notes	24
2.4.4	Amazon AWS Management Console	27
2.4.5	Virtual Private Cloud (VPC)	27
2.4.6	Security Group.....	28
2.4.7	Network & Security Key Pairs	30
2.4.8	SSL Certificate	31
2.4.9	Cloud Storage	32
2.4.9.1	Storage Bucket	32
2.4.9.2	Storage Address.....	34
2.4.9.3	Security Credentials	35
2.4.10	Database Server	37
2.4.10.1	MySQL.....	38
2.4.10.1.1	Settings	39
2.4.10.1.1.1	DB instance size	40
2.4.10.1.2	Replicated standby server instance.....	40
2.4.10.1.3	Connectivity	41
2.4.10.1.4	Database name.....	41
2.4.10.1.5	Additional configuration	42
2.4.10.1.6	Create Database.....	42
2.4.10.1.7	Database address	43
2.4.10.2	MariaDB.....	43
2.4.10.3	PostgreSQL	44
2.4.10.3.1	Settings	45
2.4.10.3.1.1	DB instance size	46
2.4.10.3.2	Replicated standby server instance.....	46
2.4.10.3.3	Connectivity	47
2.4.10.3.4	Database name.....	47
2.4.10.3.5	Additional configuration	48
2.4.10.3.6	Create database.....	48
2.4.10.3.7	Database address	49
2.4.10.4	Oracle	49
2.4.10.4.1	Settings.....	51
2.4.10.4.1.1	DB instance size	52
2.4.10.4.2	Replicated standby server instance.....	52
2.4.10.4.3	Connectivity	52
2.4.10.4.4	Database name.....	53
2.4.10.4.5	Additional configuration	53
2.4.10.4.6	Create database.....	54
2.4.10.4.7	Database address	54
2.4.10.5	Microsoft SQL Server	55
2.4.10.5.1	Settings.....	57
2.4.10.5.1.1	DB instance size	57
2.4.10.5.2	Connectivity	58



2.4.10.5.3	Database name.....	59
2.4.10.5.4	Additional configuration	59
2.4.10.5.5	Create database.....	59
2.4.10.5.6	Database address	60
2.4.10.6	Amazon Aurora MySQL	61
2.4.10.6.1	Settings	63
2.4.10.6.1.1	Serverless	64
2.4.10.6.1.1.1	Capacity settings.....	64
2.4.10.6.1.2	One writer and multiple readers	65
2.4.10.6.1.2.1	DB instance size	65
2.4.10.6.1.2.2	Single-server instance.....	65
2.4.10.6.1.3	Global.....	66
2.4.10.6.1.3.1	DB instance size	66
2.4.10.6.1.3.2	Single-server instance.....	66
2.4.10.6.2	Connectivity	67
2.4.10.6.3	Database name.....	67
2.4.10.6.3.1	Serverless	67
2.4.10.6.3.2	One write and multiple readers.....	67
2.4.10.6.3.3	Global	68
2.4.10.6.4	Additional configuration	68
2.4.10.6.5	Create Database.....	68
2.4.10.6.5.1	Serverless	69
2.4.10.6.5.2	One writer and multiple readers	69
2.4.10.6.5.3	Global	70
2.4.10.6.6	Database address	71
2.4.10.6.6.1	Serverless	71
2.4.10.6.6.2	One writer and multiple readers	71
2.4.10.6.6.2.1	Add additional readers.....	72
2.4.10.6.6.3	Global	73
2.4.10.6.6.3.1	Add additional readers.....	74
2.4.10.6.6.3.2	Add region.....	75
2.4.10.7	Amazon Aurora PostgreSQL.....	76
2.4.10.7.1	Settings	77
2.4.10.7.1.1	DB instance size	78
2.4.10.7.1.2	Single-server instance.....	78
2.4.10.7.2	Connectivity	79
2.4.10.7.3	Database name.....	79
2.4.10.7.4	Additional configuration	79
2.4.10.7.5	Create Database.....	80
2.4.10.7.6	Database address	80
2.4.10.7.6.1	Add additional readers.....	81
2.4.11	Cache Server.....	82
2.4.11.1	ElastiCache Redis.....	83
2.4.11.1.1	Cache server address	84
2.4.11.2	ElastiCache Memcached	85
2.4.11.2.1	Cache server address	86
2.4.12	Web/Application Server	86
2.4.12.1	Elastic Beanstalk	87
2.4.12.1.1	Application name	87
2.4.12.1.2	Platform.....	88
2.4.12.1.2.1	JSP, Tomcat, Java.....	88



2.4.12.1.2.2	.NET, IIS, Windows Server.....	89
2.4.12.1.2.3	PHP	89
2.4.12.1.3	Asbru WCMS software package	89
2.4.12.1.4	Configuration Options.....	90
2.4.12.1.4.1	Presets.....	90
2.4.12.1.4.2	Security Group	91
2.4.12.1.4.3	Capacity.....	91
2.4.12.1.4.3.1	Automatic capacity scaling.....	93
2.4.12.1.4.4	Load balancer	94
2.4.12.1.4.5	Security Key Pair.....	95
2.4.12.1.4.6	Network.....	96
2.4.12.1.4.7	Database	98
2.4.12.1.5	Create Environment.....	98
2.4.12.1.6	Website address.....	99
2.4.12.1.7	Website Domain Name	99
2.4.12.1.8	Configuration	100
2.4.12.1.8.1	Software Environment Properties.....	100
2.4.12.1.8.1.1	Media Storage.....	101
2.4.12.1.8.1.2	Database Connection.....	102
2.4.12.1.8.1.2.1	Custom database connection string	105
2.4.12.1.8.1.3	Session Manager.....	106
2.4.12.1.8.1.3.1	Database	106
2.4.12.1.8.1.3.2	ElastiCache	107
2.4.12.1.8.1.3.3	Other session manager custom configuration.....	107
2.4.12.1.8.1.3.3.1	JSP	107
2.4.12.1.8.1.4	Cache Server.....	108
2.4.12.1.8.1.4.1	JSP Memcached.....	108
2.4.12.1.8.1.4.2	JSP Redis.....	109
2.4.12.1.8.1.4.3	.NET Memcached.....	110
2.4.12.1.8.1.4.4	.NET Redis	111
2.4.12.1.8.1.4.5	PHP Memcached	112
2.4.12.1.8.1.4.6	PHP Redis.....	112
2.4.12.1.8.2	Capacity.....	113
2.4.12.1.8.2.1	Automatic capacity scaling.....	113
2.4.12.1.9	Apply and Redeploy Environment/Application Configuration Changes	114
2.4.12.1.9.1	Apply configuration changes.....	114
2.4.12.1.9.2	Redeploy environment/application configuration changes.....	115
2.4.13	Asbru WCMS QuickStart Configuration.....	116
2.4.13.1	Step 1: Database	116
2.4.13.2	Step 2-6: Licenses, Superadmin, Content, Design, Settings.....	117
2.4.13.3	Website - Media Storage	117
2.4.13.4	Connection Timeout.....	118
2.5	Microsoft Azure Cloud Deployment	119
2.5.1	Asbru WCMS software licenses	119
2.5.2	Platform Architecture / Planning	119
2.5.3	Deployment Checklist & Notes	120
2.5.4	Microsoft Azure Management Portal	123
2.5.5	Azure Virtual Network	123
2.5.6	Cloud Storage	123
2.5.6.1	Storage Account	124



2.5.6.2	Storage Container	128
2.5.6.3	Storage Address.....	129
2.5.6.4	Access Keys	130
2.5.7	Database Server	130
2.5.7.1	Microsoft Azure SQL Database	131
2.5.7.1.1	Settings	131
2.5.7.1.1.1	Database instance type and size.....	132
2.5.7.1.2	Networking and Additional Settings	134
2.5.7.1.3	Create Database.....	134
2.5.7.1.4	Firewall Settings.....	136
2.5.7.1.5	Database address	136
2.5.7.2	Azure Database for MySQL Servers.....	138
2.5.7.2.1	Settings	139
2.5.7.2.1.1	Database instance type and size.....	140
2.5.7.2.2	Create Database.....	140
2.5.7.2.3	Connection Security	142
2.5.7.2.4	Database address	142
2.5.7.3	Azure Database for MariaDB Servers	143
2.5.7.4	Azure Database for PostgreSQL Servers.....	143
2.5.7.4.1	Settings	144
2.5.7.4.1.1	Database instance type and size.....	145
2.5.7.4.2	Create Database.....	146
2.5.7.4.3	Connection Security	147
2.5.7.4.4	Database address	148
2.5.8	Cache Server.....	149
2.5.8.1	Azure Cache for Redis	149
2.5.8.1.1	Cache server address	151
2.5.8.1.2	Cache access keys	152
2.5.9	Web/Application Server	152
2.5.9.1	Runtime Stack	153
2.5.9.1.1.1	JSP, Tomcat, Java.....	153
2.5.9.1.1.2	.NET, IIS, Windows Server.....	154
2.5.9.1.1.3	PHP	154
2.5.9.2	Create Web App	155
2.5.9.3	Website Domain Name	156
2.5.9.4	SSL Certificate	157
2.5.9.5	Configuration	158
2.5.9.5.1	Application Settings	158
2.5.9.5.1.1	Media Storage.....	159
2.5.9.5.1.2	Database Connection	159
2.5.9.5.1.2.1	Custom database connection string	163
2.5.9.5.1.3	Session Manager.....	163
2.5.9.5.1.3.1	Database	164
2.5.9.5.1.3.2	Azure Cache	164
2.5.9.5.1.4	Cache Server	165
2.5.9.5.1.4.1.1	JSP Redis.....	165
2.5.9.5.1.4.1.2	.NET Redis	166
2.5.9.5.1.4.1.3	PHP Redis.....	167
2.5.9.5.1.5	PHP	168
2.5.9.6	Deployment	168
2.5.9.6.1	.NET Zip Deployment (website interface)	168



2.5.9.6.2	Zip Deployment (command line)	169
2.5.9.6.3	FTP Upload	171
2.5.9.6.4	PHP Platform Extensions	171
2.5.10	Asbru WCMS QuickStart Configuration	172
2.5.10.1	Step 1: Database	172
2.5.10.2	Step 2-6: Licenses, Superadmin, Content, Design, Settings	172
2.5.10.3	Website - Media Storage	172
2.5.10.4	Connection Timeout	173
3	QUICKSTART CONFIGURATION	174
3.1	Server	174
3.2	Database	175
3.2.1	Database Connection for .NET	176
3.2.2	Database Connection for JSP	178
3.2.3	Database Connection for PHP	180
3.2.4	Database Connection String	182
3.3	License	182
3.4	Superadmin	184
3.5	Website Content	185
3.5.1	Import Existing Website	185
3.5.2	Import Example/Quickstart Website	186
3.6	Website Design	187
3.7	Website Settings	188
4	INSTALLED AND CONFIGURED	190
4.1	Login	191
4.2	Logout	191
4.3	Retrieve superadmin username and password	192
4.4	Home	193
5	SOFTWARE UPDATES	194
5.1	Download and Installation	194
5.2	Database Upgrade	194
6	INTERNATIONALISATION	196



6.1	Asbru Web Content Management system texts	196
6.2	Asbru Web Content Editor texts.....	196
6.3	Website Administrator Language Preferences	198
7	ADD-ON MODULES AND EXTENSIONS AND PROGRAMMING API SCRIPTS	199
7.1	Custom / Third-Party Add-On Modules	199
7.1.1	Installation and Configuration	199
7.2	Custom / Third-Party Extensions.....	199
7.2.1	Installation and Configuration	199
7.3	Product Availability and Delivery Custom /Third-Party Extensions	200
7.3.1	Product Availability Custom/Third-Party Extensions	200
7.3.1.1	Installation and Configuration	200
7.3.2	Product Delivery Custom/Third-Party Extensions	200
7.3.2.1	Installation and Configuration	200
7.4	Workflow Action Custom/Third-Party Extensions	200
7.4.1	Installation and Configuration	200
7.5	Web Content Editor Custom/Third-Party Extensions	201
7.5.1	Installation and Configuration	201
7.6	Programming API Scripts	201
7.6.1	Installation and Configuration	201
7.6.2	External Website Publishing/Archiving Programming API	201
7.6.3	File Upload Programming API	201
7.6.4	Validate Content Data Programming API	202
7.6.5	Validate User Data Programming API	203
7.6.6	Media Cloud Storage API.....	204
7.6.7	One-Time Password Login Programming API.....	204
7.6.8	Cloud Deployment API	205
7.6.9	Usagelog Data Summarisation.....	206



1 System Requirements

The Asbru Web Content Management system is very flexible and unparalleled in that it runs on most major website platforms: operating systems, web servers, programming/scripting languages and database servers. No matter which platform your website runs on it is likely to be supported.

If you need to switch from one platform - such as the combination of Microsoft Windows, Internet Information Server, .NET and Access - to another platform - such as the combination of Unix, Apache, Java Server Pages and Oracle – you can simply move everything and continue to use the Asbru Web Content Management system without purchasing a new web content management system, redeveloping your website and retraining your website administrators.

The Asbru Web Content Management system runs on the following website platforms:

Website Platform Component	Supported Products
Operating System	Microsoft Windows Unix/Linux
Web Server	Microsoft Internet Information Server Apache (+ any other standard compliant web server)
Programming / Scripting Language	.NET (2.0 or newer) JSP (with Java 8 or newer) PHP (5.5 or newer with PHP PEAR MDB2)
Database Server	Microsoft SQL Server Oracle Database Server IBM DB2 Universal Database Server MySQL Database Server PostgreSQL Database Server
Web Browser (website administrators)	Microsoft Windows Internet Explorer (v8.0 or newer) Mozilla Firefox (v3.0 or newer) Safari (v2.0.1 or newer) Google Chrome (v2.0 or newer) Older web browser versions and other web browsers may also work fully or partially.
Web Browser (website users/visitors)	Any standard compliant web browser

Please note that only recent versions of the website platform software are supported by the Asbru Web Content Management system. You should always make sure to keep your website platform software updated to the latest or at least a recent version to avoid functionality and security problems.

Before installing the Asbru Web Content Management system you should make sure that:

- Your operating system, web server, programming/scripting language, database server, database drivers and web browser are installed and working correctly.
- You have access and permissions to copy files to your web server and your website directory/folder through FTP (File Transfer Protocol) or Microsoft Networking or



similar.

- The Asbru Web Content Management system web server process/user has file create and write permissions for the website files and folders:
 - /
 - /defaults.aspx /defaults.jsp /defaults.php
 - /ini.aspx /ini.jsp /ini.php
 - /file/
 - /image/
 - /upload/
- An empty database instance is created on your database server with permissions to connect, create/drop tables and create/delete records.
- You have the database instance name, username, password and permissions to connect to your database from your website.



2 Download and Installation

The Asbru Web Content Management system is available for download from the Asbru website (www.asbrusoft.com). The software is available in a variety of packages and formats. Please check the website for details.

The downloaded package is a compressed file archive, which you must uncompress and extract for installation on a web server; or the compressed file archive can be deployed to a cloud web hosting service. The package includes a large number of folders and files. Depending on the downloaded package the root folders and files could be:

Root Folders and Files Example

App_Code/ bin/ bizcard/ file/ image/ password/ personal/ rest/ upload/ webadmin/ WEB-INF/ atom.aspx atom.jsp atom.php config.aspx config.jsp config.php config.static.aspx config.static.jsp config.static.php contact.aspx contact.jsp contact.php contentitem.aspx contentitem.jsp contentitem.php data.aspx data.jsp	data.php default.gif element.aspx element.jsp element.php file.aspx file.jsp file.php image.aspx image.jsp image.php index.aspx index.jsp index.php link.aspx link.jsp link.php login.aspx login.jsp login.php login_post.aspx login_post.jsp login_post.php logout.aspx logout.jsp logout.php page.aspx page.jsp	page.php page.original.aspx page.original.jsp page.original.php post.aspx post.jsp post.php product.aspx product.jsp product.php product.original.aspx product.original.jsp product.original.php register.aspx register.jsp register.php rss.aspx rss.jsp rss.php script.aspx script.jsp script.php script.original.aspx script.original.jsp script.original.php search.aspx search.jsp search.php	shopcart.aspx shopcart.jsp shopcart.php stylesheet.aspx stylesheet.jsp stylesheet.php stylesheet.original.aspx stylesheet.original.jsp stylesheet.original.php subscribe.aspx subscribe.jsp subscribe.php template.aspx template.jsp template.php unavailable.aspx unavailable.jsp unavailable.php unsubscribe.aspx unsubscribe.jsp unsubscribe.php webadmin.aspx webadmin.jsp webadmin.php xml.aspx xml.jsp xml.php
--	--	---	--

Please note that some of the Asbru Web Content Management system files may be named identically to some of your existing website files in which case your existing files will be overwritten. Please make sure to backup all your existing website files before installing the Asbru Web Content Management system.

To install the Asbru Web Content Management system you must copy all the files and folders including all their files and sub-folders etc. to your website root/home folder on your web server – except for the .NET software package where you should only copy all the files and folders including all their files and sub-folders etc. from the “Content\Default Web Site” folder to your website root/home folder on your web server (the folders and files outside of this are only used for cloud deployment). Your website root/home folder is where your main homepage file is located.



2.1 .NET Installation and Server Configuration

The .NET version of the Asbru Web Content Management system also includes a minimal “web.config” web server configuration file and a “global.asax” program file. If you have an existing “web.config” web server configuration file or an existing “global.asax” program file you may need to merge these with the Asbru Web Content Management system “web.config” web server configuration file and “global.asax” program file.

As default the .NET version of the Asbru Web Content Management system is configured to run on a web server with .NET 2.0-3.5. If you are using .NET 4.0 you will need to edit the “web.config” web server configuration file and uncomment (delete the “<!--“ and “-->” before and after) the “<httpRuntime requestValidationMode=“2.0” />” configuration setting or the web content management system may not work correctly failing to save content which contains special characters etc.

2.2 JSP Installation and Server Configuration

The JSP version of the Asbru Web Content Management system also includes a minimal “/WEB-INF/web.xml” web/application server configuration file and a number of “/WEB-INF/lib/” jar program files. If you have an existing “/WEB-INF/web.xml” web/application server configuration file you may need to merge these with the Asbru Web Content Management system “/WEB-INF/web.xml” web/application server configuration file. If your web/application server already includes some of the “/WEB-INF/lib/” jar program files you may need or want to ignore the copies of these files included with the Asbru Web Content Management system and use your existing copies of these files. Your web/application server may also already include some of the “/WEB-INF/lib/” jar program files in other locations on the server in which case you may need to delete the “/WEB-INF/lib/” jar program files to avoid conflicts – for example the common “activation.jar” and “mail.jar” program files may already be included in the web/application server, and additional copies of these files in the “/WEB-INF/lib/” folder may cause the Asbru Web Content Management system email functionality to not work.

2.2.1 Cache

As default the Asbru Web Content Management system uses the Apache Java Caching System for local memory caching of configuration settings and content etc.

Optionally, the Apache Java Caching System can be configured with different cache sizes and times and to use disk caching or distributed caching for multi-server installations.

Please see the “/WEB-INF/classes/cache.ccf” web/application server configuration file for details.

2.2.2 Logs

As default the Asbru Web Content Management system logs debug and audit data to the console standard output logfile.

Optionally, users and usage data can also be logged to logfiles or third-party services/systems such as for example Apache Kafka for Big Data website usage analysis (*Enterprise Edition/Suite only*).

Please see the “/WEB-INF/classes/log4j.properties” web/application server configuration file for details.



2.3 Spell Checking

The Asbru Web Content Management system supports integrated spell checking of web content through the Aspell (aspell.net) spell checking application.

To enable the spell checking functionality you must download and install the Aspell application and dictionaries on your web server. Aspell is free and can be downloaded from aspell.net. Please see the Aspell documentation for details on how to install Aspell.

When Aspell has been installed on your web server you must configure the Asbru Web Content Management system and specify where Aspell is installed on your web server and which dictionaries to use. These are configured in the “config.asp”, “config.jsp” and “config.php” files in the “webadmin/webeditor” folder.

You must configure the following variables in the configuration file(s):

spellcheckCommand	<p>The full path and file name of your installed copy of Aspell as well as the Aspell command line parameters to use for spell checking.</p> <p>As default this should be: “C:\Progra~1\Aspell\bin\aspell.exe -a -H” for Microsoft Windows and: “/usr/bin/aspell -a -H” or “/usr/local/bin/aspell -a -H” for Linux, Macintosh and Unix.</p> <p>Set this to blank (“”) to disable access to spell checking.</p>
spellcheckDictionary	<p>Aspell command line parameter to use to specify which dictionary to use for spell checking.</p> <p>As default this should be: “-d”</p>
spellcheckDictionaries	<p>The dictionaries to be made available to users for spell checking.</p> <p>These must be specified as HTML SELECT OPTION tags. The OPTION values should be Aspell dictionary names such as “en”, “en_GB” and “en_US” language/country codes or “english”, “british” and “american” language names. Please see the Aspell dictionaries documentation for details.</p>



2.4 Amazon Web Services (AWS) Cloud Deployment

The Asbru Web Content Management system supports easy deployment through the “serverless” Amazon AWS Elastic Beanstalk cloud hosting services simply by choosing the operating system, database server, number and size of servers to use as well as various other configuration settings, and uploading the Asbru Web Content Management software package.

2.4.1 Asbru WCMS software licenses

Note: A software license for the Asbru Web Content Management System software is required for each started web/application server instance (or a Corporate software license for an unlimited number of instances is required).

You are not permitted to start more Asbru Web Content Management System software web/application server instances than you have Asbru Web Content Management System software licenses – except for short-term temporary test and development purposes, for example, to upgrade to a new Asbru Web Content Management System software version.

2.4.2 Platform Architecture / Planning

Before deploying the Asbru Web Content Management System software you should consider the required cloud platform architecture and plan the deployment.

As minimum cloud deployment of the Asbru Web Content Management System software requires 3 cloud service components:

- Media Storage
for permanent storage of your website media files such as images.
- Database Server
for permanent storage of your website content and user data etc.
- Web/Application Server
for running the Asbru Web Content Management System software and your website.

Optionally, you may also need/want 2 additional cloud service components:

- Cache Server
for temporary storage of your website content data etc. for improved website response times and reduced database server use and load.
- Session Manager
for temporary storage of website visitor and web content management system administrator logins and other user data.

Also, all your cloud service components should be able to communicate with each other through the use of 2 underlying cloud service components:

- Virtual Private Cloud
for network access between your cloud service components.
- Security Group
for authorised access between your cloud service components.



2.4.2.1 Media Storage

As default cloud deployed web/application servers do not have persistent storage. When a web/application server is terminated, all data on the web/application server is lost. So it is essential that website media files such as images uploaded to the web content management system and/or the website is stored on persistent storage that is not lost when web/application servers are terminated.

Also, with deployment of multiple web/application servers for the same website they must all have access to and share all website media files.

Persistent media storage is supported by the web content management system through the Amazon AWS S3 storage service.

Note: Alternatively, web/application servers could be deployed with shared network storage (transparent to the web content management system). Please general documentation on your operating system and Amazon AWS services.

2.4.2.2 Database Server

All website content and other data used by the website and the web content management system is stored in a database server.

The web content management system supports all the Relational Database Servers currently provided by Amazon AWS.

2.4.2.2.1 MySQL, Amazon Aurora MySQL and MariaDB

These database server variants are all compatible and supported by the Asbru Web Content Mananagement System. They should all be configured as MySQL database servers for/in the web content management system.

2.4.2.2.2 Oracle Standard and Enterprise Editions

These database server variants are all compatible and supported by the Asbru Web Content Mananagement System. They should all be configured as Oracle database servers for/in the web content management system.

2.4.2.2.2.1 PHP

Note: Currently, Oracle is not supported by Amazon AWS Elastic Beanstalk PHP environments. To use Oracle with the PHP version of the Asbru Web Content Mananagement System, the PHP oci8 extension or an Oracle ODBC driver must be installed. Please see general Amazon AWS, Oracle and PHP documentation for details.

2.4.2.2.2.2 .NET

Note: Currently, Oracle is not supported for “session manager” storage for the .NET programming language version of the web content management system.

2.4.2.2.3 Microsoft SQL Server Express, Web, Standard and Enterprise Editions

These database server variants are all compatible and supported by the Asbru Web Content Mananagement System. They should all be configured as Microsoft SQL Server database servers for/in the web content management system.



2.4.2.2.3.1 *PHP*

Note: Currently, Microsoft SQL Server is not supported by Amazon AWS Elastic Beanstalk PHP environments. To use Microsoft SQL Server with the PHP version of the Asbru Web Content Management System, the PHP mssql extension or a Microsoft SQL Server ODBC driver must be installed. Please see general Amazon AWS, Microsoft SQL Server and PHP documentation for details.

2.4.2.2.4 **IBM DB2**

Note: Currently, IBM DB2 is not supported by Amazon AWS. To use IBM DB2 an IBM DB2 database server instance must be deployed, manually.

2.4.2.2.4.1 *PHP*

Note: Currently, IBM DB2 is not supported by Amazon AWS Elastic Beanstalk PHP environments. To use IBM DB2 with the PHP version of the Asbru Web Content Management System, the PHP ibm_db2 extension or an IBM DB2 ODBC driver must be installed. Please see general Amazon AWS, IBM DB2 and PHP documentation for details.

2.4.2.2.4.2 *.NET*

Note: Currently, IBM DB2 is not supported for “session manager” storage for the .NET programming language version of the web content management system.

2.4.2.2.5 **Availability and Capacity**

The web content management system supports all the Relational Database Server deployments currently provided by Amazon AWS.

2.4.2.2.5.1 *Single-server instance*

All the supported database servers can be deployed as a single-server instance. This is the cheapest option and may be sufficient for smaller, non-mission critical websites.

If the database server should become unavailable for example due to general network and server issues and database server upgrades or backups, the website and the web content management system will also become unavailable.

If increased database server capacity should become needed, the database server instance can be redeployed to a larger server instance. During such upgrades, the database server as well as the website and web content management system may become unavailable for a period of time.

2.4.2.2.5.2 *Replicated standby server instance*

The MySQL(/Aurora/MariaDB), PostgreSQL(/Aurora) and Oracle database servers can be deployed with automatically replicated standby database server instances with automatic fail-over to the standby in case of planned or unplanned outage of the primary database server for uninterrupted/increased availability of the website and web content management system.

If increased database server capacity should become needed, the database server instances can be redeployed to larger server instances. During such upgrades, the website and web content management system should remain available if the database server instances are upgraded one at a time.



2.4.2.2.5.3 *Writer / reader(s) server instances*

The Amazon Aurora MySQL and PostgreSQL database servers can be deployed with one primary writer database server instance and one or more secondary reader database server instances.

If increased database server capacity should become needed, additional reader database server instances can be added (and can be removed if the needed database capacity should decrease).

Also, if increased database server capacity should become needed, the database server instances can be redeployed to larger server instances. During such upgrades, the website and web content management system should remain available if the database server instances are upgraded one at a time.

2.4.2.2.5.4 *Serverless*

The Amazon Aurora MySQL database server can be deployed as “serverless” with a specified minimum and maximum database server capacity for automatic scaling of the number of database server instances depending on the required capacity for uninterrupted/increased availability of the website and web content management system during peak periods and reduced costs during non-peak periods.

2.4.2.2.5.5 *Global*

The Amazon Aurora MySQL database server can be deployed as a “global” database with replicated clusters of writer and reader database server instances in multiple regions around the world.

Matching deployment of multiple environments running the Asbru Web Content Management System in multiple regions can provide fast local/regional website access from a single global database server.

The Amazon Aurora MySQL Global database servers can be deployed with one primary writer database server instance and one or more secondary reader database server instances for each region.

If increased database server capacity should become needed, additional reader database server instances can be added (and can be removed if the needed database capacity should decrease).

Also, if increased database server capacity should become needed, the database server instances can be redeployed to larger server instances. During such upgrades, the website and web content management system should remain available if the database server instances are upgraded one at a time.

2.4.2.2.6 **Backup**

Note: The web content management system does not automatically backup your data. You should ensure to make manual or automated backups regularly.

Media storage files on the Amazon AWS S3 storage service should periodically be backed up to separate “buckets” and/or to other online or offline storage (for daily operations).

Database data in the Amazon AWS RDS database server should periodically be backed up to Amazon AWS S3 storage and/or to other online or offline storage using the Amazon AWS RDS backup/snapshot functionality (for daily operations).



Web content management system database and website media files backups should also be made periodically using the web content management system's built-in database backup and export functionality (for emergency backup and migration).

2.4.2.3 Web/Application Server

The Asbru Web Content Management System is available in both JSP, .NET and PHP programming language versions. All programming language versions can be deployed on the Amazon AWS Elastic Beanstalk service as web server environments.

2.4.2.3.1 Platform

A number of different platforms, platform branches and platform versions are supported by Amazon AWS. Typically, the web content management system should be deployed on the latest, supported platform.

If you have no preference for the programming language version of the Asbru Web Content Management system, the JSP programming language version is the recommended version.

At the time of writing the web content management system has been tested for deployment on the following platforms:

- JSP
 - o Java
Java 8 running on 64bit Amazon Linux
2.10.9
- .NET
 - o .NET on Windows Server
IIS 10.0 running on 64bit Windows Server 2019
2.5.7
- PHP
 - o PHP
PHP 7.4 running on 64bit Amazon Linux 2
3.0.3

Deployment on and upgrades to newer major version platforms should be tested before deployment/upgrade of a production website environment. Unfortunately, some major version platform upgrades of the programming language, web/application server, operating system and Amazon AWS deployment may not be backwards compatible.

2.4.2.3.2 Availability and Capacity

The web content management system supports deployment of both a single-server web/application server instance and multiple web/application server instances.

2.4.2.3.2.1 Single-server instance

All the supported programming language versions of the web content management system can be deployed as a single-server instance. This is the cheapest option and may be sufficient for smaller, non-mission critical websites.



If the web/application server should become unavailable for example due to general network and server issues and web/application server upgrades or backups, the website and the web content management system will also become unavailable.

If increased web/application server capacity should become needed, the web/application server instance can be redeployed to a larger server instance. During such upgrades, the web/application server as well as the website and web content management system may become unavailable for a period of time.

2.4.2.3.2.2 Multiple server instances - serverless

All the supported programming language versions of the web content management system can be deployed as multiple instances for high availability. This is recommended for larger, mission critical websites.

If increased web/application server capacity should become needed, additional web/application server instances can be added (and can be removed if the needed web/application server capacity should decrease).

Also, if increased web/application server capacity should become needed, the web/application server instances can be redeployed to larger server instances. During such upgrades, the website and web content management system should remain available if the web/application server instances are upgraded one at a time.

The web/application server environment can be deployed with a specified minimum and maximum number of web/application server instances for automatic scaling of the number of web/application server instances depending on the required capacity for uninterrupted/increased availability of the website and web content management system during peak periods and reduced costs during non-peak periods.

2.4.2.3.2.2.1 Load balancer

For deployment on multiple web/application server instances a Load Balancer service is required and automatically deployed to manage website users' access to the different web/application server instances.

Amazon AWS Elastic Beanstalk supports a number of different load balancers. Typically, the default option is recommended.

2.4.2.3.2.2.1.1 Encrypted HTTPS and SSL

As default the load balancer is configured to handle unencrypted HTTP website traffic (<http://yourwebsite.com>). To add support for encrypted HTTPS website traffic (<https://yourwebsite.com>) you need to configure HTTPS and your SSL certificate for the load balancer. Please see the Amazon AWS documentation for details.

2.4.2.3.2.2.1.2 Sticky sessions

The load balancer may or may not use “sticky session cookies” to direct website users to the same or different web/application server instances. Typically, the default option is recommended. Please see the Amazon AWS documentation for details.

If sticky sessions are used then you may not need a “session manager”. If sticky sessions are not used then you need a “session manager”.



2.4.2.4 Session Manager

For deployment on multiple web/application server instances each website user may be directed to different web/application server instances. For website login functionality as well as web content management system administration login functionality etc. login details and other data need to be shared between the web/application server instances.

If load balancer sticky sessions are used then you may not need a “session manager”. If load balancer sticky sessions are not used then you need a “session manager”.

Session data can be shared between web/application server instances through the web content management system database server or through a separate cache server.

Use of the web content management system database server is “free”, but use of the database server for session management increases the load on the database server and is slower than using a separate cache server.

Use of a separate cache server is faster, but at additional cost. (The session manager cache server can be the same as the website content cache server – see below).

2.4.2.4.1 JSP

The JSP programming language version of the web content management system supports use of all the supported database servers for session management as well as use of Amazon AWS ElastiCache Redis and Amazon AWS ElastiCache Memcached.

2.4.2.4.2 .NET

The .NET programming language version of the web content management system supports use of MySQL(/Aurora/MariaDB), PostgreSQL(/Aurora) and Microsoft SQL Server database servers for session management as well as use of Amazon AWS ElastiCache Redis.

2.4.2.4.3 PHP

The PHP programming language version of the web content management system supports use of MySQL(/Aurora/MariaDB), PostgreSQL(/Aurora) and Microsoft SQL Server database servers for session management as well as use of Amazon AWS ElastiCache Redis and Amazon AWS ElastiCache Memcached.

2.4.2.5 Cache Server

For increased performance web/application server instances cache some website content and other data locally on the web/application server. For deployment on multiple web/application server instances website content changes and other data changes may need to be propagated to all web/application server instances. This is done using a cache server.

As default the web/application server instances expire locally cached data after 5 minutes. If your website content and other data is not time-critical and it is acceptable for website content and other data changes to take up to 5 minutes to propagate to all web/application server instances then use of a cache server may not be needed. (Note: This applies to both website content and the web content management system administration).

Alternatively, a separate cache server shared between all the web/application server instances should be used.



The web content management system supports use of Amazon AWS ElastiCache Redis and Amazon AWS ElastiCache Memcached.

Use of a separate cache server propagates website content and other data changes faster, but at additional cost. (The session manager cache server can be the same as the website content cache server – see above).

2.4.2.6 Website Domain Name

Deployed Amazon AWS services are given a chosen or automatic “internal” host domain names such as for example “xyz-env.eba-7bwdxirv.eu-west-2.elasticbeanstalk.com”.

To use your own website domain name, you can use the Amazon AWS Route 53 domain name service. Please see the Amazon AWS Route 53 documentation for details.

Alternatively, you can configure your own/third-party domain name service with a “CNAME” to direct your own website domain name to the given Amazon AWS host domain name. For example:

```
yourwebsite.com CNAME xyz-env.eba-7bwdxirv.eu-west-2.elasticbeanstalk.com
www.yourwebsite.com CNAME xyz-env.eba-7bwdxirv.eu-west-2.elasticbeanstalk.com
*.yourwebsite.com CNAME xyz-env.eba-7bwdxirv.eu-west-2.elasticbeanstalk.com
```

2.4.2.7 SSL Certificate

Deployed web/application servers use unencrypted HTTP communication as default. It is strongly recommended to also support encrypted HTTPS communication. Use of HTTPS requires a Secure Socket Layer (SSL) certificate for your website domain.

A certificate should be issued for both your base domain name as well as wildcard subdomains for it to work with the web content management system subdomain “micro-websites” functionality.

For example:

```
yourwebsite.com
*.yourwebsite.com
```

2.4.3 Deployment Checklist & Notes

To deploy the Asbru Web Content Management System on Amazon AWS, you will need to deploy and configure a number of different, connected services. As you configure each service you should note some basic details, which may be needed later.



AMAZON AWS DEPLOYMENT CHECKLIST & NOTES		
AMAZON AWS CONSOLE		
Username		KEEP SECRET
Password		KEEP SECRET
VIRTUAL PRIVATE CLOUD, NETWORK & SECURITY		
Virtual Private Cloud (VPC) id		
Security Group id		
Key pair name		Save key pair to .pem/.ppk file and KEEP SECRET
MEDIA STORAGE		
Bucket id		fx. wcm-media
Region id		fx. eu-west-2
Address		fx. https://BUCKET.s3.REGION.amazonaws.com
Access Key ID		KEEP SECRET
Secret Access Key		KEEP SECRET
DATABASE SERVER		
Type		mysql pgsql oracle mssql db2
Address		fx. wcm.c4w3zpvzpgax.eu-west-2.rds.amazonaws.com
Port		3306 5432 1521 1433 50000
Database name		fx. wcm
Username		KEEP SECRET
Password		KEEP SECRET



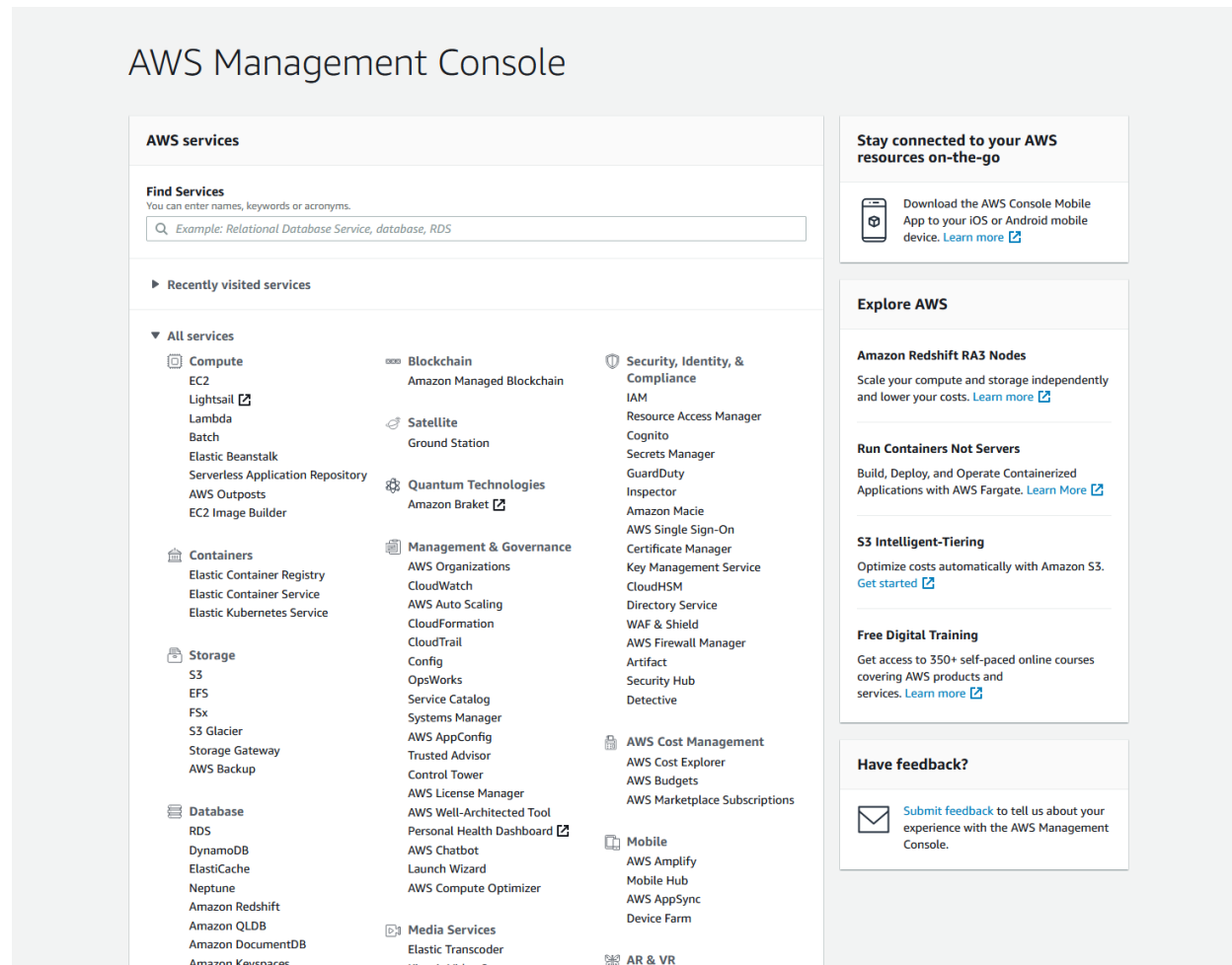
SESSION MANAGER		
Type		redis memcached mysql pgsql oracle mssql db2
Address		fx. wcm-redis.g1eosl.0001. euw2.cache.amazonaws.com
CACHE SERVER		
Type		redis memcached
Address		fx. wcm-redis.g1eosl.0001. euw2.cache.amazonaws.com
Port		6379 11211
Password		KEEP SECRET
WEB/APPLICATION SERVER		
Address		.elasticbeanstalk.com
WEBSITE		
Address		fx. www.yourwebsite.com
ASBRU WEB CONTENT MANAGEMENT SYSTEM		
Superadmin username		KEEP SECRET
Superadmin password		KEEP SECRET
Superadmin email		
Number of software licenses		= maximum number of deployed web/application server instances
Software license keys		KEEP SECRET



2.4.4 Amazon AWS Management Console

The Asbru Web Content Management System can be deployed through the Amazon AWS Management Console website (<https://console.aws.amazon.com/>) as described in there following sections.

Alternatively, for deployment using the Amazon AWS CLI tools and other tools, please see the general Amazon AWS documentation.



2.4.5 Virtual Private Cloud (VPC)

All your website server components, web server, database server and cache server (if used), should be located in the same Virtual Private Cloud (VPC) for access to communicate with each other.

A VPC should have been created as default for your AWS account. If not, a VPC should be created. This can be done separately through <https://console.aws.amazon.com/vpc/> (recommended) or during setup of the database server.



If you are running multiple, independent websites each with their own web server, database server and cache server, you may want to use a separate VPC for each website for security reasons to prevent direct cross-access between the website server components if compromised.

A VPC is essentially just a network name and a group of associated IP-addresses. When you deploy Amazon AWS services, you assign them to a VPC. All related services should be assigned to the same VPC.

The following sections will assume setup of the website server components in the default VPC.

The VPC id should be noted (see 2.4.3 Deployment Checklist & Notes) as it will be needed to configure the different server instances, later.

Name	VPC ID	State	IPv4 CIDR	IPv6 CIDR	DHCP options set	Main Route table	Main Network ACL
	vpc-20733348	available	172.31.0.0/16	-	dopt-523d663a	rtb-fecet396	acl-92bf9

2.4.6 Security Group

The different database server, web/application server and optional cache server instances need to communicate with each other and to be partially accessible from the Internet. This is done using an Amazon AWS Security Group.

If you have multiple, independent websites each with their own database server(s) and web/application server(s) they should each be their own Amazon AWS Security Group for security reasons.

An Amazon AWS Security Group essentially works as a sort of firewall/router for a Virtual Private Cloud. When you deploy Amazon AWS services, you assign them to a Security Group. All related services should be assigned to the same Security Group.



The Security Group id should be noted (see 2.4.3 Deployment Checklist & Notes) as it will be needed to configure the different server instances, later.

The screenshot displays the AWS Management Console interface for Security Groups. On the left, the navigation pane shows the 'Security Groups' link under the 'SECURITY' section. The main panel shows a list of Security Groups. A table lists the following details:

Name	Security group ID	Security group name	VPC ID	Description
default	sg-57cc9535	default	vpc-20733348	default VPC security group

Below the table, the 'Details' tab for the selected group 'sg-57cc9535 - default' is shown. It contains the following information:

Field	Value
Security group name	default
Security group ID	sg-57cc9535
Description	default VPC security group
VPC ID	vpc-20733348
Owner	233015024152
Inbound rules count	4 Permission entries
Outbound rules count	1 Permission entry

As default the Security Group should permit all traffic between server instances within the Security Group.

As default deployed Amazon AWS server instances should not be accessed directly.

Optionally, you may also want to add inbound permission for SSH and/or RDP (Windows Remote Desktop) access to access your web/application server instances directly for testing and debugging. Similarly, for direct access to the database server and/or the cache server.

Note: Deployed web/application server instances should only be accessed for testing and debugging. Deployed instances should not be modified manually. All modifications will be lost on manual or automatic redeployment or termination of the web/application server instances.

Note: Permitting direct access to server instances is a security risk and may give anybody access to (attempt) direct login to server instances. Access should be restricted as much as possible – only to required services, at required times, from required “Source” Internet IP-addresses. (“Source: 0.0.0.0/0” means unrestricted access from any Internet IP-address).



New VPC Experience
Tell us what you think

VPC Dashboard New

Filter by VPC:
Select a VPC

VIRTUAL PRIVATE CLOUD

Your VPCs

Subnets

Route Tables

Internet Gateways New

Egress Only Internet Gateways New

DHCP Options

Sets New

Elastic IPs New

Managed Prefix Lists New

Endpoints

Endpoint Services

NAT Gateways

Peering Connections

SECURITY

Network ACLs

Security Groups New

VPC > Security Groups

Security Groups (1/1) Info

Filter security groups

Name

Security group ID

Security group name

VPC ID

Description

-

sg-57cc9535

default

vpc-20733348

default VPC security group

sg-57cc9535 - default

Details

Inbound rules

Outbound rules

Tags

Inbound rules

Edit inbound rules

Type	Protocol	Port range	Source	Description - optional
All traffic	All	All	sg-57cc9535 (default)	-
SSH	TCP	22	0.0.0.0/0	-
RDP	TCP	3389	0.0.0.0/0	-

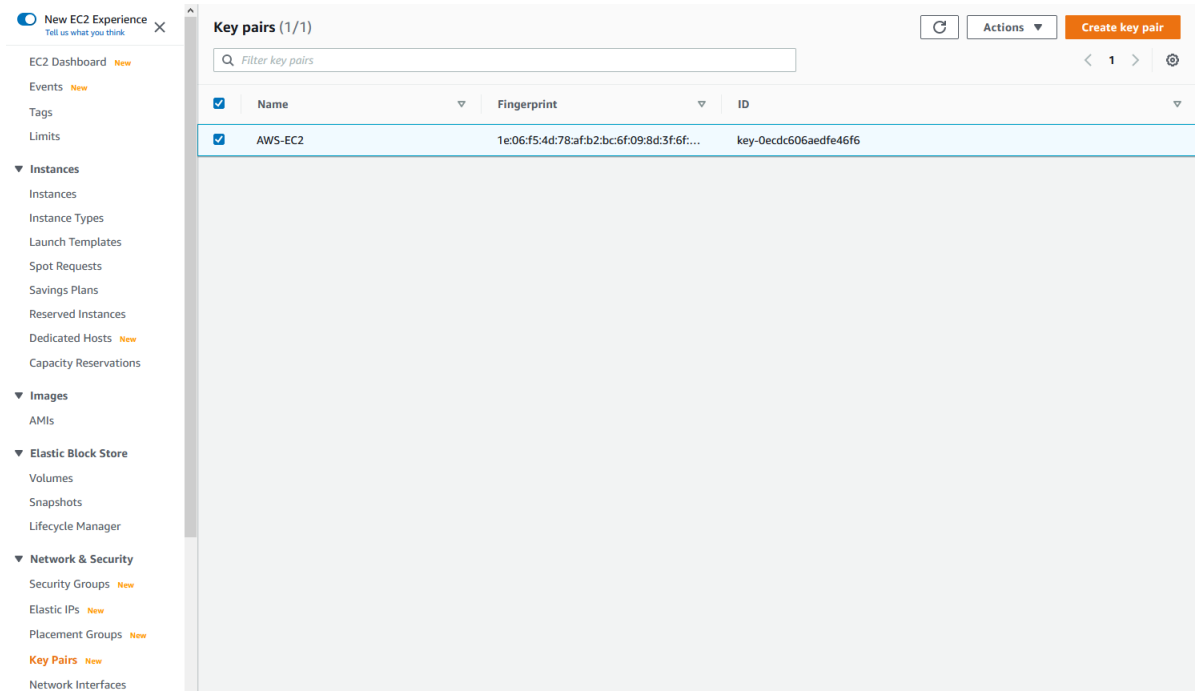
2.4.7 Network & Security Key Pairs

As default deployed Amazon AWS server instances should not be accessed directly.

Note: Deployed web/application server instances should only be accessed for testing and debugging. Deployed instances should not be modified manually. All modifications will be lost on manual or automatic redeployment or termination of the web/application server instances.

To access deployed Amazon AWS server instances directly through SSH and Windows Remote Desktop etc. you need to create a public/private key pair for authentication. When you deploy Amazon AWS services, you can assign such a public/private key pair to the deployed service and then use the public/private key with SSH and Windows Remote Desktop client software to access the deployed services.

Note: You may also need to grant external access to the deployed services for your Security Group to access the deployed services.

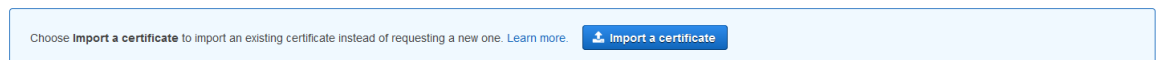


2.4.8 SSL Certificate

As default deployed web/application servers use unencrypted HTTP communication. It is strongly recommended to also support encrypted HTTPS communication. Use of HTTPS requires a Secure Socket Layer (SSL) certificate for your website domain. A SSL certificate can be issued or imported through the Amazon AWS Certificate Manager (<https://console.aws.amazon.com/acm/>).

A certificate should be issued for both your base domain name as well as wildcard subdomains for it to work with the web content management system subdomain “micro-websites” functionality - for example:

yourwebsite.com
*.yourwebsite.com



Request a certificate

Choose the type of certificate for ACM to provide.

- ☒ **Request a public certificate** - Request a public certificate from Amazon. By default, public certificates are trusted by browsers and operating systems. [Learn more](#)
- ☐ **Request a private certificate** - No Private CAs available for issuance. [Learn more](#)

[Cancel](#) [Request a certificate](#)



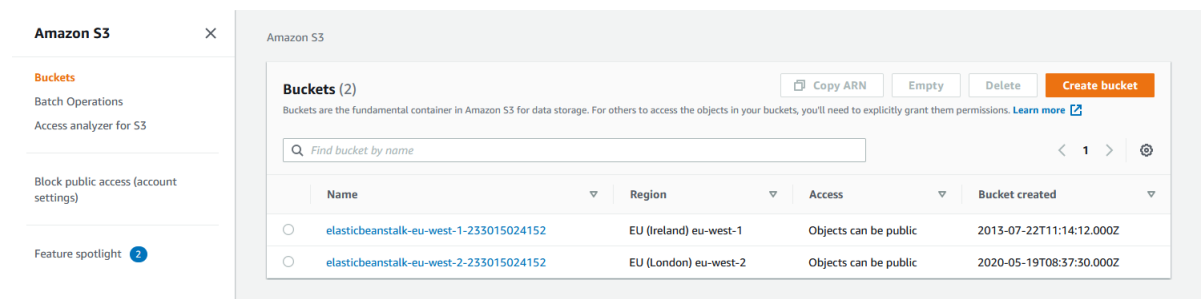
2.4.9 Cloud Storage

As default cloud deployed web/application servers do not have persistent storage. When a web/application server is terminated, all data on the web/application server is lost. So it is essential that website media files such as images uploaded to the web content management system and/or the website is stored on persistent storage that is not lost when web/application servers are terminated.

Also, with deployment of multiple web/application servers for the same website they must all have access to and share all website media files.

Persistent media storage is supported by the web content management system through the Amazon AWS S3 storage service (<https://s3.console.aws.amazon.com/>).

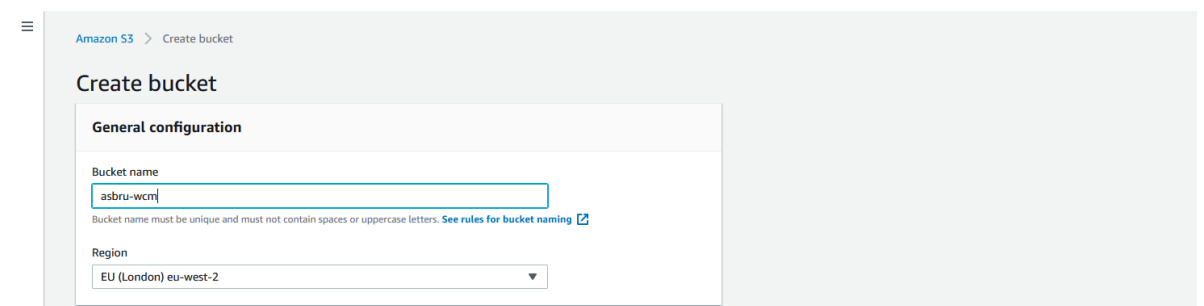
Note: Alternatively, web/application servers could be deployed with shared network storage (transparent to the web content management system). Please see general documentation on your operating system and Amazon AWS services.



2.4.9.1 Storage Bucket

A separate “bucket” (folder) should be created for the web content management system media files storage

When creating the bucket, the “Bucket name” and the “Region” should be noted as they will be needed to configure the web content management system, later.



The web content management system supports content delivery of website media files indirectly through content delivery program scripts (/image.aspx|jsp|php and /file.aspx|jsp|php) as well as directly by redirecting website users to the media storage.

To use direct content delivery of website media files, the bucket needs to be configured to allow all public access (“Block all public access” should be unchecked).



☰

Bucket settings for Block Public Access

Public access is granted to buckets and objects through access control lists (ACLs), bucket policies, access point policies, or all. In order to ensure that public access to this bucket and its objects is blocked, turn on Block all public access. These settings apply only to this bucket and its access points. AWS recommends that you turn on Block all public access, but before applying any of these settings, ensure that your applications will work correctly without public access. If you require some level of public access to this bucket or objects within, you can customize the individual settings below to suit your specific storage use cases. [Learn more](#)

☐ **Block all public access**

Turning this setting on is the same as turning on all four settings below. Each of the following settings are independent of one another.

☐ **Block public access to buckets and objects granted through new access control lists (ACLs)**

S3 will block public access permissions applied to newly added buckets or objects, and prevent the creation of new public access ACLs for existing buckets and objects. This setting doesn't change any existing permissions that allow public access to S3 resources using ACLs.

☐ **Block public access to buckets and objects granted through any access control lists (ACLs)**


S3 will ignore all ACLs that grant public access to buckets and objects.

☐ **Block public access to buckets and objects granted through new public bucket or access point policies**

S3 will block new bucket and access point policies that grant public access to buckets and objects. This setting doesn't change any existing policies that allow public access to S3 resources.

☐ **Block public and cross-account access to buckets and objects through any public bucket or access point policies**

S3 will ignore public and cross-account access for buckets or access points with policies that grant public access to buckets and objects.

 **Turning off block all public access might result in this bucket and the objects within becoming public**

AWS recommends that you turn on block all public access, unless public access is required for specific and verified use cases such as static website hosting.

☒ I acknowledge that the current settings might result in this bucket and the objects within becoming public.

► Advanced settings

Cancel

Create bucket

Please see the general Amazon AWS documentation for details and other available settings.

Amazon S3

Buckets

Batch Operations

Access analyzer for S3

Block public access (account settings)

Feature spotlight 2

☑ Successfully created bucket "asbru-wcm"

To upload files and folders, or to configure additional bucket settings such as Bucket Versioning, tags, and default encryption, choose [Go to bucket details](#).

[Go to bucket details](#)

Amazon S3

Buckets (3)

[Copy ARN](#) [Empty](#) [Delete](#) [Create bucket](#)

Buckets are the fundamental container in Amazon S3 for data storage. For others to access the objects in your buckets, you'll need to explicitly grant them permissions. [Learn more](#)

	Name	Region	Access	Bucket created
<input type="radio"/>	asbru-wcm	EU (London) eu-west-2	Objects can be public	2020-05-22T12:44:07.000Z
<input type="radio"/>	elasticbeanstalk-eu-west-1-233015024152	EU (Ireland) eu-west-1	Objects can be public	2013-07-22T11:14:12.000Z
<input type="radio"/>	elasticbeanstalk-eu-west-2-233015024152	EU (London) eu-west-2	Objects can be public	2020-05-19T08:37:30.000Z

< 1 >

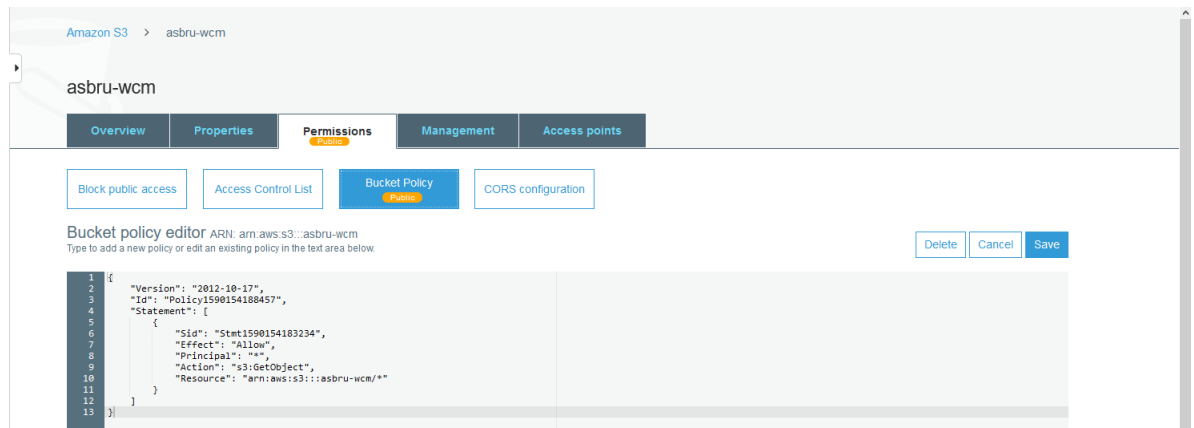
⚙

When the bucket has been created, it should be selected to configure the specific access permissions by creating a “Bucket Policy” like this where “XXXXXX” is the bucket name. Replace “XXXXXX” with your chosen bucket name:

```
{
  "Version": "2012-10-17",
  "Id": "Policy1590154188457",
  "Statement": [
    {
      "Sid": "Stmnt1590154183234",
      "Effect": "Allow",
      "Principal": "*",
      "Action": "s3:GetObject",
```



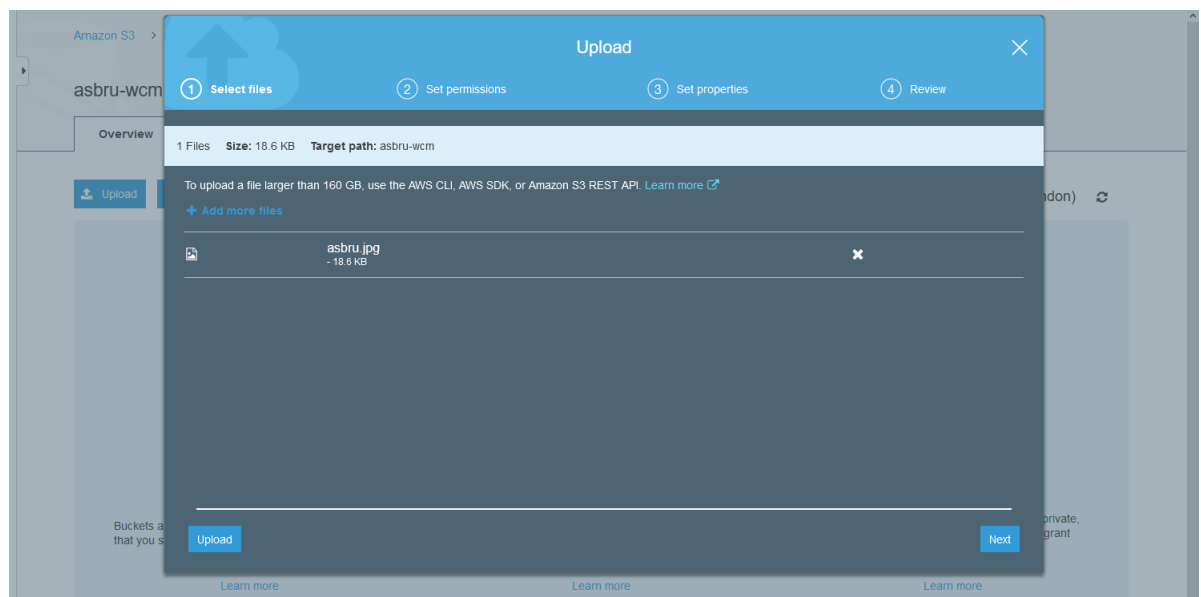
```
"Resource": "arn:aws:s3:::XXXXXX/*"
    }
  ]
}
```

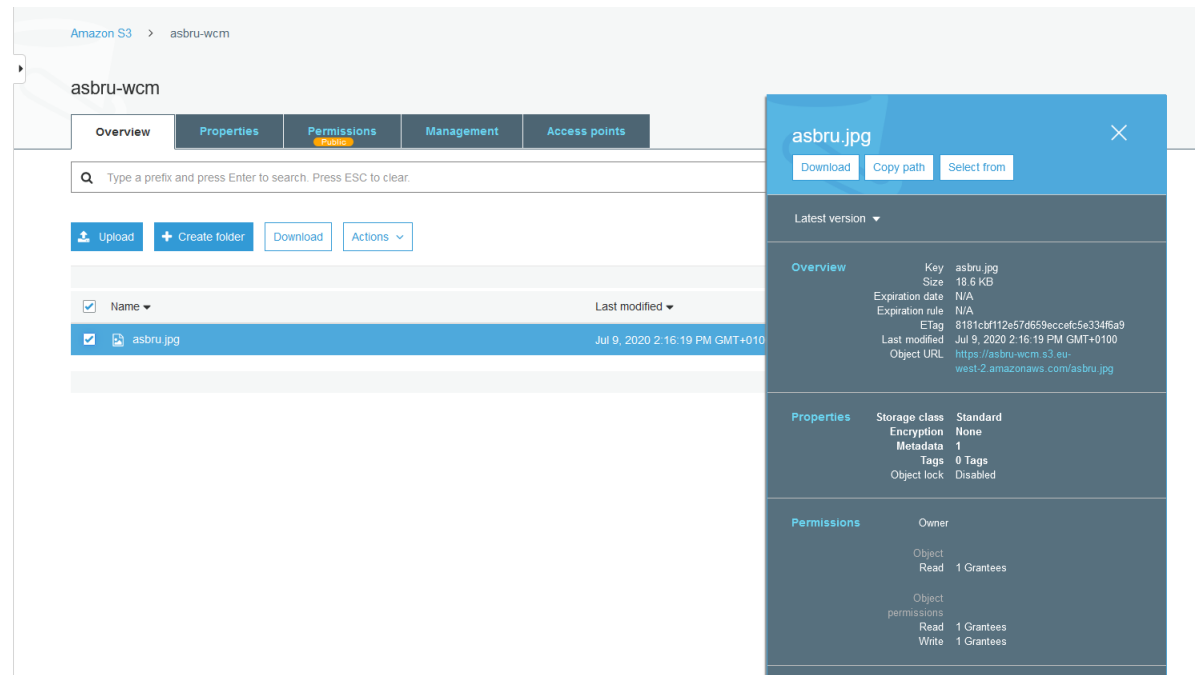


2.4.9.2 Storage Address

You will need the website address of your media files bucket to configure the web content management system, later. The website address is automatically generated from your chosen bucket name and region. The website address format varies slightly depending on the chosen region.

To get the specific website address as well as to test the configured access permissions, you can upload a test file to the bucket.





If the configured access permissions work correctly with public view permissions, the uploaded image/file should be displayed if you try to open the uploaded file’s “Object URL” in a new web browser window.

The “Object URL” website address should be noted (see 2.4.3 Deployment Checklist & Notes) as it will be needed to configure the web content management system, later – for example:

<https://asbru-wcm.s3.eu-west-2.amazonaws.com>

Optionally, you may want to configure your Domain Name Service (DNS) with an alias (CNAME) for this website address, so that you can use your own domain for your media instead of the automatically generated Amazon AWS S3 website address – for example:

<https://media.yourwebsite.com>

2.4.9.3 Security Credentials

A set of Amazon AWS Security Credentials is required for the web content management system to be able access the created bucket to store media files. This is done through the Amazon AWS Identity and Access Management (<https://console.aws.amazon.com/iam/>).

A user account with “programmatic access” should be created and the user account should have full access permissions for the created bucket for media files.

Note: Selecting the default “AmazonS3FullAccess” policy gives the user account full access permissions for all your Amazon AWS S3 storage. You may want to modify the policy to only grant full access permissions for the specific bucket created for the web content management system media files.



Add user

1 2 3 4 5

Set user details

You can add multiple users at once with the same access type and permissions. [Learn more](#)

User name* asbru-wcm

[Add another user](#)

Select AWS access type

Select how these users will access AWS. Access keys and autogenerated passwords are provided in the last step. [Learn more](#)

- Access type* ☒ **Programmatic access**
Enables an **access key ID** and **secret access key** for the AWS API, CLI, SDK, and other development tools.
- ☐ **AWS Management Console access**
Enables a **password** that allows users to sign-in to the AWS Management Console.

Add user

1 2 3 4 5

Set permissions

Add user to group

Copy permissions from existing user

Attach existing policies directly

Create policy



Filter policies		Showing 4 results	
	Policy name	Type	Used as
<input type="checkbox"/>	AmazonDMSRedshiftS3Role	AWS managed	None
<input checked="" type="checkbox"/>	AmazonS3FullAccess	AWS managed	None
<input type="checkbox"/>	AmazonS3ReadOnlyAccess	AWS managed	None
<input type="checkbox"/>	QuickSightAccessForS3StorageManagementAnalyticsReadOnly	AWS managed	None

Add user

1 2 3 4 5

Add tags (optional)

iam tags are key-value pairs you can add to your user. Tags can include user information, such as an email address, or can be descriptive, such as a job title. You can use the tags to organize, track, or control access for this user. [Learn more](#)

Key	Value (optional)	Remove
<input type="text" value="Add new key"/>	<input type="text"/>	

You can add 50 more tags.

Add user

1 2 3 4 5

Review

Review your choices. After you create the user, you can view and download the autogenerated password and access key.

User details

User name	asbru-wcm
AWS access type	Programmatic access - with an access key
Permissions boundary	Permissions boundary is not set

Permissions summary

The following policies will be attached to the user shown above.

Type	Name
Managed policy	AmazonS3FullAccess

Tags

No tags were added.



Add user



✓ Success

You successfully created the users shown below. You can view and download user security credentials. You can also email users instructions for signing in to the AWS Management Console. This is the last time these credentials will be available to download. However, you can create new credentials at any time.

Users with AWS Management Console access can sign-in at: <https://233015024152.signin.aws.amazon.com/console>

Download .csv

	User	Access key ID	Secret access key
▶	✓ asbru-wcm	AKIATMQGHDIMM47Z3TFD	***** Show

The automatically generated “Access key id” and “Secret access key” should be noted (see 2.4.3 Deployment Checklist & Notes) as they will be needed to configure the web content management system, later.

For example:

Access Key ID: AKIATMQGHDIMG2OKWOZO

Secret Access Key: H+NjIBU0uAovR6fDloYHhxoLnIW+kfh9EeBlGoc

2.4.10 Database Server

All website content and other data used by the website and the web content management system is stored in a database server.

The web content management system supports all the Relational Database Servers currently provided by Amazon AWS RDS (<https://console.aws.amazon.com/rds/>).

Note: Amazon AWS Elastic Beanstalk supports deployment of a database server as part of the deployment of a web application/environment. Use of this functionality is not recommended and is not described in the following. Such a deployed, linked database server will be terminated when the web/application servers are terminated and all data will be lost if not backed up.



Amazon RDS

Dashboard

Databases

Performance Insights

Snapshots

Automated backups

Reserved instances

Proxies

Subnet groups

Parameter groups

Option groups

Events

Event subscriptions

Recommendations

Certificate update

Resources

Refresh

You are using the following Amazon RDS resources in the EU (London) region (used/quota)

DB Instances (0/40)

Allocated storage (0 TB/100 TB)

Click here to increase DB instances limit

DB Clusters (0/40)

Reserved instances (0/40)

Snapshots (0)

Manual (0/50)

Automated (0)

Recent events (0)

Event subscriptions (0/20)

Parameter groups (1)

Default (1)

Custom (0/100)

Option groups (1)

Default (1)

Custom (0/20)

Subnet groups (0/50)

Supported platforms VPC

Default network vpc-20733348

Create database

Amazon Relational Database Service (RDS) makes it easy to set up, operate, and scale a relational database in the cloud.

Restore from S3

Create database

Note: your DB instances will launch in the EU (London) region

Service health

View service health dashboard

Current status

Details

Amazon Relational Database Service (London)

Service is operating normally

Recommended for you

Aurora Machine Learning

Add ML-based predictions to applications via the familiar SQL language without having to build custom integrations or move data around. [Learn more](#)

In-Region Read Replicas for SQL Server

Offload read workloads from your primary database instance to a replica and scale horizontally with up to 5 additional replicas. [Learn more](#)

Aurora Machine Learning

Add ML-based predictions to your apps using SQL without having to build custom integrations. [Learn more](#)

RDS Performance Insights

Quickly assess load on your DB and take faster action with an easy-to-use performance dashboard. [Learn more](#)

Additional information

Getting started with RDS

Overview and features

Documentation

Articles and tutorials

Data import guide for MySQL

Data import guide for Oracle

2.4.10.1 MySQL

All current versions of MySQL are supported by the web content management system.

RDS > Create database

Create database

Choose a database creation method

Standard Create

You set all of the configuration options, including ones for availability, security, backups, and maintenance.

Easy Create

Use recommended best-practice configurations. Some configuration options can be changed after the database is created.

Engine options

Engine type

Amazon Aurora

MySQL

MariaDB

PostgreSQL

Oracle

Microsoft SQL Server

Edition

MySQL Community

Version

MySQL 8.0.17



Both production, dev/test and free tier deployments are supported by the web content management system.

For the free tier template a single database server instance is deployed,

Use the production template for an optional replicated standby database server instance.

The image shows two screenshots of a web interface titled 'Templates' with the subtitle 'Choose a sample template to meet your use case.' Each screenshot contains three radio button options:

- Production**: Use defaults for high availability and fast, consistent performance.
- Dev/Test**: This instance is intended for development use outside of a production environment.
- Free tier**: Use RDS Free Tier to develop new applications, test existing applications, or gain hands-on experience with Amazon RDS. (Includes an 'Info' link)

In the top screenshot, the 'Free tier' option is selected. In the bottom screenshot, the 'Production' option is selected.

2.4.10.1.1 Settings

The database server instance must be given a unique identifier. This identifier is only used for the Amazon AWS administration – it is not used by the web content management system.

A master username and password must also be configured for the database server.

For example:

- DB instance identifier:
wcm-mysql
- Master username:
admin
- Master password:
secretsecret
- Confirm password:
secretsecret

The database master username and password should be noted (see 2.4.3 Deployment Checklist & Notes) as they will be needed to configure the web content management system, later.



Settings

DB instance identifier [Info](#)

Type a name for your DB instance. The name must be unique cross all DB instances owned by your AWS account in the current AWS Region.

The DB instance identifier is case-insensitive, but is stored as all lowercase (as in "mydbinstance"). Constraints: 1 to 60 alphanumeric characters or hyphens (1 to 15 for SQL Server). First character must be a letter. Can't contain two consecutive hyphens. Can't end with a hyphen.

▼ Credentials Settings

Master username [Info](#)

Type a login ID for the master user of your DB instance.

1 to 16 alphanumeric characters. First character must be a letter

☐ Auto generate a password

Amazon RDS can generate a password for you, or you can specify your own password

Master password [Info](#)

Constraints: At least 8 printable ASCII characters. Can't contain any of the following: / (slash), " (double quote) and @ (at sign).

Confirm password [Info](#)

2.4.10.1.1 DB instance size

All database instance classes are supported by the web content management system. A micro class database instance may be sufficient for a small website. For larger websites, a larger class may be required. Please see general Amazon AWS RDS documentation for details.

DB instance size

DB instance class [Info](#)

Choose a DB instance class that meets your processing power and memory requirements. The DB instance class options below are limited to those supported by the engine you selected above.

☐ Standard classes (includes m classes)

☐ Memory Optimized classes (includes r and x classes)

☒ Burstable classes (includes t classes)

1 vCPUs 1 GiB RAM Not EBS Optimized

☐ Include previous generation classes

DB instance size

DB instance class [Info](#)

Choose a DB instance class that meets your processing power and memory requirements. The DB instance class options below are limited to those supported by the engine you selected above.

☒ Standard classes (includes m classes)

☐ Memory Optimized classes (includes r and x classes)

☐ Burstable classes (includes t classes)

4 vCPUs 16 GiB RAM EBS: 3500 Mbps

☐ Include previous generation classes

2.4.10.1.2 Replicated standby server instance

Optionally, a replicated standby database server instance can be deployed for high availability (see 2.4.2.2.5.2 Replicated standby server instance).

Availability & durability

Multi-AZ deployment [Info](#)

☒ Do not create a standby instance

☐ Create a standby instance (recommended for production usage)

Creates a standby in a different Availability Zone (AZ) to provide data redundancy, eliminate I/O freezes, and minimize latency spikes during system backups.

Page 40 of 206



Availability & durability

Multi-AZ deployment [Info](#)

☐ Do not create a standby instance

☒ Create a standby instance (recommended for production usage)
Creates a standby in a different Availability Zone (AZ) to provide data redundancy, eliminate I/O freezes, and minimize latency spikes during system backups.

2.4.10.1.3 Connectivity

The database server should be assigned to the same Virtual Private Cloud as the web/application server and optional cache server – as created and noted previously.

The database port number should be left as the default value.

Connectivity

Virtual private cloud (VPC) [Info](#)
VPC that defines the virtual networking environment for this DB instance.

vpc-01a664f7f0591601a

Only VPCs with a corresponding DB subnet group are listed.

After a database is created, you can't change the VPC selection.

Additional connectivity configuration

Subnet group [Info](#)
DB subnet group that defines which subnets and IP ranges the DB instance can use in the VPC you selected.

default-vpc-01a664f7f0591601a

Publicly accessible [Info](#)

☐ Yes
Amazon EC2 instances and devices outside the VPC can connect to your database. Choose one or more VPC security groups that specify which EC2 instances and devices inside the VPC can connect to the database.

☒ No
RDS will not assign a public IP address to the database. Only Amazon EC2 instances and devices inside the VPC can connect to your database.

VPC security group
Choose one or more RDS security groups to allow access to your database. Ensure that the security group rules allow incoming traffic from EC2 instances and devices outside your VPC. (Security groups are required for publicly accessible databases.)

☒ Choose existing
Choose existing VPC security groups

☐ Create new
Create new VPC security group

Existing VPC security groups

Choose VPC security groups

default

Availability Zone [Info](#)

No preference

Database port [Info](#)
TCP/IP port that the database will use for application connections.

3306

2.4.10.1.4 Database name

An initial database should be created for the web content management system through the “Additional configuration” option.

Note: If no initial database name is given then no default database will be created and the web content management system may not work (unless you manually create a database on the database server).

Note: If you use the “Easy Create” option (not recommended) then the default initial database name is: ebdb

Page 41 of 206



The initial database name should be noted (see 2.4.3 Deployment Checklist & Notes) as it will be needed to configure the web content management system, later.

▼ **Additional configuration**

Database options, encryption enabled, backup enabled, backtrack disabled, Performance Insights enabled, Enhanced Monitoring enabled, maintenance, CloudWatch Logs, delete protection enabled

Database options

Initial database name [Info](#)

If you do not specify a database name, Amazon RDS does not create a database.

2.4.10.1.5 Additional configuration

A number of other configuration options are available such as automatic backups and monitoring. Please see the Amazon AWS documentation for details.

ⓘ You are responsible for ensuring that you have all of the necessary rights for any third-party products or services that you use with AWS services.

Cancel

Create database

2.4.10.1.6 Create Database

Creating the database server may take some minutes to complete.

Amazon RDS

Dashboard

Databases

Performance Insights

Snapshots

Automated backups

Reserved instances

Proxies

Subnet groups

Parameter groups

Option groups

Events

Event subscriptions

Recommendations

Certificate update

Creating database wcm-mysql

Your database might take a few minutes to launch.

View credential details

RDS > Databases

Databases

Group resources

Modify

Actions

Restore from S3

Create database

Filter databases

DB identifier	Role	Engine	Region & AZ	Size	Status	CPU
wcm-mysql	Instance	MySQL Community	-	db.t2.micro	Creating	-

Amazon RDS

Dashboard

Databases

Performance Insights

Snapshots

Automated backups

Reserved instances

Proxies

Subnet groups

Parameter groups

Option groups

Events

Event subscriptions

Recommendations

Certificate update

Successfully created database wcm-mysql

View credential details

RDS > Databases

Databases

Group resources

Modify

Actions

Restore from S3

Create database

Filter databases

DB identifier	Role	Engine	Region & AZ	Size	Status	CPU
wcm-mysql	Instance	MySQL Community	eu-west-2b	db.t2.micro	Available	-



2.4.10.1.7 Database address

The created database server is automatically assigned an endpoint address. The automatically assigned “Endpoint” address and “Port” number should be noted (see 2.4.3 Deployment Checklist & Notes) as they will be needed to configure the web content management system, later.

For example:

- Endpoint:
wcm-mysql.c4w3zpvzpgax.eu-west-2.rds.amazonaws.com
- Port:
3306

You may also want to check that the database server has been assigned to the intended VPC and VPC security group.

The screenshot displays the Amazon RDS console interface. On the left is a navigation sidebar with options like Dashboard, Databases, Performance Insights, Snapshots, Automated backups, Reserved instances, Proxies, Subnet groups, Parameter groups, Option groups, Events, Event subscriptions, Recommendations, and Certificate update. The main panel shows the configuration for the 'wcm-mysql' instance. At the top, there's a breadcrumb 'RDS > Databases > wcm-mysql' and buttons for 'Modify' and 'Actions'. Below this is a 'Summary' section with a table of instance details:

Summary			
DB identifier wcm-mysql	CPU 4.00%	Info Available	Class db.t2.micro
Role	Current activity 0 Connections	Engine MySQL Community	Region & AZ eu-west-2b

Below the summary is a horizontal menu with tabs: 'Connectivity & security' (selected), 'Monitoring', 'Logs & events', 'Configuration', 'Maintenance & backups', and 'Tags'. The 'Connectivity & security' tab is active, showing a table with three columns: 'Endpoint & port', 'Networking', and 'Security'.

Endpoint & port	Networking	Security
Endpoint wcm-mysql.c4w3zpvzpgax.eu-west-2.rds.amazonaws.com	Availability zone eu-west-2b	VPC security groups default (sg-57cc9535) (active)
Port 3306	VPC vpc-20733348	Public accessibility No
	Subnet group default-vpc-20733348	Certificate authority rds-ca-2019
	Subnets subnet-9f9ed4f6 subnet-2412b768 subnet-b2891fc8	Certificate authority date Aug 22nd, 2024

2.4.10.2 MariaDB

MariaDB is a MySQL-compatible database server, which can also be used for the Asbru Web Content Management System. A MariaDB database should simply be configured as if it is a MySQL database (see 2.4.10.1 MySQL).



☰

RDS > Create database

Create database


Choose a database creation method [Info](#)


☒ **Standard Create**
You set all of the configuration options, including ones for availability, security, backups, and maintenance.


☐ **Easy Create**
Use recommended best-practice configurations. Some configuration options can be changed after the database is created.


Engine options


Engine type [Info](#)


☐ Amazon Aurora


☐ MySQL


☒ MariaDB


☐ PostgreSQL


☐ Oracle


☐ Microsoft SQL Server


Version [Info](#)

MariaDB 10.3.13

2.4.10.3 PostgreSQL

All current versions of PostgreSQL are supported by the web content management system.

☰

RDS > Create database

Create database


Choose a database creation method [Info](#)


☒ **Standard Create**
You set all of the configuration options, including ones for availability, security, backups, and maintenance.


☐ **Easy Create**
Use recommended best-practice configurations. Some configuration options can be changed after the database is created.


Engine options


Engine type [Info](#)


☐ Amazon Aurora


☐ MySQL


☐ MariaDB


☒ PostgreSQL


☐ Oracle


☐ Microsoft SQL Server


Version [Info](#)

PostgreSQL 11.6-R1

[If you want to create PostgreSQL 12 in the Preview environment, click here.](#)

Both production, dev/test and free tier deployments are supported by the web content management system.



For the free tier template a single database server instance is deployed,

Use the production template for an optional replicated standby database server instance.

The image shows two screenshots of the AWS RDS console 'Templates' section. The top screenshot shows the 'Free tier' template selected, with the description: 'Use RDS Free Tier to develop new applications, test existing applications, or gain hands-on experience with Amazon RDS.' The bottom screenshot shows the 'Production' template selected, with the description: 'Use defaults for high availability and fast, consistent performance.'

2.4.10.3.1 Settings

The database server instance must be given a unique identifier. This identifier is only used for the Amazon AWS administration – it is not used by the web content management system.

A master username and password must also be configured for the database server.

The database master username and password should be noted (see 2.4.3 Deployment Checklist & Notes) as they will be needed to configure the web content management system, later.

For example:

- DB instance identifier:
wcm-pgsql
- Master username:
postgres
- Master password:
secretsecret
- Confirm password:
secretsecret

The database master username and password should be noted (see 2.4.3 Deployment Checklist & Notes) as they will be needed to configure the web content management system, later.



Settings

DB instance identifier [Info](#)

Type a name for your DB instance. The name must be unique across all DB instances owned by your AWS account in the current AWS Region.

wcm-pgsq

The DB instance identifier is case-insensitive, but is stored as all lowercase (as in "mydbinstance"). Constraints: 1 to 60 alphanumeric characters or hyphens (1 to 15 for SQL Server). First character must be a letter. Can't contain two consecutive hyphens. Can't end with a hyphen.

▼ Credentials Settings

Master username [Info](#)

Type a login ID for the master user of your DB instance.

postgres

1 to 16 alphanumeric characters. First character must be a letter

☐ Auto generate a password

Amazon RDS can generate a password for you, or you can specify your own password

Master password [Info](#)

••••••••

Constraints: At least 8 printable ASCII characters. Can't contain any of the following: / (slash), " (double quote) and @ (at sign).

Confirm password [Info](#)

••••••••

2.4.10.3.1.1 DB instance size

All database instance classes are supported by the web content management system. A micro class database instance may be sufficient for a small website. For larger websites, a larger class may be required. Please see general Amazon AWS RDS documentation for details.

DB instance size

DB instance class [Info](#)

Choose a DB instance class that meets your processing power and memory requirements. The DB instance class options below are limited to those supported by the engine you selected above.

☐ Standard classes (includes m classes)

☐ Memory Optimized classes (includes r and x classes)

☒ Burstable classes (includes t classes)

db.t2.micro

1 vCPU 1 GiB RAM Not EBS Optimized

☐ Include previous generation classes

DB instance size

DB instance class [Info](#)

Choose a DB instance class that meets your processing power and memory requirements. The DB instance class options below are limited to those supported by the engine you selected above.

☒ Standard classes (includes m classes)

☐ Memory Optimized classes (includes r and x classes)

☐ Burstable classes (includes t classes)

db.m5.xlarge

4 vCPUs 16 GiB RAM EBS: 3500 Mbps

☐ Include previous generation classes

2.4.10.3.2 Replicated standby server instance

Optionally, a replicated standby database server instance can be deployed for high availability (see 2.4.2.2.5.2 Replicated standby server instance).

Availability & durability

Multi-AZ deployment [Info](#)

☒ Do not create a standby instance

☐ Create a standby instance (recommended for production usage)

Creates a standby in a different Availability Zone (AZ) to provide data redundancy, eliminate I/O freezes, and minimize latency spikes during system backups.



Availability & durability

Multi-AZ deployment [Info](#)

- ☐ Do not create a standby instance
- ☒ Create a standby instance (recommended for production usage)
Creates a standby in a different Availability Zone (AZ) to provide data redundancy, eliminate I/O freezes, and minimize latency spikes during system backups.

2.4.10.3.3 Connectivity

The database server should be assigned to the same Virtual Private Cloud as the web/application server and optional cache server – as created and noted previously.

The database port number should be left as the default value.

Connectivity

Virtual private cloud (VPC) [Info](#)
VPC that defines the virtual networking environment for this DB instance.
vpc-01a6647f0591601a
Only VPCs with a corresponding DB subnet group are listed.

① After a database is created, you can't change the VPC selection.

Additional connectivity configuration

Subnet group [Info](#)
DB subnet group that defines which subnets and IP ranges the DB instance can use in the VPC you selected.
default-vpc-01a6647f0591601a

Publicly accessible [Info](#)
☐ Yes
Amazon EC2 instances and devices outside the VPC can connect to your database. Choose one or more VPC security groups that specify which EC2 instances and devices inside the VPC can connect to the database.
☒ No
RDS will not assign a public IP address to the database. Only Amazon EC2 instances and devices inside the VPC can connect to your database.

VPC security group
Choose one or more RDS security groups to allow access to your database. Ensure that the security group rules allow incoming traffic from EC2 instances and devices outside your VPC. (Security groups are required for publicly accessible databases.)
☒ Choose existing
Choose existing VPC security groups
☐ Create new
Create new VPC security group

Existing VPC security groups
Choose VPC security groups
default X

Database port [Info](#)
TCP/IP port that the database will use for application connections.
5432

2.4.10.3.4 Database name

An initial database should be created for the web content management system through the “Additional configuration” option.

Note: If no initial database name is given then no default database will be created and the web content management system may not work (unless you manually create a database on the database server).

Note: If you use the “Easy Create” option (not recommended) then the default initial database name is: ebddb

The initial database name should be noted (see 2.4.3 Deployment Checklist & Notes) as it will be needed to configure the web content management system, later.



▼ **Additional configuration**

Database options, encryption enabled, backup enabled, backtrack disabled, Performance Insights enabled, Enhanced Monitoring enabled, maintenance, CloudWatch Logs, delete protection enabled

Database options

Initial database name [Info](#)

If you do not specify a database name, Amazon RDS does not create a database.

2.4.10.3.5 Additional configuration

A number of other configuration options are available such as automatic backups and monitoring. Please see the Amazon AWS documentation for details.

ⓘ

You are responsible for ensuring that you have all of the necessary rights for any third-party products or services that you use with AWS services.

Cancel **Create database**

2.4.10.3.6 Create database

Creating the database server may take some minutes to complete.

Amazon RDS

Dashboard

Databases

Query Editor

Performance Insights

Snapshots

Automated backups

Reserved instances

Proxies

Subnet groups

Parameter groups

Option groups

Events

Event subscriptions

Recommendations

Certificate update

Creating database **wcm-pgsql**.

Your database might take a few minutes to launch.

[View credential details](#)

RDS > Databases

Databases

☒ Group resources

[Refresh](#)

[Modify](#)

[Actions](#)

[Restore from S3](#)

Create database

<input type="checkbox"/>	DB identifier	Role	Engine	Region & AZ	Size	Status	CPU
<input type="radio"/>	wcm-pgsql	Instance	PostgreSQL	-	db.t2.micro	⌚ Creating	-

Amazon RDS

Dashboard

Databases

Query Editor

Performance Insights

Snapshots

Automated backups

Reserved instances

Proxies

Subnet groups

Parameter groups

Option groups

Events

Event subscriptions

Recommendations

Certificate update

Successfully created database **wcm-pgsql**.

[View credential details](#)

RDS > Databases

Databases

☒ Group resources

[Refresh](#)

[Modify](#)

[Actions](#)

[Restore from S3](#)

Create database

<input type="checkbox"/>	DB identifier	Role	Engine	Region & AZ	Size	Status	CPU
<input type="radio"/>	wcm-pgsql	Instance	PostgreSQL	eu-west-2b	db.t2.micro	✅ Available	-



2.4.10.3.7 Database address

The created database server is automatically assigned an endpoint address. The automatically assigned “Endpoint” address and “Port” number should be noted (see 2.4.3 Deployment Checklist & Notes) as they will be needed to configure the web content management system, later.

For example:

- Endpoint:
wcm-pgsql.c4w3zpvzpgax.eu-west-2.rds.amazonaws.com
- Port:
5432

You may also want to check that the database server has been assigned to the intended VPC and VPC security group.

Amazon RDS

Dashboard

Databases

Query Editor

Performance Insights

Snapshots

Automated backups

Reserved instances

Proxies

Subnet groups

Parameter groups

Option groups

Events

Event subscriptions

Recommendations

Certificate update

RDS > Databases > wcm-pgsql

wcm-pgsql

Modify Actions

Summary

DB identifier wcm-pgsql	CPU 6.17%	Info Available	Class db.t2.micro
Role Instance	Current activity 0 Sessions	Engine PostgreSQL	Region & AZ eu-west-2b

Connectivity & securityMonitoringLogs & eventsConfigurationMaintenance & backupsTags

Connectivity & security

<div>Endpoint & port</div> <div>Endpoint wcm-pgsql.c4w3zpvzpgax.eu-west-2.rds.amazonaws.com</div> <div>Port 5432</div>	<div>Networking</div> <div>Availability zone eu-west-2b</div> <div>VPC vpc-20733348</div> <div>Subnet group default-vpc-20733348</div> <div>Subnets subnet-9f9ed4f6 subnet-2412b768 subnet-b2891fc8</div>	<div>Security</div> <div>VPC security groups default (sg-57cc9535) (active)</div> <div>Public accessibility No</div> <div>Certificate authority rds-ca-2019</div> <div>Certificate authority date Aug 22nd, 2024</div>
--	---	--

2.4.10.4 Oracle

All current editions and versions of Oracle are supported by the web content management system.



☰

RDS > Create database

Create database


Choose a database creation method [Info](#)


☒ **Standard Create**
You set all of the configuration options, including ones for availability, security, backups, and maintenance.


☐ **Easy Create**
Use recommended best-practice configurations. Some configuration options can be changed after the database is created.


Engine options


Engine type [Info](#)


☐ Amazon Aurora


☐ MySQL


☐ MariaDB


☐ PostgreSQL


☒ **Oracle**


☐ Microsoft SQL Server


Edition

☐ **Oracle Enterprise Edition**
Efficient, reliable, and secure database management system that delivers comprehensive high-end capabilities for mission-critical applications and demanding database workloads.

☒ **Oracle Standard Edition**
Affordable and full-featured database management system supporting up to 32 vCPUs.

☐ **Oracle Standard Edition One**
Affordable and full-featured database management system supporting up to 16 vCPUs.

☐ **Oracle Standard Edition Two**
Affordable and full-featured database management system supporting up to 16 vCPUs. Oracle Database Standard Edition Two is a replacement for Standard Edition and Standard Edition One.

Version [Info](#)

Oracle 11.2.0.4.v24 ▼

License
bring-your-own-license

Both production, dev/test and free tier deployments are supported by the web content management system.

For the free tier template a single database server instance is deployed,

Use the production template for an optional replicated standby database server instance.

Templates

Choose a sample template to meet your use case.

☐ **Production**
Use defaults for high availability and fast, consistent performance.

☐ **Dev/Test**
This instance is intended for development use outside of a production environment.

☒ **Free tier**
Use RDS Free Tier to develop new applications, test existing applications, or gain hands-on experience with Amazon RDS. [Info](#)



Templates
Choose a sample template to meet your use case.

- ☒ **Production**
Use defaults for high availability and fast, consistent performance.
- ☐ **Dev/Test**
This instance is intended for development use outside of a production environment.
- ☐ **Free tier**
Use RDS Free Tier to develop new applications, test existing applications, or gain hands-on experience with Amazon RDS. [Info](#)

2.4.10.4.1 Settings

The database server instance must be given a unique identifier. This identifier is only used for the Amazon AWS administration – it is not used by the web content management system.

A master username and password must also be configured for the database server.

For example:

- DB instance identifier:
wcm-oracle
- Master username:
admin
- Master password:
secretsecret
- Confirm password:
secretsecret

The database master username and password should be noted (see 2.4.3 Deployment Checklist & Notes) as they will be needed to configure the web content management system, later.

Settings

DB instance identifier [Info](#)
Type a name for your DB Instance. The name must be unique across all DB instances owned by your AWS account in the current AWS Region.

The DB instance identifier is case-insensitive, but is stored as all lowercase (as in "mydbinstance"). Constraints: 1 to 60 alphanumeric characters or hyphens (1 to 15 for SQL Server). First character must be a letter. Can't contain two consecutive hyphens. Can't end with a hyphen.

▼ Credentials Settings

Master username [Info](#)
Type a login ID for the master user of your DB instance.

1 to 16 alphanumeric characters. First character must be a letter

☐ **Auto generate a password**
Amazon RDS can generate a password for you, or you can specify your own password

Master password [Info](#)

Constraints: At least 8 printable ASCII characters. Can't contain any of the following: / (slash), " (double quote) and @ (at sign).

Confirm password [Info](#)



2.4.10.4.1.1 DB instance size

All database instance classes are supported by the web content management system. A micro class database instance may be sufficient for a small website. For larger websites, a larger class may be required. Please see general Amazon AWS RDS documentation for details.

DB instance size

DB instance class [Info](#)
Choose a DB instance class that meets your processing power and memory requirements. The DB instance class options below are limited to those supported by the engine you selected above.

☐ Standard classes (includes m classes)

☐ Memory Optimized classes (includes r and x classes)

☒ Burstable classes (includes t classes)

db.t3.micro

2 vCPUs 1 GiB RAM EBS: 1500 Mbps

☐ Include previous generation classes

DB instance size

DB instance class [Info](#)
Choose a DB instance class that meets your processing power and memory requirements. The DB instance class options below are limited to those supported by the engine you selected above.

☒ Standard classes (includes m classes)

☐ Memory Optimized classes (includes r and x classes)

☐ Burstable classes (includes t classes)

db.m5.xlarge

4 vCPUs 16 GiB RAM EBS: 3500 Mbps

☐ Include previous generation classes

[Additional configuration - Optional](#)

2.4.10.4.2 Replicated standby server instance

Optionally, a replicated standby database server instance can be deployed for high availability (see 2.4.2.2.5.2 Replicated standby server instance).

Availability & durability

Multi-AZ deployment [Info](#)

☒ Do not create a standby instance

☐ Create a standby instance (recommended for production usage)
Creates a standby in a different Availability Zone (AZ) to provide data redundancy, eliminate I/O freezes, and minimize latency spikes during system backups.

Availability & durability

Multi-AZ deployment [Info](#)

☐ Do not create a standby instance

☒ Create a standby instance (recommended for production usage)
Creates a standby in a different Availability Zone (AZ) to provide data redundancy, eliminate I/O freezes, and minimize latency spikes during system backups.

2.4.10.4.3 Connectivity

The database server should be assigned to the same Virtual Private Cloud as the web/application server and optional cache server – as created and noted previously.

The database port number should be left as the default value.



Connectivity

Virtual private cloud (VPC) [Info](#)
VPC that defines the virtual networking environment for this DB instance.
vpc-01a664f7f0591601a
Only VPCs with a corresponding DB subnet group are listed.

After a database is created, you can't change the VPC selection.

Additional connectivity configuration

Subnet group [Info](#)
DB subnet group that defines which subnets and IP ranges the DB instance can use in the VPC you selected.
default-vpc-01a664f7f0591601a

Publicly accessible [Info](#)
☐ Yes
Amazon EC2 instances and devices outside the VPC can connect to your database. Choose one or more VPC security groups that specify which EC2 instances and devices inside the VPC can connect to the database.
☒ No
RDS will not assign a public IP address to the database. Only Amazon EC2 instances and devices inside the VPC can connect to your database.

VPC security group
Choose one or more RDS security groups to allow access to your database. Ensure that the security group rules allow incoming traffic from EC2 instances and devices outside your VPC. (Security groups are required for publicly accessible databases.)
☒ Choose existing
Choose existing VPC security groups
Existing VPC security groups
Choose VPC security groups
default X
☐ Create new
Create new VPC security group

Database port [Info](#)
TCP/IP port that the database will use for application connections.
1521

2.4.10.4.4 Database name

An initial database should be created for the web content management system through the “Additional configuration” option.

Note: If no initial database name is given then no default database will be created and the web content management system may not work (unless you manually create a database on the database server).

Note: If you use the “Easy Create” option (not recommended) then the default initial database name is: ebdb

The initial database name should be noted (see 2.4.3 Deployment Checklist & Notes) as it will be needed to configure the web content management system, later.

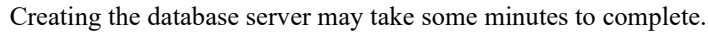
Additional configuration
Database options, encryption enabled, backup enabled, backtrack disabled, Performance Insights enabled, Enhanced Monitoring enabled, maintenance, CloudWatch Logs, delete protection enabled

Database options

Initial database name [Info](#)
wcm
If you do not specify a database name, Amazon RDS does not create a database.

2.4.10.4.5 Additional configuration

A number of other configuration options are available such as automatic backups and monitoring. Please see the Amazon AWS documentation for details.





- Port:
1521

You may also want to check that the database server has been assigned to the intended VPC and VPC security group.

Amazon RDS

Dashboard

Databases

Query Editor

Performance Insights

Snapshots

Automated backups

Reserved instances

Proxies

Subnet groups

Parameter groups

Option groups

Events

Event subscriptions

Recommendations

Certificate update

RDS > Databases > wcm-oracle

wcm-oracle

Modify

Actions

Summary

DB identifier wcm-oracle	CPU 1.00%	Info Available	Class db.t3.micro
Role	Current activity 0.01 Sessions	Engine Oracle Standard Edition	Region & AZ eu-west-2c

Connectivity & security

Monitoring

Logs & events

Configuration

Maintenance & backups

Tags

Connectivity & security

Endpoint & port Endpoint wcm-oracle.c4w3zpvzpgax.eu-west-2.rds.amazonaws.com Port 1521	Networking Availability zone eu-west-2c VPC vpc-20733348 Subnet group default-vpc-20733348 Subnets subnet-9f9ed4f6 subnet-2412b768 subnet-b2891fc8	Security VPC security groups default (sg-57cc9535) (active) Public accessibility No Certificate authority rds-ca-2019 Certificate authority date Aug 22nd, 2024
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2.4.10.5 Microsoft SQL Server

All current editions and versions of Microsoft SQL Server are supported by the web content management system.



☰

RDS > Create database

Create database


Choose a database creation method [Info](#)


☒ **Standard Create**
You set all of the configuration options, including ones for availability, security, backups, and maintenance.


☐ **Easy Create**
Use recommended best-practice configurations. Some configuration options can be changed after the database is created.


Engine options


Engine type [Info](#)


☐ Amazon Aurora


☐ MySQL


☐ MariaDB


☐ PostgreSQL


☐ Oracle


☒ **Microsoft SQL Server**


Edition

☒ **SQL Server Express Edition**
Affordable database management system that supports database sizes up to 10 GB.

☐ **SQL Server Web Edition**
In accordance with Microsoft's licensing policies, it can only be used to support public and Internet-accessible webpages, websites, web applications, and web services.

☐ **SQL Server Standard Edition**
Core data management and business intelligence capabilities for mission-critical applications and mixed workloads.

☐ **SQL Server Enterprise Edition**
Comprehensive high-end capabilities for mission-critical applications with demanding database workloads and business intelligence requirements.

Version [Info](#)

SQL Server 2017 14.00.3281.6.v1 ▼

License
license-included

Both production, dev/test and free tier deployments are supported by the web content management system.

For the free tier template a single database server instance is deployed,

Use the production template for an optional replicated standby database server instance (see 2.4.2.2.5.2 Replicated standby server instance).

Templates
Choose a sample template to meet your use case.

☐ **Dev/Test**
This instance is intended for development use outside of a production environment.

☒ **Free tier**
Use RDS Free Tier to develop new applications, test existing applications, or gain hands-on experience with Amazon RDS. [Info](#)

Templates
Choose a sample template to meet your use case.

☒ **Production**
Use defaults for high availability and fast, consistent performance.

☐ **Dev/Test**
This instance is intended for development use outside of a production environment.



2.4.10.5.1 Settings

The database server instance must be given a unique identifier. This identifier is only used for the Amazon AWS administration – it is not used by the web content management system.

A master username and password must also be configured for the database server.

The database master username and password should be noted (see 2.4.3 Deployment Checklist & Notes) as they will be needed to configure the web content management system, later.

For example:

- DB instance identifier:
wcm-mssql
- Master username:
admin
- Master password:
secretsecret
- Confirm password:
secretsecret

The database master username and password should be noted (see 2.4.3 Deployment Checklist & Notes) as they will be needed to configure the web content management system, later.

The screenshot shows the 'Settings' page for a new Amazon RDS database instance. The 'DB instance identifier' field is set to 'wcm-mssql'. Below it, a note states: 'The DB instance identifier is case-insensitive, but is stored as all lowercase (as in "mydbinstance"). Constraints: 1 to 60 alphanumeric characters or hyphens (1 to 15 for SQL Server). First character must be a letter. Can't contain two consecutive hyphens. Can't end with a hyphen.' The 'Credentials Settings' section is expanded, showing 'Master username' set to 'admin' and 'Master password' set to 'secretsecret'. The 'Auto generate a password' checkbox is unchecked. The 'Confirm password' field is also set to 'secretsecret'.

2.4.10.5.1.1 DB instance size

All database instance classes are supported by the web content management system. A micro class database instance may be sufficient for a small website. For larger websites, a larger class may be required. Please see general Amazon AWS RDS documentation for details.



DB instance size

DB instance class [Info](#)
Choose a DB instance class that meets your processing power and memory requirements. The DB instance class options below are limited to those supported by the engine you selected above.

☐ Standard classes (includes m classes)
☐ Memory Optimized classes (includes r and x classes)
☒ **Burstable classes (includes t classes)**

db.t2.micro
1 vCPUs 1 GiB RAM Not EBS Optimized

☒ Include previous generation classes

DB instance size

DB instance class [Info](#)
Choose a DB instance class that meets your processing power and memory requirements. The DB instance class options below are limited to those supported by the engine you selected above.

☒ **Standard classes (includes m classes)**
☐ Memory Optimized classes (includes r and x classes)
☐ Burstable classes (includes t classes)

db.m5.xlarge
4 vCPUs 16 GiB RAM EBS: 3500 Mbps

☒ Include previous generation classes

2.4.10.5.2 Connectivity

The database server should be assigned to the same Virtual Private Cloud as the web/application server and optional cache server – as created and noted previously.

The database port number should be left as the default value.

Connectivity

Virtual private cloud (VPC) [Info](#)
VPC that defines the virtual networking environment for this DB instance.
Default VPC (vpc-20733348)
Only VPCs with a corresponding DB subnet group are listed.

After a database is created, you can't change the VPC selection.

Additional connectivity configuration

Subnet group [Info](#)
DB subnet group that defines which subnets and IP ranges the DB instance can use in the VPC you selected.
default-vpc-20733348

Publicly accessible [Info](#)
☐ Yes
Amazon EC2 instances and devices outside the VPC can connect to your database. Choose one or more VPC security groups that specify which EC2 instances and devices inside the VPC can connect to the database.
☒ **No**
RDS will not assign a public IP address to the database. Only Amazon EC2 instances and devices inside the VPC can connect to your database.

VPC security group
Choose one or more RDS security groups to allow access to your database. Ensure that the security group rules allow incoming traffic from EC2 instances and devices outside your VPC. (Security groups are required for publicly accessible databases.)
☒ **Choose existing**
Choose existing VPC security groups
☐ Create new
Create new VPC security group

Existing VPC security groups
Choose VPC security groups
default

Availability Zone [Info](#)
No preference

Database port [Info](#)
TCP/IP port that the database will use for application connections.
1433



2.4.10.5.3 Database name

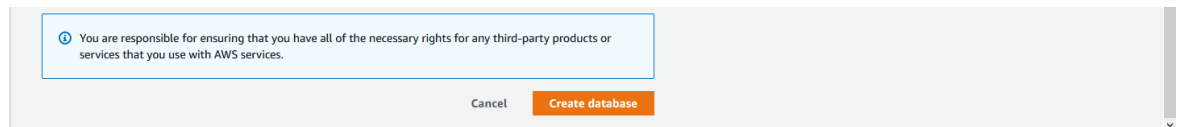
Currently, Amazon AWS RDS does not support creating an initial database for Microsoft SQL Server.

No initial database name is configured and created for Microsoft SQL Server during deployment of the database server. Instead, the initial database name is created by the web content management system as and when the Software Environment Properties `RDS_DB_NAME` is configured for the Web/Application Server, later.

An initial database name should be chosen and noted (see 2.4.3 Deployment Checklist & Notes) as it will be needed to configure the web content management system, later.

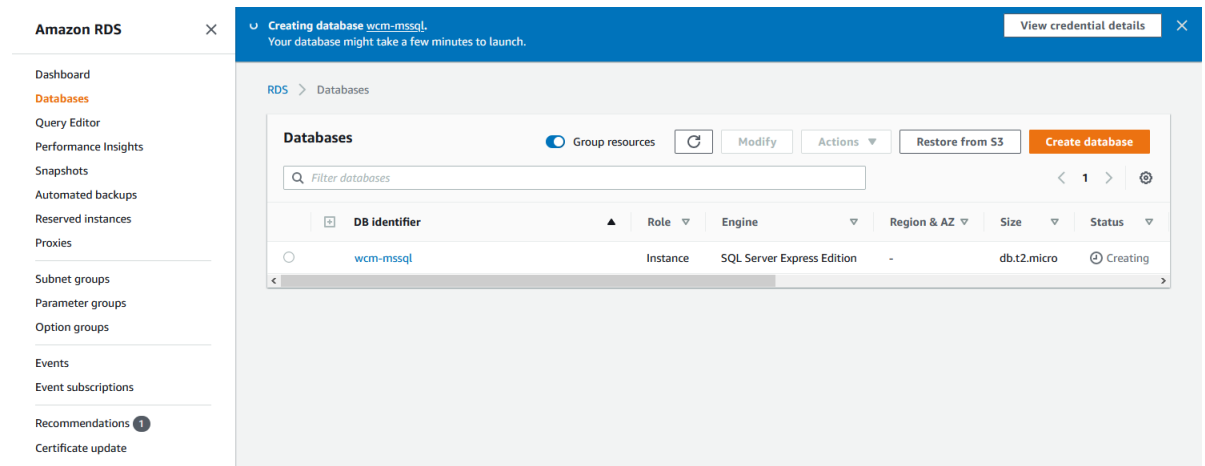
2.4.10.5.4 Additional configuration

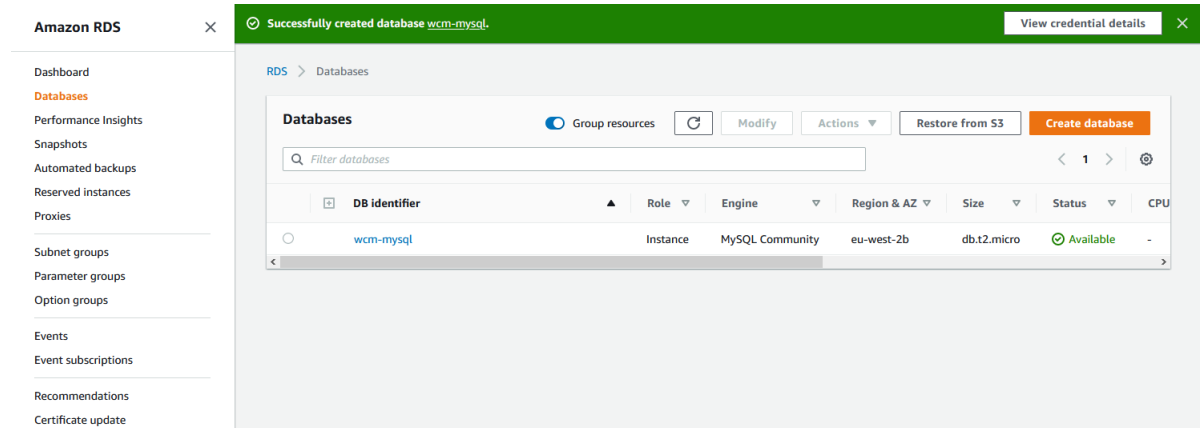
A number of other configuration options are available such as automatic backups and monitoring. Please see the Amazon AWS documentation for details.



2.4.10.5.5 Create database

Creating the database server may take some minutes to complete.





2.4.10.5.6 Database address

The created database server is automatically assigned an endpoint address. The automatically assigned “Endpoint” address and “Port” number should be noted (see 2.4.3 Deployment Checklist & Notes) as they will be needed to configure the web content management system, later.

For example:

- Endpoint:
wcm-mssql.c4w3zpvzpgax.eu-west-2.rds.amazonaws.com
- Port:
1433

You may also want to check that the database server has been assigned to the intended VPC and VPC security group.



Amazon RDS

Dashboard

Databases

Query Editor

Performance Insights

Snapshots

Automated backups

Reserved instances

Proxies

Subnet groups

Parameter groups

Option groups

Events

Event subscriptions

Recommendations

Certificate update

RDS > Databases > wcm-mssql

wcm-mssql

Modify Actions

Summary

DB identifier wcm-mssql	CPU 28.17%	Info Available	Class db.t2.micro
Role Instance	Current activity 0 Sessions	Engine SQL Server Express Edition	Region & AZ eu-west-2c

Connectivity & securityMonitoringLogs & eventsConfigurationMaintenance & backupsTags

Connectivity & security

Endpoint & port Endpoint wcm-mssql.c4w3pvpzpgax.eu-west-2.rds.amazonaws.com Port 1433	Networking Availability zone eu-west-2c VPC vpc-20733348 Subnet group default-vpc-20733348 Subnets subnet-9f9ed4f6 subnet-2412b768 subnet-b2891fc8	Security VPC security groups default (sg-57cc9535) (active) Public accessibility No Certificate authority rds-ca-2019 Certificate authority date Aug 22nd, 2024
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2.4.10.6 Amazon Aurora MySQL

Amazon Aurora MySQL is a MySQL-compatible database server, which can also be used for the Asbru Web Content Management System. An Amazon Aurora MySQL database should simply be configured as if it is a MySQL database – except for database server configurations with separate “writer” and “reader” endpoints:

- Amazon Aurora MySQL Serverless
Uses a single Endpoint for the database server cluster as if it is a single database server instance. No special configuration is required.
- Amazon Aurora MySQL One writer and multiple readers
Uses separate “Writer” and “Reader” Endpoints for the database server cluster. Both the “Writer” and “Reader” Endpoints for the database server cluster must be configured for the Asbru Web Content Management System.
- Amazon Aurora MySQL Global
Uses separate “Writer” and “Reader” Endpoints for the database server cluster. Both the “Writer” and “Reader” Endpoints for the database server cluster must be configured for the Asbru Web Content Management System.



RDS > Create database

Create database

Choose a database creation method [Info](#)

☒ **Standard Create**

You set all of the configuration options, including ones for availability, security, backups, and maintenance.

☐ **Easy Create**

Use recommended best-practice configurations. Some configuration options can be changed after the database is created.

Engine options

Engine type [Info](#)

☒ **Amazon Aurora**



☐ **MySQL**



☐ **MariaDB**



☐ **PostgreSQL**



☐ **Oracle**



☐ **Microsoft SQL Server**



Edition

☒ **Amazon Aurora with MySQL compatibility**

☐ Amazon Aurora with PostgreSQL compatibility

Version [Info](#)

Aurora (MySQL)-5.6.10a

Database features are supported with specific engine versions. [Info](#)

Database Location

☒ **Regional**

You provision your Aurora database in a single AWS Region.

☐ **Global**

You can provision your Aurora database in multiple AWS Regions. Writes in the primary AWS Region are replicated with typical latency of less than 1 sec to secondary AWS Regions.

Database features

☒ **One writer and multiple readers**

Supports multiple reader instances connected to the same storage volume as a single writer instance. This is a good general-purpose option for most workloads.

☐ **Serverless**

You specify the minimum and maximum amount of resources needed, and Aurora scales the capacity based on database load. This is a good option for intermittent or unpredictable workloads.

Database Location

☒ **Regional**

You provision your Aurora database in a single AWS Region.

☐ **Global**

You can provision your Aurora database in multiple AWS Regions. Writes in the primary AWS Region are replicated with typical latency of less than 1 sec to secondary AWS Regions.

Database features

☐ **One writer and multiple readers**

Supports multiple reader instances connected to the same storage volume as a single writer instance. This is a good general-purpose option for most workloads.

☒ **Serverless**

You specify the minimum and maximum amount of resources needed, and Aurora scales the capacity based on database load. This is a good option for intermittent or unpredictable workloads.



The screenshot shows the 'Database Location' and 'Templates' sections of the AWS Aurora console. In the 'Database Location' section, the 'Global' option is selected, indicating that the database will be provisioned in multiple AWS Regions. In the 'Templates' section, the 'Production' template is selected, which is intended for high availability and fast, consistent performance.

2.4.10.6.1 Settings

The database server instance must be given a unique identifier. This identifier is only used for the Amazon AWS administration – it is not used by the web content management system.

A master username and password must also be configured for the database server.

The database master username and password should be noted (see 2.4.3 Deployment Checklist & Notes) as they will be needed to configure the web content management system, later.

For example:

- DB cluster identifier / Global database identifier:
wcm-aurora-mysql
- Master username:
admin
- Master password:
secretsecret
- Confirm password:
secretsecret

The database master username and password should be noted (see 2.4.3 Deployment Checklist & Notes) as they will be needed to configure the web content management system, later.



2.4.10.6.1.1 Serverless

Settings

DB cluster identifier [Info](#)
Type a name for your DB cluster. The name must be unique across all DB clusters owned by your AWS account in the current AWS Region.

The DB cluster identifier is case-insensitive, but is stored as all lowercase (as in "mydbcluster"). Constraints: 1 to 60 alphanumeric characters or hyphens. First character must be a letter. Can't contain two consecutive hyphens. Can't end with a hyphen.

▼ **Credentials Settings**

Master username [Info](#)
Type a login ID for the master user of your DB instance.

1 to 16 alphanumeric characters. First character must be a letter

☐ **Auto generate a password** [Info](#)
Amazon RDS can generate a password for you, or you can specify your own password

Master password [Info](#)

Constraints: At least 8 printable ASCII characters. Can't contain any of the following: / (slash), " (double quote) and @ (at sign).

Confirm password [Info](#)

2.4.10.6.1.1.1 Capacity settings

For the serverless database server instance option the minimum and maximum capacity is given for automatic scaling depending on the required capacity. Please see the Amazon AWS RDS documentation for details on the capacity and scaling options.

Capacity settings

This billing estimate is based on published prices. [Learn more](#)

Minimum Aurora capacity unit [Info](#) **Maximum Aurora capacity unit** [Info](#)

2GB RAM

122GB RAM

▼ **Additional scaling configuration**

☐ **Force scaling the capacity to the specified values when the timeout is reached** [Info](#)
Enable to force capacity scaling as soon as possible. Disable to cancel the capacity changes when a timeout is reached

☐ **Pause compute capacity after consecutive minutes of inactivity** [Info](#)
You are only charged for database storage while the compute capacity is paused



2.4.10.6.1.2 One writer and multiple readers

Settings

DB cluster identifier [Info](#)
Type a name for your DB cluster. The name must be unique across all DB clusters owned by your AWS account in the current AWS Region.

The DB cluster identifier is case-insensitive, but is stored as all lowercase (as in "mydbcluster"). Constraints: 1 to 60 alphanumeric characters or hyphens. First character must be a letter. Can't contain two consecutive hyphens. Can't end with a hyphen.

▼ Credentials Settings
Master username [Info](#)
Type a login ID for the master user of your DB instance.

1 to 16 alphanumeric characters. First character must be a letter
☐ **Auto generate a password**
Amazon RDS can generate a password for you, or you can specify your own password
Master password [Info](#)

Constraints: At least 8 printable ASCII characters. Can't contain any of the following: / (slash), " (double quote) and @ (at sign).
Confirm password [Info](#)

2.4.10.6.1.2.1 DB instance size

All database instance classes are supported by the web content management system. A small class database instance may be sufficient for a small website. For larger websites, a larger class may be required. Please see general Amazon AWS RDS documentation for details.

DB instance size

DB instance class [Info](#)
Choose a DB instance class that meets your processing power and memory requirements. The DB instance class options below are limited to those supported by the engine you selected above.
☐ Memory Optimized classes (includes r and x classes)
☒ Burstable classes (includes t classes)

1 vCPUs 2 GiB RAM Not EBS Optimized

☒ Include previous generation classes

2.4.10.6.1.2.2 Single-server instance

As default a replicated reader node database server instance is deployed for high availability and increased capacity and performance.

Optionally, the replicated reader node can be disabled. (Eventually, adding a replicated reader node, later, if and when it should be required).

Availability & durability

Multi-AZ deployment [Info](#)
☐ Don't create an Aurora Replica
☒ Create an Aurora Replica or Reader node in a different AZ (recommended for scaled availability)
Creates an Aurora Replica for fast failover and high availability.



2.4.10.6.1.3 Global

Settings

Global database identifier [Info](#)
Type a name for your global database. The name must be unique across all global databases in your AWS account.

The global database identifier is case-insensitive, but is stored as all lowercase (as in "mydbinstance"). Constraints: 1 to 60 alphanumeric characters or hyphens. First character must be a letter. Can't contain two consecutive hyphens. Can't end with a hyphen.

▼ Credentials Settings

Master username [Info](#)
Type a login ID for the master user of your DB instance.

1 to 16 alphanumeric characters. First character must be a letter

☐ **Auto generate a password**
Amazon RDS can generate a password for you, or you can specify your own password

Master password [Info](#)

Constraints: At least 8 printable ASCII characters. Can't contain any of the following: / (slash), " (double quote) and @ (at sign).

Confirm password [Info](#)

2.4.10.6.1.3.1 DB instance size

All database instance classes are supported by the web content management system. A small class database instance may be sufficient for a small website. For larger websites, a larger class may be required. Please see general Amazon AWS RDS documentation for details.

Primary region settings

DB instance size

DB instance class [Info](#)
Choose a DB instance class that meets your processing power and memory requirements. The DB instance class options below are limited to those supported by the engine you selected above.
☒ **Memory Optimized classes (includes r and x classes)**

2 vCPUs 16 GiB RAM EBS: 3500 Mbps

☐ **Include previous generation classes**

2.4.10.6.1.3.2 Single-server instance

As default a replicated reader node database server instance is deployed for high availability and increased capacity and performance.

Optionally, the replicated reader node can be disabled. (Eventually, adding a replicated reader node, later, if and when it should be required).

Availability & durability

Multi-AZ deployment [Info](#)
☐ **Don't create an Aurora Replica**
☒ **Create an Aurora Replica or Reader node in a different AZ (recommended for scaled availability)**
Creates an Aurora Replica for fast failover and high availability.



2.4.10.6.2 Connectivity

The database server should be assigned to the same Virtual Private Cloud as the web/application server and optional cache server – as created and noted previously.

The database port number should be left as the default value.

Connectivity

Virtual private cloud (VPC) [Info](#)
VPC that defines the virtual networking environment for this DB instance.

Default VPC (vpc-20733348)

Only VPCs with a corresponding DB subnet group are listed.

After a database is created, you can't change the VPC selection.

[Additional connectivity configuration](#)

2.4.10.6.3 Database name

An initial database should be created for the web content management system through the “Additional configuration” option.

Note: If no initial database name is given then no default database will be created and the web content management system may not work (unless you manually create a database on the database server).

Note: If you use the “Easy Create” option (not recommended) then the default initial database name is: ebldb

The initial database name should be noted (see 2.4.3 Deployment Checklist & Notes) as it will be needed to configure the web content management system, later.

2.4.10.6.3.1 Serverless

Additional configuration

Database options, encryption enabled, backup enabled, backtrack disabled, Performance Insights enabled, Enhanced Monitoring enabled, maintenance, CloudWatch Logs, delete protection enabled

Database options

Initial database name [Info](#)

wcm

If you do not specify a database name, Amazon RDS does not create a database.

2.4.10.6.3.2 One write and multiple readers

Additional configuration

Database options, encryption enabled, failover, backup enabled, backtrack disabled, Enhanced Monitoring enabled, maintenance, CloudWatch Logs, delete protection disabled

Database options

DB instance identifier [Info](#)

wcm-aurora-mysql-instance-1

If you do not provide one, a default identifier based on the cluster identifier will be used.

Initial database name [Info](#)

wcm

If you do not specify a database name, Amazon RDS does not create a database.



2.4.10.6.3.3 Global

Note: Currently, the “Global” database configuration option does not support configuration of an “Initial database name”.

When you configure the database server configuration settings for the Elastic Beanstalk Software Environment Properties for the Asbru Web Content Management System, you should simply configure a database name (for example “wcm”) as the “RDS_DB_NAME” and “RDS2_DB_NAME”. The Asbru Web Content Management System will then attempt to create the database on first access to the web content management system administration.

Alternatively, you can access the database server and create a database, manually.

▼ Additional configuration
Database options, failover, backup enabled, backtrack disabled, Performance Insights enabled, Enhanced Monitoring enabled, maintenance, CloudWatch Logs, delete protection disabled

Database options

DB instance identifier [Info](#)
Type a name for your DB instance. The name must be unique across all DB instances owned by your AWS account in the current AWS Region.

The DB instance identifier is case-insensitive, but is stored as all lowercase (as in "mydbinstance"). Constraints: 1 to 60 alphanumeric characters or hyphens (1 to 15 for SQL Server). First character must be a letter. Can't contain two consecutive hyphens. Can't end with a hyphen.

DB cluster identifier [Info](#)

If you do not provide one, a default identifier based on the instance identifier will be used.

DB cluster parameter group [Info](#)

DB parameter group [Info](#)

Option group [Info](#)

Failover priority

2.4.10.6.4 Additional configuration

A number of other configuration options are available such as automatic backups and monitoring. Please see the Amazon AWS documentation for details.

ⓘ You are responsible for ensuring that you have all of the necessary rights for any third-party products or services that you use with AWS services.

[Cancel](#) [Create database](#)

2.4.10.6.5 Create Database

Creating the database server may take some minutes to complete.



2.4.10.6.5.1 Serverless

Amazon RDS

Dashboard

Databases

Query Editor

Performance Insights

Snapshots

Automated backups

Reserved instances

Proxies

Subnet groups

Parameter groups

Option groups

Events

Event subscriptions

Recommendations 1

Certificate update

Creating database wcm-aurora-mysql.

Your database might take a few minutes to launch.

View credential details

RDS > Databases

Databases

Group resources

Modify

Actions

Restore from S3

Create database

Filter databases

DB identifier

Role

Engine

Region & AZ

Size

Status

CPU

wcm-aurora-mysql

Serverless

Aurora MySQL

eu-west-2

-

Creating

-

Amazon RDS

Dashboard

Databases

Query Editor

Performance Insights

Snapshots

Automated backups

Reserved instances

Proxies

Subnet groups

Parameter groups

Option groups

Events

Event subscriptions

Recommendations 1

Certificate update

Successfully created database wcm-aurora-mysql.

View credential details

RDS > Databases

Databases

Group resources

Modify

Actions

Restore from S3

Create database

Filter databases

DB identifier

Role

Engine

Region & AZ

Size

Status

CPU

wcm-aurora-mysql

Serverless

Aurora MySQL

eu-west-2

4 capacity units

Available

-

2.4.10.6.5.2 One writer and multiple readers

Amazon RDS

Dashboard

Databases

Query Editor

Performance Insights

Snapshots

Automated backups

Reserved instances

Proxies

Subnet groups

Parameter groups

Option groups

Events

Event subscriptions

Recommendations

Certificate update

Creating database wcm-aurora-mysql.

Your database might take a few minutes to launch.

View credential details

RDS > Databases

Databases

Group resources

Modify

Actions

Restore from S3

Create database

Filter databases

DB identifier

Role

Engine

Region & AZ

Size

Status

CPU

wcm-aurora-mysql

Regional

Aurora MySQL

eu-west-2

2 instances

Creating

-

wcm-aurora-mysql-instance-1

Reader

Aurora MySQL

eu-west-2a

db.t2.small

Creating

-

wcm-aurora-mysql-instance-1-eu-west-2c

Reader

Aurora MySQL

eu-west-2c

db.t2.small

Creating

-



Asbru Web Content Management System

Installation Guide

Amazon RDS ×

Dashboard

Databases

Query Editor

Performance Insights

Snapshots

Automated backups

Reserved instances

Proxies

Subnet groups

Parameter groups

Option groups

Events

Event subscriptions

Recommendations

Certificate update

Successfully created database wcm-aurora-mysql. View credential details ×

RDS > Databases

Databases

Group resources

Modify

Actions

Restore from S3

Create database

Filter databases

1

	DB identifier	Role	Engine	Region & AZ	Size	Status	CPU
	wcm-aurora-mysql	Regional	Aurora MySQL	eu-west-2	2 instances	Available	-
	wcm-aurora-mysql-instance-1	Writer	Aurora MySQL	eu-west-2a	db.t2.small	Creating	-
	wcm-aurora-mysql-instance-1-eu-west-2c	Reader	Aurora MySQL	eu-west-2c	db.t2.small	Creating	-

2.4.10.6.5.3 Global

Amazon RDS ×

Dashboard

Databases

Query Editor

Performance Insights

Snapshots

Automated backups

Reserved instances

Proxies

Subnet groups

Parameter groups

Option groups

Events

Event subscriptions

Recommendations

Certificate update

Successfully created database wcm-aurora-mysql. View credential details ×

RDS > Databases

Databases

Group resources

Modify

Actions

Restore from S3

Create database

Filter databases

1

	DB identifier	Role	Engine	Region & AZ	Size	Status	CPU
	wcm-aurora-mysql	Global	Aurora MySQL	1 region	1 cluster	Available	-
	wcm-aurora-mysql-cluster-1	Primary	Aurora MySQL	eu-west-2	2 instances	Creating	-
	wcm-aurora-mysql-instance-1	Reader	Aurora MySQL	eu-west-2a	db.r5.large	Creating	-
	wcm-aurora-mysql-instance-1-eu-west-2c	Reader	Aurora MySQL	eu-west-2c	db.r5.large	Creating	-

Amazon RDS ×

Dashboard

Databases

Query Editor

Performance Insights

Snapshots

Automated backups

Reserved instances

Proxies

Subnet groups

Parameter groups

Option groups

Events

Event subscriptions

Recommendations

Certificate update

Successfully created database wcm-aurora-mysql. View credential details ×

RDS > Databases

Databases

Group resources

Modify

Actions

Restore from S3

Create database

Filter databases

1

	DB identifier	Role	Engine	Region & AZ	Size	Status	CPU
	wcm-aurora-mysql	Global	Aurora MySQL	1 region	1 cluster	Available	-
	wcm-aurora-mysql-cluster-1	Primary	Aurora MySQL	eu-west-2	2 instances	Available	-
	wcm-aurora-mysql-instance-1	Writer	Aurora MySQL	eu-west-2a	db.r5.large	Available	5.0
	wcm-aurora-mysql-instance-1-eu-west-2c	Reader	Aurora MySQL	eu-west-2c	db.r5.large	Available	5.0



2.4.10.6.6 Database address

2.4.10.6.6.1 Serverless

The created database server is automatically assigned an endpoint address. The automatically assigned “Endpoint” address(es) and “Port” number should be noted (see 2.4.3 Deployment Checklist & Notes) as they will be needed to configure the web content management system, later.

For example:

- Endpoint:
wcm-aurora-mysql.cluster-c4w3zpvzpgax.eu-west-2.rds.amazonaws.com
- Port:
3306

You may also want to check that the database server has been assigned to the intended VPC and VPC security group.

The screenshot shows the Amazon RDS console interface. On the left is a navigation menu with options like Dashboard, Databases, Query Editor, Performance Insights, Snapshots, Automated backups, Reserved instances, Proxies, Subnet groups, Parameter groups, Option groups, Events, Event subscriptions, Recommendations, and Certificate update. The main panel displays the configuration for the 'wcm-aurora-mysql' instance. It includes a 'Summary' section with details like DB cluster id, CPU usage (14.42%), Role (Serverless), Info (Available), Engine (Aurora MySQL), Current capacity (4 capacity units), and Region & AZ (eu-west-2). Below this is a 'Connectivity & security' section with tabs for Connectivity & security, Monitoring, Logs & events, Configuration, Maintenance & backups, and Tags. The 'Connectivity & security' tab is active, showing 'Endpoint & port' (Endpoint: wcm-aurora-mysql.cluster-c4w3zpvzpgax.eu-west-2.rds.amazonaws.com, Port: 3306), 'Networking' (VPC: vpc-20733348, Subnet group: default-vpc-20733348, Subnets: subnet-9f9ed4f6, subnet-2412b768, subnet-b2891fc8), and 'Security' (VPC security groups: default (sg-57cc9535) (active)).

2.4.10.6.6.2 One writer and multiple readers

The created database server is automatically assigned two endpoint addresses – “writer” and “reader”. The automatically assigned “Endpoint” addresses and “Port” number should be noted (see 2.4.3 Deployment Checklist & Notes) as they will be needed to configure the web content management system, later.

For example:



- Endpoint - Writer:
wcm-aurora-mysql.cluster-c4w3pvzpgax.eu-west-2.rds.amazonaws.com
- Endpoint - Reader:
wcm-aurora-mysql.cluster-ro-c4w3pvzpgax.eu-west-2.rds.amazonaws.com
- Port:
3306

You may also want to check that the database server has been assigned to the intended VPC and VPC security group.

Amazon RDS

Dashboard

Databases

Query Editor

Performance Insights

Snapshots

Automated backups

Reserved instances

Proxies

Subnet groups

Parameter groups

Option groups

Events

Event subscriptions

Recommendations

Certificate update

RDS > Databases > wcm-aurora-mysql

wcm-aurora-mysql

Modify

Actions

Related

Filter databases

DB identifier	Role	Engine	Region & AZ	Size	Status	CPU
wcm-aurora-mysql	Regional	Aurora MySQL	eu-west-2	2 instances	Available	-
wcm-aurora-mysql-instance-1	Writer	Aurora MySQL	eu-west-2a	db.t2.small	Creating	-
wcm-aurora-mysql-instance-1-eu-west-2c	Reader	Aurora MySQL	eu-west-2c	db.t2.small	Creating	-

Connectivity & security | Monitoring | Logs & events | Configuration | Maintenance & backups | Tags

Endpoints (2)

Filter endpoint

1

Endpoint name	Status	Type	Port
wcm-aurora-mysql.cluster-ro-c4w3pvzpgax.eu-west-2.rds.amazonaws.com	Available	Reader	3306
wcm-aurora-mysql.cluster-c4w3pvzpgax.eu-west-2.rds.amazonaws.com	Available	Writer	3306

2.4.10.6.6.2.1 Add additional readers

Additional replicated reader database server instances can be added through “Actions – Add reader”.

Additional reader database instances will share the existing Reader Endpoint and will automatically become available to the Asbru Web Content Management System.



Amazon RDS

Dashboard

Databases

Query Editor

Performance Insights

Snapshots

Automated backups

Reserved instances

Proxies

Subnet groups

Parameter groups

Option groups

Events

Event subscriptions

Recommendations

Certificate update

RDS > Databases > wcm-aurora-mysql

wcm-aurora-mysql

Related

Filter databases

DB identifier	Role	Engine	Region & AZ	Size
wcm-aurora-mysql	Regional	Aurora MySQL	eu-west-2	3 ins
wcm-aurora-mysql-instance-1	Writer	Aurora MySQL	eu-west-2a	db.t2
wcm-aurora-mysql-instance-1-eu-west-2c	Reader	Aurora MySQL	eu-west-2c	db.t2
wcm-aurora-mysql-reader2	Reader	Aurora MySQL	eu-west-2b	db.t2

Connectivity & security | Monitoring | Logs & events | Configuration | Maintenance & backups | Tags

Endpoints (2)

Filter endpoint

Endpoint name	Status	Type	Port
wcm-aurora-mysql.cluster-ro-c4w3zpvzpgax.eu-west-2.rds.amazonaws.com	Available	Reader	3306
wcm-aurora-mysql.cluster-c4w3zpvzpgax.eu-west-2.rds.amazonaws.com	Available	Writer	3306

2.4.10.6.6.3 Global

The created database server is automatically assigned two endpoint addresses – “writer” and “reader”. The automatically assigned “Endpoint” addresses and “Port” number should be noted (see 2.4.3 Deployment Checklist & Notes) as they will be needed to configure the web content management system, later.

For example:

- Endpoint - Writer:
wcm-aurora-mysql-cluster-1.cluster-c4w3zpvzpgax.eu-west-2.rds.amazonaws.com
- Endpoint - Reader:
wcm-aurora-mysql-cluster-1.cluster-ro-c4w3zpvzpgax.eu-west-2.rds.amazonaws.com
- Port:
3306

You may also want to check that the database server has been assigned to the intended VPC and VPC security group.



Amazon RDS

Dashboard

Databases

Query Editor

Performance Insights

Snapshots

Automated backups

Reserved instances

Proxies

Subnet groups

Parameter groups

Option groups

Events

Event subscriptions

Recommendations

Certificate update

RDS > Databases > wcm-aurora-mysql

wcm-aurora-mysql

Modify

Actions

Related

Filter databases

DB identifier	Role	Engine	Region & AZ	Size	Status	CPU
wcm-aurora-mysql	Global	Aurora MySQL	1 region	1 cluster	Available	-
wcm-aurora-mysql-cluster-1	Primary	Aurora MySQL	eu-west-2	2 instances	Available	-
wcm-aurora-mysql-instance-1	Writer	Aurora MySQL	eu-west-2a	db.r5.large	Available	5
wcm-aurora-mysql-instance-1-eu-west-2c	Reader	Aurora MySQL	eu-west-2c	db.r5.large	Available	4

Configuration

Instance

Configuration

Engine
Aurora MySQL

Global database identifier
wcm-aurora-mysql

Availability

Encryption
Enabled

Regions

eu-west-2 (London)

Amazon RDS

Dashboard

Databases

Query Editor

Performance Insights

Snapshots

Automated backups

Reserved instances

Proxies

Subnet groups

Parameter groups

Option groups

Events

Event subscriptions

Recommendations

Certificate update

RDS > Databases > wcm-aurora-mysql > wcm-aurora-mysql-cluster-1

wcm-aurora-mysql-cluster-1

Modify

Actions

Related

Filter databases

DB identifier	Role	Engine	Region & AZ	Size	Status	CPU
wcm-aurora-mysql	Global	Aurora MySQL	1 region	1 cluster	Available	-
wcm-aurora-mysql-cluster-1	Primary	Aurora MySQL	eu-west-2	2 instances	Available	-
wcm-aurora-mysql-instance-1	Writer	Aurora MySQL	eu-west-2a	db.r5.large	Available	5
wcm-aurora-mysql-instance-1-eu-west-2c	Reader	Aurora MySQL	eu-west-2c	db.r5.large	Available	4

Connectivity & security

Monitoring

Logs & events

Configuration

Maintenance & backups

Tags

Endpoints (2)

Edit

Delete

Create custom endpoint

Filter endpoint

Endpoint name	Status	Type	Port
wcm-aurora-mysql-cluster-1.cluster-ro-c4w3zpvzpgax.eu-west-2.rds.amazonaws.com	Available	Reader	3306
wcm-aurora-mysql-cluster-1.cluster-c4w3zpvzpgax.eu-west-2.rds.amazonaws.com	Available	Writer	3306

2.4.10.6.6.3.1 Add additional readers

Additional replicated reader database server instances can be added through “Actions – Add reader”.

Additional reader database instances will share the existing Reader Endpoint and will automatically become available to the Asbru Web Content Management System.



Amazon RDS

Dashboard

Databases

Query Editor

Performance Insights

Snapshots

Automated backups

Reserved instances

Proxies

Security groups

Subnet groups

Parameter groups

Option groups

Events

Event subscriptions

Recommendations

Certificate update

RDS > Databases > wcm-aurora-mysql > wcm-aurora-mysql-cluster-1

wcm-aurora-mysql-cluster-1

Modify

Actions

Related

Filter databases

DB identifier	Role	Engine	Region & AZ	Size
<div><div></div><div>wcm-aurora-mysql</div></div>	Global	Aurora MySQL	1 region	1 clus
<div><div></div><div>wcm-aurora-mysql-cluster-1</div></div>	Primary	Aurora MySQL	eu-west-1	2 inst
<div><div></div><div>wcm-aurora-mysql-instance-1</div></div>	Writer	Aurora MySQL	eu-west-1b	db.r5.
<div><div></div><div>wcm-aurora-mysql-instance-1-eu-west-1a</div></div>	Reader	Aurora MySQL	eu-west-1a	db.r5.

Delete

Upgrade now

Upgrade at next window

Add reader

Create cross region read replica

Create clone

Remove from Global

Restore to point in time

Backtrack

Add replica auto scaling

Connectivity & security

Monitoring

Logs & events

Configuration

Maintenance & backups

Tags

Endpoints (2)

Edit

Delete

Create custom endpoint

Filter endpoint

< 1 >

Endpoint name	Status	Type	Port
wcm-aurora-mysql-cluster-1.cluster-ro-cfvuqwxp7v.eu-west-1.rds.amazonaws.com	Available	Reader	3306
wcm-aurora-mysql-cluster-1.cluster-cfvuqwxp7v.eu-west-1.rds.amazonaws.com	Available	Writer	3306

2.4.10.6.3.2 Add region

Additional regions with replicated reader database server instances can be added through “Actions – Add region”.

Additional reader database instances will be assigned their own new Writer and Reader Endpoints which will not automatically become available to the Asbru Web Content Management System.

The use of the Global database server deployed to multiple regions each with its own Writer and Reader Endpoints, should have a matching deployment of multiple environments of the Asbru Web Content Management System in the same regions as the Global database server regions, where each deployed web content management system environment is configured to use the Global database server’s endpoints for that region.

Page 75 of 206



Amazon RDS

Dashboard

Databases

Query Editor

Performance Insights

Snapshots

Automated backups

Reserved instances

Proxies

Security groups

Subnet groups

Parameter groups

Option groups

Events

Event subscriptions

Recommendations

Certificate update

RDS > Databases > wcm-aurora-mysql

wcm-aurora-mysql

ModifyDeleteAdd region

Related

Filter databases

DB identifier	Role	Engine	Region & AZ	Size	Status	CPU
wcm-aurora-mysql	Global	Aurora MySQL	1 region	1 cluster	Available	-
wcm-aurora-mysql-cluster-1	Primary	Aurora MySQL	eu-west-1	2 instances	Available	-
wcm-aurora-mysql-instance-1	Writer	Aurora MySQL	eu-west-1b	db.r5.large	Available	4
wcm-aurora-mysql-instance-1-eu-west-1a	Reader	Aurora MySQL	eu-west-1a	db.r5.large	Available	-

Configuration

Instance

Configuration	Availability	Regions
Engine Aurora MySQL	Encryption Enabled	eu-west-1 (Ireland)
Global database identifier wcm-aurora-mysql		

2.4.10.7 Amazon Aurora PostgreSQL

Amazon Aurora PostgreSQL is a PostgreSQL-compatible database server, which can also be used for the Asbru Web Content Management System. An Amazon Aurora PostgreSQL database should simply be configured as if it is a PostgreSQL database – except for database server configurations with separate “writer” and “reader” endpoints:

- Amazon Aurora PostgreSQL One writer and multiple readers
Uses separate “Writer” and “Reader” Endpoints for the database server cluster. Both the “Writer” and “Reader” Endpoints for the database server cluster must be configured for the Asbru Web Content Management System.



RDS > Create database

Create database

Choose a database creation method [Info](#)

☒ **Standard Create**
You set all of the configuration options, including ones for availability, security, backups, and maintenance.

☐ **Easy Create**
Use recommended best-practice configurations. Some configuration options can be changed after the database is created.

Engine options

Engine type [Info](#)

☒ **Amazon Aurora**

☐ MySQL

☐ MariaDB

☐ PostgreSQL

☐ Oracle

☐ Microsoft SQL Server

Edition

☐ Amazon Aurora with MySQL compatibility

☒ Amazon Aurora with PostgreSQL compatibility

Version [Info](#)

Aurora PostgreSQL (Compatible with PostgreSQL 11.6)

Database features are supported with specific engine versions. [Info](#)

Both production and dev/test deployments are supported by the web content management system.

Use the production template for an optional replicated standby database server instance.

Templates

Choose a sample template to meet your use case.

☒ **Production**
Use defaults for high availability and fast, consistent performance.

☐ **Dev/Test**
This instance is intended for development use outside of a production environment.

2.4.10.7.1 Settings

The database server instance must be given a unique identifier. This identifier is only used for the Amazon AWS administration – it is not used by the web content management system.

A master username and password must also be configured for the database server.

The database master username and password should be noted (see 2.4.3 Deployment Checklist & Notes) as they will be needed to configure the web content management system, later.

For example:

- DB instance identifier:
wcm-aurora-pgsql



- Master username:
postgres
- Master password:
secretsecret
- Confirm password:
secretsecret

The database master username and password should be noted (see 2.4.3 Deployment Checklist & Notes) as they will be needed to configure the web content management system, later.

Settings

DB cluster identifier [Info](#)
Type a name for your DB cluster. The name must be unique across all DB clusters owned by your AWS account in the current AWS Region.

The DB cluster identifier is case-insensitive, but is stored as all lowercase (as in "mydbcluster"). Constraints: 1 to 60 alphanumeric characters or hyphens. First character must be a letter. Can't contain two consecutive hyphens. Can't end with a hyphen.

▼ Credentials Settings

Master username [Info](#)
Type a login ID for the master user of your DB instance.

1 to 16 alphanumeric characters. First character must be a letter

☐ **Auto generate a password**
Amazon RDS can generate a password for you, or you can specify your own password

Master password [Info](#)

Constraints: At least 8 printable ASCII characters. Can't contain any of the following: / (slash), " (double quote) and @ (at sign).

Confirm password [Info](#)

2.4.10.7.1.1 DB instance size

All database instance classes are supported by the web content management system. A medium class database instance may be sufficient for a small website. For larger websites, a larger class may be required. Please see general Amazon AWS RDS documentation for details.

DB instance size

DB instance class [Info](#)
Choose a DB instance class that meets your processing power and memory requirements. The DB instance class options below are limited to those supported by the engine you selected above.

☐ Memory Optimized classes (includes r and x classes)

☒ Burstable classes (includes t classes)

2 vCPUs 4 GiB RAM EBS: 1500 Mbps

☐ Include previous generation classes

2.4.10.7.1.2 Single-server instance

As default a replicated reader node database server instance is deployed for high availability and increased capacity and performance.

Optionally, the replicated reader node can be disabled. (Eventually, adding a replicated reader node, later, if and when it should be required).



Availability & durability

Multi-AZ deployment [Info](#)

- ☐ Don't create an Aurora Replica
- ☒ Create an Aurora Replica or Reader node in a different AZ (recommended for scaled availability)
Creates an Aurora Replica for fast failover and high availability.

2.4.10.7.2 Connectivity

The database server should be assigned to the same Virtual Private Cloud as the web/application server and optional cache server – as created and noted previously.

The database port number should be left as the default value.

Connectivity

Virtual private cloud (VPC) [Info](#)

VPC that defines the virtual networking environment for this DB instance.

Default VPC (vpc-20733348)

Only VPCs with a corresponding DB subnet group are listed.

After a database is created, you can't change the VPC selection.

Additional connectivity configuration

2.4.10.7.3 Database name

An initial database should be created for the web content management system through the “Additional configuration” option.

Note: If no initial database name is given then no default database will be created and the web content management system may not work (unless you manually create a database on the database server).

Note: If you use the “Easy Create” option (not recommended) then the default initial database name is: ebdb

The initial database name should be noted (see 2.4.3 Deployment Checklist & Notes) as it will be needed to configure the web content management system, later.

Additional configuration

Database options, encryption enabled, failover, backup enabled, backtrace disabled, Performance Insights enabled, Enhanced Monitoring enabled, maintenance, CloudWatch Logs, delete protection enabled

Database options

DB instance identifier [Info](#)

wcm-aurora-pgsql-instance-1

If you do not provide one, a default identifier based on the cluster identifier will be used.

Initial database name [Info](#)


wcm

If you do not specify a database name, Amazon RDS does not create a database.

2.4.10.7.4 Additional configuration

A number of other configuration options are available such as automatic backups and monitoring. Please see the Amazon AWS documentation for details.



 You are responsible for ensuring that you have all of the necessary rights for any third-party products or services that you use with AWS services.

Cancel

Create database

2.4.10.7.5 Create Database

Creating the database server may take some minutes to complete.

Amazon RDS

Dashboard

Databases

Query Editor

Performance Insights

Snapshots

Automated backups

Reserved instances

Proxies

Subnet groups

Parameter groups

Option groups

Events

Event subscriptions

Recommendations

Certificate update

Creating database wcm-aurora-pgsql.

Your database might take a few minutes to launch.

View credential details

RDS > Databases

Databases

Group resources

Modify

Actions

Restore from S3

Create database

Filter databases

DB identifier	Role	Engine	Region & AZ	Size	Status	
wcm-aurora-pgsql	Regional	Aurora PostgreSQL	eu-west-2	2 instances	Creating	
wcm-aurora-pgsql-instance-1	Reader	Aurora PostgreSQL	eu-west-2a	db.t3.medium	Creating	
wcm-aurora-pgsql-instance-1-eu-west-2c	Reader	Aurora PostgreSQL	eu-west-2c	db.t3.medium	Creating	

Amazon RDS

Dashboard

Databases

Query Editor

Performance Insights

Snapshots

Automated backups

Reserved instances

Proxies

Subnet groups

Parameter groups

Option groups

Events

Event subscriptions

Recommendations

Certificate update

Successfully created database wcm-aurora-pgsql.

View credential details

RDS > Databases

Databases

Group resources

Modify

Actions

Restore from S3

Create database

Filter databases

DB identifier	Role	Engine	Region & AZ	Size	Status	
wcm-aurora-pgsql	Regional	Aurora PostgreSQL	eu-west-2	2 instances	Available	
wcm-aurora-pgsql-instance-1	Writer	Aurora PostgreSQL	eu-west-2a	db.t3.medium	Available	
wcm-aurora-pgsql-instance-1-eu-west-2c	Reader	Aurora PostgreSQL	eu-west-2c	db.t3.medium	Available	

2.4.10.7.6 Database address

The created database server is automatically assigned two endpoint addresses – “writer” and “reader”. The automatically assigned “Endpoint” addresses and “Port” number should be noted (see 2.4.3 Deployment Checklist & Notes) as they will be needed to configure the web content management system, later.

For example:

- Endpoint - Writer:
wcm-aurora-pgsql.cluster-c4w3zpvzpgax.eu-west-2.rds.amazonaws.com



- Endpoint - Reader:
wcm-aurora-pgsql.cluster-ro-c4w3zpvzpgax.eu-west-2.rds.amazonaws.com
- Port:
5432

You may also want to check that the database server has been assigned to the intended VPC and VPC security group.

Amazon RDS

Dashboard

Databases

Query Editor

Performance Insights

Snapshots

Automated backups

Reserved instances

Proxies

Subnet groups

Parameter groups

Option groups

Events

Event subscriptions

Recommendations

Certificate update

RDS > Databases > wcm-aurora-pgsql

wcm-aurora-pgsql

Modify Actions

Related

Filter databases

DB identifier	Role	Engine	Region & AZ	Size	Status
wcm-aurora-pgsql	Regional	Aurora PostgreSQL	eu-west-2	2 instances	Available
wcm-aurora-pgsql-instance-1	Writer	Aurora PostgreSQL	eu-west-2a	db.t3.medium	Available
wcm-aurora-pgsql-instance-1-eu-west-2c	Reader	Aurora PostgreSQL	eu-west-2c	db.t3.medium	Available

Connectivity & security

Monitoring

Logs & events

Configuration

Maintenance & backups

Tags

Endpoints (2)

Edit Delete Create custom endpoint

Filter endpoint

Endpoint name	Status	Type	Port
wcm-aurora-pgsql.cluster-ro-c4w3zpvzpgax.eu-west-2.rds.amazonaws.com	Available	Reader	5432
wcm-aurora-pgsql.cluster-c4w3zpvzpgax.eu-west-2.rds.amazonaws.com	Available	Writer	5432

2.4.10.7.6.1 Add additional readers

Additional replicated reader database server instances can be added through “Actions – Add reader”.

Additional reader database instances will share the existing Reader Endpoint and will automatically become available to the Asbru Web Content Management System.



Amazon RDS

Dashboard

Databases

Query Editor

Performance Insights

Snapshots

Automated backups

Reserved instances

Proxies

Subnet groups

Parameter groups

Option groups

Events

Event subscriptions

Recommendations

Certificate update

RDS > Databases > wcm-aurora-pgsql

wcm-aurora-pgsql

Modify

Actions

Related

Filter databases

DB identifier	Role	Engine	Region & AZ
wcm-aurora-pgsql	Regional	Aurora PostgreSQL	eu-west-2
wcm-aurora-pgsql-instance-1	Writer	Aurora PostgreSQL	eu-west-2a
wcm-aurora-pgsql-instance-1-eu-west-2c	Reader	Aurora PostgreSQL	eu-west-2c

Connectivity & security

Monitoring

Logs & events

Configuration

Maintenance & backups

Tags

Endpoints (2)

Edit

Delete

Create custom endpoint

Filter endpoint

Endpoint name	Status	Type	Port
wcm-aurora-pgsql.cluster-ro-c4w3pvzpgax.eu-west-2.rds.amazonaws.com	Available	Reader	5432
wcm-aurora-pgsql.cluster-c4w3pvzpgax.eu-west-2.rds.amazonaws.com	Available	Writer	5432

Stop

Start activity stream

Delete

Upgrade now

Upgrade at next window

Add reader

Create cross region read replica

Create clone

Promote

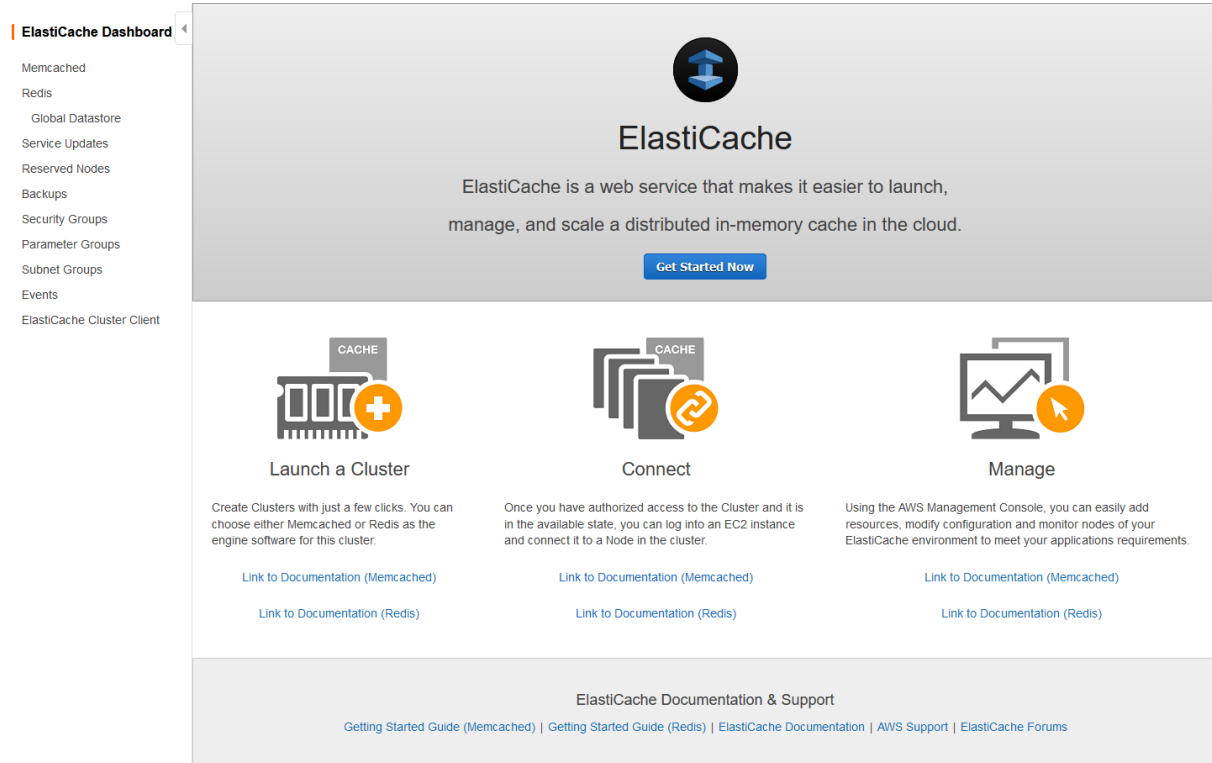
Restore to point in time

Add replica auto scaling

2.4.11 Cache Server

Optionally, a Cache Server may be deployed for co-ordinated caching of website content and other data and/or for session manager storage.

The web content management system supports both Amazon AWS ElastiCache Memcached and Redis cache servers (<https://console.aws.amazon.com/elasticache/>).



2.4.11.1 ElastiCache Redis

The cache server instance must be given a unique name. This name is only used for the Amazon AWS administration – it is not used by the web content management system.

The port number should be left as the default value.

Any node type (instance size) is supported by the web content management system.



Create your Amazon ElastiCache cluster ?

Cluster engine

☒ **Redis**
In-memory data structure store used as database, cache and message broker. ElastiCache for Redis offers Multi-AZ with Auto-Failover and enhanced robustness.
☐ Cluster Mode enabled

☐ **Memcached**
High-performance, distributed memory object caching system, intended for use in speeding up dynamic web applications.

Redis settings

Name ⓘ

Engine version compatibility ⓘ

Port ⓘ

Parameter group ⓘ

Node type ⓘ

Number of replicas ⓘ

The cache server should be assigned to the same Virtual Private Cloud and Security Group as the database server and web/application server – as created and noted previously.

▼ **Advanced Redis settings**

Advanced settings have common defaults set to give you the fastest way to get started. You can modify these now or after your cluster has been created.

Subnet group ⓘ

Availability zones placement ☒ No preference ⓘ
☐ Select zones

Security

Security groups ⓘ

Encryption at-rest ☐ ⓘ

Encryption in-transit ☐ ⓘ

2.4.11.1.1 Cache server address

Creating the cache server may take some minutes to complete.

The created cache server is automatically assigned an endpoint address. The automatically assigned “Endpoint” address and “Port” number should be noted (see 2.4.3 Deployment Checklist & Notes) as they will be needed to configure the web content management system, later.

For example:

- Endpoint:
wcm-redis.g1eosl.0001.euw2.cache.amazonaws.com
- Port:
6379



ElastiCache Dashboard

< Name: wcm-redis

Memcached

Redis

Global Datastore

Service Updates

Reserved Nodes

Backups

Parameter Groups

Subnet Groups

Events

ElastiCache Cluster Client

Description Nodes

Add Replication Actions

Viewing 1 of 1 Nodes

Node Name	Status	Port	Endpoint	Parameter Group	Status	Zone	Created on
wcm-redis	available	6379	wcm-redis.g1eosl.0001.euw2.cache.amazonaws.com	in-sync		eu-west-2a	July 10, 2020 at 3:20:27 PM UTC+1

2.4.11.2 ElastiCache Memcached

The cache server instance must be given a unique name. This name is only used for the Amazon AWS administration – it is not used by the web content management system.

The port number should be left as the default value.

Any node type (instance size) is supported by the web content management system.

Create your Amazon ElastiCache cluster

Cluster engine

☐ Redis
In-memory data structure store used as database, cache and message broker. ElastiCache for Redis offers Multi-AZ with Auto-Failover and enhanced robustness.

☒ Memcached
High-performance, distributed memory object caching system, intended for use in speeding up dynamic web applications.

Memcached settings

Name: wcm-memcached

Engine version compatibility: 1.5.16

Port: 11211

Parameter group: default.memcached1.5

Node type: cache.r5.large (13.07 GiB)

Number of nodes: 1

The cache server should be assigned to the same Virtual Private Cloud and Security Group as the database server and web/application server – as created and noted previously.

Advanced Memcached settings

Advanced settings have common defaults set to give you the fastest way to get started. You can modify these now or after your cluster has been created.

Subnet group: wcm-subnet (vpc-01a664f7f0d591601a)

Availability zones placement: ☒ No preference ☐ Select zones



Security groups default (sg-0933f0149f26a818f) ⓘ

Maintenance

Maintenance window ☒ No preference ⓘ
☐ Specify maintenance window

Topic for SNS notification Disable notifications ⓘ

Cancel Create

2.4.11.2.1 Cache server address

Creating the cache server may take some minutes to complete.

The created cache server is automatically assigned an endpoint address. The automatically assigned “Endpoint” address and “Port” number should be noted (see 2.4.3 Deployment Checklist & Notes) as they will be needed to configure the web content management system, later.

For example:

- Endpoint:
wcm-memcached.g1eosl.0001.euw2.cache.amazonaws.com
- Port:
11211

ElastiCache Dashboard

< Name: wcm-memcached

Description Nodes

Add Node Actions

Memcached

Redis

Global Datastore

Service Updates

Reserved Nodes

Backups

Parameter Groups

Subnet Groups

Events

ElastiCache Cluster Client

Viewing 1 of 1 Nodes

Node Name	Status	Port	Endpoint	Parameter Group Status	Zone	Created on
0001	available	11211	wcm-memcached.g1eosl.0001.euw2.cache.amazonaws.com	in-sync	eu-west-2b	July 10, 2020 at 2:38:36 PM UTC+1

2.4.12 Web/Application Server

All programming language versions of the Asbru Web Content Management System support deployment on Amazon AWS Elastic Beanstalk (<https://console.aws.amazon.com/elasticbeanstalk/>).

Note: Amazon AWS Elastic Beanstalk supports deployment of a database server as part of the deployment of a web application/environment. Use of this functionality is not recommended and is not described in the following. Such a deployed, linked database server will be terminated when the web/application servers are terminated and all data will be lost if not backed up.

The cloud storage and database server and optional cache server for the web content management system should be deployed before the web content management system is deployed as the details of those services need to be configured for the web content management system.



2.4.12.1 Elastic Beanstalk

The web content management system can be deployed as a web server environment.

The top screenshot shows the AWS Elastic Beanstalk console. The left sidebar has 'Elastic Beanstalk' selected. The main content area shows 'All environments' with a search bar and a table of environments. The table has columns: Environment name, Health, Application name, Date created, Last modified, URL, Running versions, Platform, and Platform state. The table is currently empty, showing 'Empty' and 'No environments to display'.

The bottom screenshot shows the 'Create environment' wizard. The left sidebar has 'Elastic Beanstalk' selected. The main content area shows 'Select environment tier'. The text explains that AWS Elastic Beanstalk has two types of environment tiers: Web servers (standard applications that listen for and then process HTTP requests, typically over port 80) and Workers (specialized applications that have a background processing task that listens for messages on an Amazon SQS queue). The 'Web server environment' is selected, with the description 'Run a website, web application, or web API that serves HTTP requests.' The 'Worker environment' is also listed with the description 'Run a worker application that processes long-running workloads on demand or performs tasks on a schedule.'

2.4.12.1.1 Application name

The application and environment must be given a unique name. This name is only used for the Amazon AWS administration – it is not used by the web content management system. Though, the given name will be used as part of the automatically generated Amazon AWS domain name for your website, so use of a descriptive name such as for example your organisation name is recommended.



Elastic Beanstalk ×

Environments
Applications

Elastic Beanstalk > Create environment

Create a web server environment

Launch an environment with a sample application or your own code. By creating an environment, you allow AWS Elastic Beanstalk to manage AWS resources and permissions on your behalf. [Learn more](#)

Application information

Application name

wcm

Up to 100 Unicode characters, not including forward slash (/).

► Application tags (optional)

Environment information

Choose the name, subdomain, and description for your environment. These cannot be changed later.

Environment name

wcm-env

Domain

Leave blank for autogenerated value eu-west-2.elasticbeanstalk

Check availability

Description

2.4.12.1.2 Platform

Depending on your preferred programming language version of the Asbru Web Content Management System, the appropriate platform must be selected.

If you have no programming language version preference, the JSP programming language version is recommended.

2.4.12.1.2.1 JSP, Tomcat, Java

The JSP version of the Asbru Web Content Management System is developed and tested for the Java 8 and Tomcat 8.5 standard reference implementations of the Java 8 and the Java JSP 2.3 and Servlet 3.1 specifications, which is the recommended environment.

The Asbru Web Content Management System should also work with Java 8 compatible newer versions and alternative implementations of Java.

The Asbru Web Content Management System should also work with Tomcat 8.5 compatible newer versions and alternative implementations of the Java JSP 2.3 and Servlet 3.1 specifications. However, please note that the optional “Memcached/Redis session manager” software includes a Tomcat 8.5 version specific component (memcached-session-manager-tc8-x.x.x.jar), which may need to be replaced with another version for use with other Java/JSP application servers than Tomcat 8.5).



Elastic Beanstalk ×

Environments
Applications

Platform

☒ **Managed platform**
Platforms published and maintained by AWS Elastic Beanstalk. [Learn more](#)

☐ **Custom platform**
Platforms created and owned by you.

Platform
Tomcat

Platform branch
Tomcat 8.5 with Java 8 running on 64bit Amazon Linux

Platform version
3.3.6 (Recommended)

2.4.12.1.2.2 .NET, IIS, Windows Server

The .NET version of the Asbru Web Content Management System is developed and tested for the .NET Framework 4.6.2 and newer, compatible versions of .NET, IIS and Windows Server.

Platform

☒ **Managed platform**
Platforms published and maintained by AWS Elastic Beanstalk. [Learn more](#)

☐ **Custom platform**
Platforms created and owned by you.

Platform
.NET on Windows Server

Platform branch
IIS 10.0 running on 64bit Windows Server 2019

Platform version
2.5.6 (Recommended)

2.4.12.1.2.3 PHP

The PHP version of the Asbru Web Content Management System is developed and tested for PHP 5.5 or newer. PHP 7.4 is the recommended environment.

Platform

☒ **Managed platform**
Platforms published and maintained by AWS Elastic Beanstalk. [Learn more](#)

☐ **Custom platform**
Platforms created and owned by you.

Platform
PHP

Platform branch
PHP 7.4 running on 64bit Amazon Linux 2

Platform version
3.0.2 (Recommended)

2.4.12.1.3 Asbru WCMS software package

To deploy the web content management system, the relevant AsbruWCM .zip software package should be uploaded. Uploading the software package may take a few minutes depending on your Internet connection speed.



Elastic Beanstalk ×

Environments
Applications

Application code

☐ Sample application
Get started right away with sample code.

☐ Existing version
Application versions that you have uploaded for wcm.
-- Choose a version --

☒ Upload your code
Upload a source bundle from your computer or copy one from Amazon S3.

▼ Source code origin

(Maximum size 512 MB)

☒ Local file

☐ Public S3 URL

Choose file

File name: AsbruWCM.jsp.zip

File successfully uploaded

Version label
Unique name for this version of your application code.
wcm-source

► Application code tags

Cancel Configure more options Create environment

2.4.12.1.4 Configuration Options

Before the environment is created, a number of options should be configured through “Configure more options”.

2.4.12.1.4.1 Presets

The web content management system can be deployed on a single web/application server instance or on two or more web/application server instances for high availability and increased capacity.

The web content management system can be deployed on a single instance, initially, and additional instances can be deployed, later. Further details need to be configured after the initial deployment and deployed instances may need to be rebuilt.

Elastic Beanstalk ×

Environments
Applications

Elastic Beanstalk > Create environment

Configure WcmJsp-env

Presets
Start from a preset that matches your use case or choose *Custom configuration* to unset recommended values and use the service's default values.

Configuration presets

☒ Single instance (Free Tier eligible)

☐ Single instance (using Spot instance)

☐ High availability

☐ High availability (using Spot and On-Demand instances)

☐ Custom configuration



2.4.12.1.4.2 Security Group

The web/application server environment should be assigned to the same Security Group as the database server and optional cache server – as created and noted previously. This is done through “Instances – Edit”.

Software

AWS X-Ray: disabled
Rotate logs: disabled (default)
Log streaming: disabled (default)
Environment properties: 1
JDBC_CONNECTION_STRING

Instances

Root volume type: container default
Root volume size (GB): container default
Root volume IOPS: container default
Security groups: none

Capacity

Environment type: single instance
Fleet composition: On-Demand instance
EC2 instance type: t2.micro
EC2 image ID: ami-0f973dd1ca89d8f45

Elastic Beanstalk > Create environment

Modify instances

Root volume (boot device)

Root volume type
(Container...)

Size
The number of gigabytes of the root volume attached to each instance.
100 GB

IOPS
Input/output operations per second for a provisioned IOPS (SSD) volume.
100 IOPS

EC2 security groups

Group name	Group ID	Name
<input checked="" type="checkbox"/> default	sg-57cc9535	

Cancel Save

Software

AWS X-Ray: disabled
Rotate logs: disabled (default)
Log streaming: disabled (default)
Environment properties: 1
JDBC_CONNECTION_STRING

Instances

Root volume type: container default
Root volume size (GB): container default
Root volume IOPS: container default
Security groups: sg-57cc9535

Capacity

Environment type: single instance
Fleet composition: On-Demand instance
EC2 instance type: t2.micro
EC2 image ID: ami-0f973dd1ca89d8f45

2.4.12.1.4.3 Capacity

The number and type of web/application server instances the web content management system is deployed on is configured through “Capacity – Edit”.

The initial capacity settings can be changed, later. A “single instance” deployment can be changed to “high availability” / “load balanced” multi-instance deployment, later.

For a “load balanced” environment the min. and max. number of deployed web/application server instances must be configured.



All web/application server instance types are supported by the web content management system. A micro instance type may be sufficient for a small website. For larger websites, a larger instance type may be required. Please see general Amazon AWS Elastic Beanstalk and EC2 documentation for details.

Software AWS X-Ray: disabled Rotate logs: disabled (default) Log streaming: disabled (default) Environment properties: 1 JDBC_CONNECTION_STRING Edit	Instances Root volume type: container default Root volume size (GB): container default Root volume IOPS: container default Security groups: sg-57cc9535 Edit	Capacity Environment type: single instance Fleet composition: On-Demand instance EC2 instance type: t2.micro EC2 image ID: ami-0f973dd1ca89d8f45 Edit
---	--	---

Elastic Beanstalk ×

Environments

Applications

▼ wcm-jsp

Application versions

Saved configurations

▼ WcmJsp-env

Go to environment [↗](#)

Configuration

Logs

Health

Monitoring

Alarms

Managed updates

Events

Tags

▼ Recent environments

WcmJsp-env

Elastic Beanstalk > Environments > WcmJsp-env > Configuration

Modify capacity

Configure the compute capacity of your environment and Auto Scaling settings to optimize the number of instances used.

Auto Scaling Group

Environment type

Single ins. ... ▼

Instances

Min 1

Max 1

Fleet composition

Spot instances are launched at the lowest available price. [Learn more](#)

☒ On-Demand instance

☐ Spot instance enabled

Maximum spot price

The maximum price per instance-hour, in USD, that you're willing to pay for a Spot Instance. Setting a custom price limits your chances to fulfill your target capacity using Spot instances.

☐ Default - the On-Demand price for each instance type (recommended)

☐ Set your maximum price

On-Demand base

The minimum number of On-Demand Instances that your Auto Scaling group provisions before considering Spot Instances as your environment scales out.

0

On-Demand above base

The percentage of On-Demand Instances as part of any additional capacity that your Auto Scaling group provisions beyond the On-Demand base instances.

0 %

Instance type

t2.micro ▼

AMI ID

ami-0f973dd1ca89d8f45

Availability Zones

Number of Availability Zones (AZs) to use.

Any ▼

Placement

Specify Availability Zones (AZs) to use.

— Choose Availability Zones (AZs) — ▼



Elastic Beanstalk

Environments

Applications

▼ wcm-jsp

Application versions

Saved configurations

▼ WcmJsp-env

Go to environment

Configuration

Logs

Health

Monitoring

Alarms

Managed updates

Events

Tags

▼ Recent environments

WcmJsp-env

Elastic Beanstalk > Environments > WcmJsp-env > Configuration

Modify capacity

Configure the compute capacity of your environment and Auto Scaling settings to optimize the number of instances used.

Auto Scaling Group

Environment type

Load bal...

Instances

Min 1

Max 4

Fleet composition

Choose a mix of On-Demand and Spot Instances with multiple instance types. Spot Instances are automatically launched at the lowest available price. [Learn more](#)

☒ On-Demand instances

☐ Combine purchase options and instances

Maximum spot price

The maximum price per instance-hour, in USD, that you're willing to pay for a Spot Instance. Setting a custom price limits your chances to fulfill your target capacity using Spot instances.

☐ Default - the On-Demand price for each instance type (recommended)

☐ Set your maximum price

On-Demand base

The minimum number of On-Demand instances that your Auto Scaling group provisions before considering Spot instances as your environment scales out.

0

On-Demand above base

The percentage of On-Demand instances as part of any additional capacity that your Auto Scaling group provisions beyond the On-Demand base instances.

70 %

Instance type

t2.micro

AMI ID

ami-0f973dd1ca89d8f45

Availability Zones

Number of Availability Zones (AZs) to use.

Any

Placement

Specify Availability Zones (AZs) to use.

— Choose Availability Zones (AZs) —

2.4.12.1.4.3.1 Automatic capacity scaling

For a “load balanced” deployment with multiple web/application server instances a number of parameters for when additional web/application server instances are deployed and when unneeded web/application server instances are terminated.

The initial scaling triggers can be changed and more options are available, later.



Elastic Beanstalk ×

Environments
Applications

Scaling triggers

Metric

Change the metric that is monitored to determine if the environment's capacity is too low or too high.

Network...

Statistic

Choose how the metric is interpreted.

Average

Unit

Bytes

Period

The period between metric evaluations.

5

Min

Breach duration

The amount of time a metric can exceed a threshold before triggering a scaling operation.

5

Min

Upper threshold

6000000

Bytes

Lower threshold

2000000

Bytes

Cancel

Save

Software

AWS X-Ray: disabled
Rotate logs: disabled (default)
Log streaming: disabled (default)
Environment properties: 0

Edit

Instances

IMDSv1: enabled
Root volume type: container default
Root volume size (GB): container default
Root volume IOPS: container default
Security groups: none

Edit

Capacity

Environment type: load balancing, auto scaling
Availability Zones: Any
Fleet composition: On-Demand instances
EC2 instance type: t2.micro
EC2 image ID: ami-0c4e85329800d72e6
Instances: 1-4

Edit

2.4.12.1.4.4 Load balancer

For web/application server deployments with more than one server instance a load balancer service is also deployed.

As default the load balancer is configured as an Application Load Balancer with unencrypted HTTP website access only.

To also support encrypted HTTPS website access a HTTPS listener should be configured:

- Port:
443
- Protocol:
HTTPS
- SSL certificate:
Any SSL certificate issued for your website domain created/imported into the Amazon AWS Certificate Manager.



Elastic Beanstalk

Environments

Applications

▼ wcm

Application versions

Saved configurations

▼ Recent environments

Wcm-env

Elastic Beanstalk > Applications > wcm

Modify load balancer

Application Load Balancer

Application layer load balancer—routing HTTP and HTTPS traffic based on protocol, port, and route to environment processes.

Classic Load Balancer

Previous generation — HTTP, HTTPS, and TCP

Network Load Balancer

Ultra-high performance and static IP addresses for your application.

Listeners

You can specify listeners for your load balancer. Each listener routes incoming client traffic on a specified port using a specified protocol to your environment processes. By default, we've configured your load balancer with a standard web server on port 80.

Actions ▼

+ Add listener

<input type="checkbox"/>	Port	Protocol	SSL certificate	Default process	Enabled
<input type="checkbox"/>	80	HTTP	--	default	<input checked="" type="checkbox"/>

▼ Wcm-env

Go to environment

Configuration

Logs

Health

Monitoring

Alarms

Managed updates

Events

Tags

▼ Recent environments

Wcm-env

Application Load Balancer listener

Port

443

Protocol

HTTPS

SSL certificate

-- Choose a certificate --

SSL policy

Default process

default

Cancel

Add

Elastic Beanstalk

Environments

Applications

▼ wcm

Application versions

Saved configurations

▼ Wcm-env

Go to environment

Configuration

Logs

Health

Elastic Beanstalk > Environments > Wcm-env > Configuration

Modify Application Load Balancer

Listeners

You can specify listeners for your load balancer. Each listener routes incoming client traffic on a specified port using a specified protocol to your environment processes. By default, we've configured your load balancer with a standard web server on port 80.

Actions ▼

+ Add listener

<input type="checkbox"/>	Port	Protocol	SSL certificate	Default process	Enabled
<input type="checkbox"/>	80	HTTP	--	default	<input checked="" type="checkbox"/>
<input type="checkbox"/>	443	HTTPS	yourwebsite.com - 5c963017-2901-4d89-bd3e-f59696c2e4ba	default	<input checked="" type="checkbox"/>

2.4.12.1.4.5 Security Key Pair

Optionally, you may want to configure an EC2 key pair (as created earlier) for direct access to the deployed web/application server instances through SSH or Windows Remote Desktop. This is configured through “Security – Edit”.



Note: Deployed web/application server instances should only be accessed for testing and debugging. Deployed instances should not be modified manually. All modifications will be lost on manual or automatic redeployment or termination of the web/application server instances.

Load balancer Load balancer type: application Listeners: 1 Processes: 1 Rules: 0 Edit	Rolling updates and deployments Deployment policy: All at once Rolling updates: disabled Health check: enabled Edit	Security Service role: arn:aws:iam::233015024152:role/aws-elasticbeanstalk-service-role Virtual machine key pair: ... Virtual machine instance profile: aws-elasticbeanstalk-ec2-role Edit
---	--	--

Elastic Beanstalk ×

Environments
Applications

Elastic Beanstalk > Create environment

Modify security

Service role
Service role
aws-elasticbeanstalk-service-role

Virtual machine permissions
EC2 key pair
AWS-EC2
AWS-EC2
aws-elasticbeanstalk-ec2-role

[Cancel](#) [Save](#)

Load balancer Load balancer type: application Listeners: 1 Processes: 1 Rules: 0 Edit	Rolling updates and deployments Deployment policy: All at once Rolling updates: disabled Health check: enabled Edit	Security Service role: arn:aws:iam::233015024152:role/aws-elasticbeanstalk-service-role Virtual machine key pair: AWS-EC2 Virtual machine instance profile: aws-elasticbeanstalk-ec2-role Edit
---	--	--

2.4.12.1.4.6 Network

The web/application server environment should be assigned to the same Virtual Private Cloud as the database server and optional cache server – as created and noted previously. This is done through “Network – Edit”.

The web/application server environment should also be assigned a public IP address for access to the website and the web content management system.



Network

This environment is not part of a VPC.

Edit

Database

Engine: --
Instance class: --
Storage (GB): --
Multi-AZ: --

Edit

Tags

Tags: none

Edit

Elastic Beanstalk



Environments
Applications

Elastic Beanstalk > Create environment

Modify network

Virtual private cloud (VPC)

VPC
Launch your environment in a custom VPC instead of the default VPC. You can create a VPC and subnets in the VPC management console. [Learn more](#)

vpc-20733348 (172.31.0.0/16) (default)

[Create custom VPC](#)

Load balancer settings

Assign your load balancer to a subnet in each Availability Zone (AZ) in which your application runs. For a publicly accessible application, set Visibility to Public and choose public subnets.

Visibility
Make your load balancer internal if your application serves requests only from connected VPCs. Public load balancers serve requests from the Internet.

Public

Load balancer subnets

<input checked="" type="checkbox"/>	Availability Zone	Subnet	CIDR	Name
<input checked="" type="checkbox"/>	eu-west-2a	subnet-b2891fc8	172.31.16.0/20	
<input checked="" type="checkbox"/>	eu-west-2b	subnet-2412b768	172.31.32.0/20	
<input checked="" type="checkbox"/>	eu-west-2c	subnet-9f9ed4f6	172.31.0.0/20	

Instance settings

Choose a subnet in each AZ for the instances that run your application. To avoid exposing your instances to the Internet, run your instances in private subnets and load balancer in public subnets. To run your load balancer and instances in the same public subnets, assign public IP addresses to the instances.

☒ Public IP address
Assign a public IP address to the Amazon EC2 instances in your environment.

Instance subnets

<input checked="" type="checkbox"/>	Availability Zone	Subnet	CIDR	Name
<input checked="" type="checkbox"/>	eu-west-2a	subnet-b2891fc8	172.31.16.0/20	
<input checked="" type="checkbox"/>	eu-west-2b	subnet-2412b768	172.31.32.0/20	
<input checked="" type="checkbox"/>	eu-west-2c	subnet-9f9ed4f6	172.31.0.0/20	

Cancel

Save



Network	Database	Tags
VPC: vpc-20733348 (172.31.0.0/16) (default) Load balancer visibility: Public Load balancer subnets: subnet-b2891fc8, subnet-2412b768, subnet-9f9ed4f6 Associate public IP address: enabled Instance subnets: subnet-b2891fc8, subnet-2412b768, subnet-9f9ed4f6	Engine: -- Instance class: -- Storage (GB): -- Multi-AZ: --	Tags: none
<input type="button" value="Edit"/>	<input type="button" value="Edit"/>	<input type="button" value="Edit"/>

2.4.12.1.4.7 Database

Note: The database should not be edited/created here as it has already been created separately earlier. The database should be created separately, as a database created as part of Elastic Beanstalk environment may be deleted if/when Elastic Beanstalk environment is terminated and all database data may be lost. Also, all database options may not be available through the Elastic Beanstalk environment configuration.

Network	Database	Tags
VPC: vpc-20733348 (172.31.0.0/16) (default) Associate public IP address: enabled Instance subnets: subnet-b2891fc8, subnet-2412b768, subnet-9f9ed4f6	Engine: -- Instance class: -- Storage (GB): -- Multi-AZ: --	Tags: none
<input type="button" value="Edit"/>	<input type="button" value="Edit"/>	<input type="button" value="Edit"/>

2.4.12.1.5 Create Environment

Creating the web/application server environment may take some minutes to complete.

Elastic Beanstalk

Environments

Applications

▼ wcm

Application versions

Saved configurations

► Wcm-env

Elastic Beanstalk > Environments > Wcm-env

Creating Wcm-env

This will take a few minutes. ...

No events



Elastic Beanstalk

Environments

Applications

▼ wcm

Application versions

Saved configurations

▼ Wcm-env

Go to environment

Configuration

Logs

Health

Monitoring

Alarms

Managed updates

Events

Tags

Elastic Beanstalk > Environments > Wcm-env

Wcm-env

Wcm-env-eba-ctjjkkus.eu-west-2.elasticbeanstalk.com (e-pgprpmkuh)

Application name: wcm

Refresh

Actions

Health

Ok

Causes

Running version

wcm-source

Upload and deploy

Platform

Tomcat 8.5 with Java 8 running on 64bit Amazon Linux/3.3.8

Change

Recent events

Show all

< 1 >

Time	Type	Details
2020-07-11 11:47:47 UTC+0100	INFO	Environment health has transitioned from Pending to Ok. Initialization completed 23 seconds ago and took 3 minutes.
2020-07-11 11:47:45 UTC+0100	INFO	Successfully launched environment: Wcm-env
2020-07-11 11:47:43 UTC+0100	INFO	Application available at Wcm-env-eba-ctjjkkus.eu-west-2.elasticbeanstalk.com.
2020-07-11 11:46:41 UTC+0100	INFO	Created Load Balancer listener named: arn:aws:elasticloadbalancing:eu-west-2:233015024152:listener/app/awseb-AWSEB-1CQJ7IBWB8Q6V/c:399671556b745b7/a25c586052dd5c9
2020-07-11 11:46:41 UTC+0100	INFO	Created load balancer named: arn:aws:elasticloadbalancing:eu-west-2:233015024152:loadbalancer/app/awseb-AWSEB-1CQJ7IBWB8Q6V/c:399671556b745b7

2.4.12.1.6 Website address

The created web/application server environment is automatically assigned an endpoint address. The automatically assigned “Endpoint” address should be noted (see 2.4.3 Deployment Checklist & Notes) as it will be needed to access the website and the web content management system, and configure the DNS domain name for the website, later.

For example:

- wcm-env.eba-ctjjkkus.eu-west-2.elasticbeanstalk.com

Note: The website should not be accessed, yet. First, the cloud storage, database server and optional cache server should be configured for the web content management system.

Elastic Beanstalk

Environments

Applications

Elastic Beanstalk > Environments > Wcm-env

Wcm-env

Wcm-env-eba-ctjjkkus.eu-west-2.elasticbeanstalk.com (e-pgprpmkuh)

Application name: wcm

Refresh

Actions

2.4.12.1.7 Website Domain Name

The automatically assigned website address can be used to access the website, but for production use you will probably want to use your own website domain name address.

A new website domain name can be registered through the Amazon AWS Route 53 domain name registration or an existing website domain name can be transferred to the Amazon Route 53 Domain Name Service (DNS). Please see the Amazon AWS Route 53 documentation for details.



Alternatively, you may want to register a new website domain name or use an existing website domain name with a third-party domain name registration service and DNS. To use an existing website domain name for your deployed web/application server environment, you can configure a CNAME alias through your DNS provider - for example:

```
yourwebsite.com CNAME wcm-env.eba-ctjjkkus.eu-west-2.elasticbeanstalk.com
*.yourwebsite.com CNAME wcm-env.eba-ctjjkkus.eu-west-2.elasticbeanstalk.com
```

to direct yourwebsite.com and www.yourwebsite.com etc. to your deployed web/application server environment.

Optionally, you may also want to configure your own website subdomain name for your cloud storage – for example:

```
media.yourwebsite.com CNAME asbru-wcm.s3.eu-west-2.amazonaws.com
```

2.4.12.1.8 Configuration

After the initial web/application server environment has been deployed, a number of software environment properties for the web content management system and the cloud storage, database base server and optional cache server need to be configured.

Also, most other web/application server environment settings can be reconfigured when and if needed.

Note: When first configuring the software environment properties for the web content management system, the changes should first be applied which will “update” the web content management system environment; and then the web content management system environment should be “redeployed” to ensure that required driver software packages etc. for the configured components are installed and configured (see 2.4.12.1.9 Apply and Redeploy Environment/Application Configuration Changes).

2.4.12.1.8.1 Software Environment Properties

The cloud storage, database server and optional cache server must be configured for the web content management system through the web/application server environment’s “Configuration – Software – Edit”.

Elastic Beanstalk

Environments

Applications

▼ wcm

Application versions

Saved configurations

▼ Wcm-env

Go to environment

Configuration

Logs

Health

Monitoring

Alarms

Managed updates

Elastic Beanstalk > Environments > Wcm-env > Configuration

Configuration overview

Cancel Review changes Apply configuration

Table View

Search for an option name or value

Category	Options	Actions
Software	Environment properties: AWS_ACCESS_KEY_ID, AWS_S3_BUCKET, AWS_S3_REGION, AWS_S3_URL, AWS_SECRET_KEY, CACHE_SERVER, JDBC2_CONNECTION_STRING, JDBC_CONNECTION_STRING, RDS2_DB_NAME, RDS2_HOSTNAME, RDS2_PASSWORD, RDS2_PORT, RDS2_USERNAME, RDS_DB_NAME, RDS_HOSTNAME, RDS_PASSWORD, RDS_PORT, RDS_USERNAME, SESSION_MANAGER, SESSION_MANAGER_HOST Gzip compression: enabled Initial JVM heap size (Xms): 256m JVM options: Log streaming: disabled Max JVM heap size (Xmx): 256m Proxy server: apache Rotate logs: disabled X-Ray daemon: disabled XX:MaxPermSize: 64m	Edit



Elastic Beanstalk

Environments

Applications

Elastic Beanstalk

Environments

Applications

▼ wcm

Application versions

Saved configurations

▼ Wcm-env

Go to environment

Configuration

Logs

Health

Monitoring

Alarms

Managed updates

Events

Tags

▼ Recent environments

Wcm-env

Elastic Beanstalk > Environments > Wcm-env > Configuration

Modify software

The following settings control container behavior and let you pass key-value pairs in as OS environment variables. [Learn more](#)

Environment properties

The following properties are passed in the application as environment properties. [Learn more](#)

Name	Value
AWS_ACCESS_KEY_ID	
AWS_S3_BUCKET	
AWS_S3_REGION	
AWS_S3_URL	
AWS_SECRET_KEY	
CACHE_SERVER	
JDBC2_CONNECTION_STRING	
JDBC_CONNECTION_STRING	
RDS2_DB_NAME	
RDS2_HOSTNAME	
RDS2_PASSWORD	
RDS2_PORT	
RDS2_USERNAME	
RDS_DB_NAME	
RDS_HOSTNAME	
RDS_PASSWORD	
RDS_PORT	
RDS_USERNAME	
SESSION_MANAGER	
SESSION_MANAGER_HOST	

2.4.12.1.8.1.1 Media Storage

The cloud storage details for the created media storage as noted previously (see 2.4.3 Deployment Checklist & Notes) must be configured for the web content management system to access it.

- AWS_ACCESS_KEY_ID

The media storage access key id – fx:

AKIATMQGHDIMG2OKWOZO

- AWS_SECRET_KEY

The media storage secret access key – fx:



H+NjIBU0uAovR6fDloYHhxoLnIW+kfh9EeBlGoc

- AWS_S3_BUCKET

The media storage bucket id – fx:

wcm-media

- AWS_S3_REGION

The media storage region id – fx:

eu-west-2

- AWS_S3_URL

The media storage address – fx:

https://wcm-media.s3.eu-west-2.amazonaws.com

The screenshot shows a configuration interface with a sidebar on the left and a main table on the right. The sidebar has a 'wcm' section with 'Application versions' and 'Saved configurations', and a 'Wcm-env' section with 'Go to environment' and 'Configuration'. The main table has five rows, each with a label, a text input field, and a 'x' icon in the rightmost column.

Label	Value	Action
AWS_ACCESS_KEY_ID		x
AWS_S3_BUCKET		x
AWS_S3_REGION		x
AWS_S3_URL		x
AWS_SECRET_KEY		x

2.4.12.1.8.1.2 Database Connection

The database server details for the deployed database server instance as noted previously (see 2.4.3 Deployment Checklist & Notes) must be configured for the web content management system to access it.

- RDS_HOSTNAME

The database server address – fx:

wcm-db.c4w3zpvzpgax.eu-west-2.rds.amazonaws.com

Note: For database server deployments with both “Writer” and “Reader” database server instances, this should be the address of the “Writer” database server instance.

- RDS_PORT

The database server port – fx:

3306

- RDS_DB_NAME

The database name – fx:



wcm

Note: For Microsoft SQL Server and Amazon Aurora MySQL Global database server deployments, no initial database was created during deployment of the database server. In that case, a database name should simply be given here – fx: wcm

- RDS_USERNAME

The database server username – fx:

admin

- RDS_PASSWORD

The database server password – fx:

secretsecret

- RDS_DRIVER

Optionally, the database driver name to use. ODBC database driver name for .NET. JDBC database driver class name for JSP. Extension library name for PHP. If left blank, the web content management will use a default database driver name. Fx:

○ .NET:

ODBC Driver 17 for SQL Server
Microsoft ODBC for Oracle
MySQL ODBC 8.0 Unicode Driver
PostgreSQL Unicode

○ JSP:

com.microsoft.sqlserver.jdbc.SQLServerDriver
oracle.jdbc.driver.OracleDriver
com.mysql.jdbc.Driver
org.postgresql.Driver

○ PHP:

mssql
oci8
mysql
pgsql



RDS_DB_NAME	<input type="text"/>	✕
RDS_HOSTNAME	<input type="text"/>	✕
RDS_PASSWORD	<input type="text"/>	✕
RDS_PORT	<input type="text"/>	✕
RDS_USERNAME	<input type="text"/>	✕

For database server deployments with both “Writer” and “Reader” database server instances, these additional database server properties should also be configured. For database server deployments without both “Writer” and “Reader” database server instances, these additional database server properties should be left blank.

- RDS2_HOSTNAME

The database server “Reader” address – fx:

wcm-db-ro.c4w3zpvzpgax.eu-west-2.rds.amazonaws.com

Note: For database server deployments with both “Writer” and “Reader” database server instances, this should be the address of the “Reader” database server instance.

- RDS2_PORT

The database server port – fx:

3306

- RDS2_DB_NAME

The database name – fx:

wcm

Note: For Microsoft SQL Server and Amazon Aurora MySQL Global database server deployments, no initial database was created during deployment of the database server. In that case, a database name should simply be given here – fx: wcm. This should be the same as the “RDS_DB_NAME” above.

- RDS2_USERNAME

The database server username – fx:

admin

- RDS2_PASSWORD

The database server password – fx:

secretsecret



- RDS2_DRIVER

Optionally, the database driver name to use. ODBC database driver name for .NET. JDBC database driver class name for JSP. Extension library name for PHP. If left blank, the web content management will use a default database driver name. Fx:

○ .NET:

ODBC Driver 17 for SQL Server
Microsoft ODBC for Oracle
MySQL ODBC 8.0 Unicode Driver
PostgreSQL Unicode

○ JSP:

com.microsoft.sqlserver.jdbc.SQLServerDriver
oracle.jdbc.driver.OracleDriver
com.mysql.jdbc.Driver
org.postgresql.Driver

○ PHP:

mssql
oci8
mysql
pgsql

RDS2_DB_NAME		✕
RDS2_HOSTNAME		✕
RDS2_PASSWORD		✕
RDS2_PORT		✕
RDS2_USERNAME		✕

2.4.12.1.8.1.2.1 Custom database connection string

As default, the web content management system will use the configured RDS_XXXXX (and RDS2_XXXXX) properties to connect to the database.

Optionally, if you need to use a specific database driver or special database connection string parameters then a custom database connection string can be configured.

- JDBC_CONNECTION_STRING

Custom database connection string as used by the web content management system – fx:

```
mysql:com.mysql.jdbc.Driver:admin:secretsecret@jdbc:mysql://wcm-  
mysql.c4w3zpvzpgax.eu-west-2.rds.amazonaws.com:3306/wcm?useSSL=false
```

For database server deployments with both “Writer” and “Reader” database server instances, this additional database server property should also be configured. For database server



deployments without both “Writer” and “Reader” database server instances, this additional database server property should be left blank.

- JDBC2_CONNECTION_STRING

Custom database connection string as used by the web content management system – fx:

```
mysql:com.mysql.jdbc.Driver:admin:secretsecret@jdbc:mysql://wcm-mysql-  
reader.c4w3zpvzpgax.eu-west-2.rds.amazonaws.com:3306/wcm?useSSL=false
```

Note: The RDS_XXXXX (and RDS2_XXXXX) properties should still be configured even if a custom database connection string is configured.

Monitoring		JDBC2_CONNECTION_STRING		✖
Alarms				
Managed updates		JDBC_CONNECTION_STRING		✖

2.4.12.1.8.1.3 Session Manager

For optional use of shared session manager storage the “SESSION_MANAGER” and “SESSION_MANAGER_HOST” environment properties must be configured.

Note: If no shared session manager storage is configured, each web/application server instance will manage its own session data and session data will not be shared between multiple web/application server instances. In which case website login and web content management system administration login etc. will only work correctly for single-instance deployments and for load balanced multi-instance deployments configured with “sticky” sessions.

2.4.12.1.8.1.3.1 Database

For use of the web content management system database for shared session manager storage the “SESSION_MANAGER” environment property value should be the database server type and the “SESSION_MANAGER_HOST” should be left blank (The database connection software environment properties RDS_HOSTNAME, RDS_PORT, RDS_DB_NAME, RDS_USERNAME and RDS_PASSWORD will be used, instead).

- SESSION_MANAGER

The database server type – fx:

```
mysql  
pgsql  
oracle  
mssql  
db2
```

- SESSION_MANAGER_HOST

Should be left blank.



2.4.12.1.8.1.3.2 *ElastiCache*

For use of a cache server for shared session manager storage the “SESSION_MANAGER” environment property value should be the cache server type and the “SESSION_MANAGER_HOST” and “SESSION_MANAGER_PORT” should be the cache server address and port. If authentication is required the “SESSION_MANAGER_PASSWORD” environment property value should be the cache server authentication key/password.

- SESSION_MANAGER

The cache server type – fx:

memcached
redis

- SESSION_MANAGER_HOST

The cache server address – fx:

wcm-memcached.g1eosl.0001.euw2.cache.amazonaws.com
wcm-redis-001.g1eosl.0001.euw2.cache.amazonaws.com

- SESSION_MANAGER_PORT

The cache server port – fx:

11211
6379

- SESSION_MANAGER_PASSWORD

The cache server authentication key/password (if any) – fx:

2CeKWHfz20RYZj5M8UdqcvgIMlmFKQTKvRwbmuzhoco=

Note: The same ElastiCache service can be used as both session manager and cache server.

SESSION_MANAGER	<input type="text"/>	✖
SESSION_MANAGER_HOST	<input type="text"/>	✖
SESSION_MANAGER_PORT	<input type="text"/>	✖
SESSION_MANAGER_PASSWORD	<input type="text"/>	✖

2.4.12.1.8.1.3.3 *Other session manager custom configuration*

Optionally, you can provide your own custom session manager configuration.

2.4.12.1.8.1.3.3.1 JSP

If you create your own “.ebextensions/jsp-session-manager/context.xml” Tomcat server configuration file in the deployed web content management system software package then that will be used instead of the automatically generated context.xml Tomcat server configuration file.



If you add your own “.ebextensions/jsp-session-manager/*.jar” Java program files then they will be copied to the Tomcat server program library folder.

2.4.12.1.8.1.4 Cache Server

For optional use of shared cache server storage the “CACHE_SERVER” environment property must be configured.

Note: If no shared cache server storage is configured, each web/application server instance will manage its own memory cache data and cached data will not be shared between multiple web/application server instances. Added/updated website content may not propagate to all web/application server instances until their local cached data expires. As default local memory cache data is configured to expire after 5 minutes, so it may take up to 5 minutes for added/updated website content to be displayed by all web/application server instances).

- CACHE_SERVER

The cache server type:address:port – fx:

memcached:wcm-memcached.g1eosl.0001.euw2.cache.amazonaws.com:11211

redis:wcm-redis-001.g1eosl.0001.euw2.cache.amazonaws.com:6379

If the cache server requires password authentication – fx:

memcached:password@wcm-
memcached.g1eosl.0001.euw2.cache.amazonaws.com:11211

redis:password@wcm-redis-001.g1eosl.0001.euw2.cache.amazonaws.com:6379

If the cache server requires username/password authentication – fx:

memcached:username:password@wcm-
memcached.g1eosl.0001.euw2.cache.amazonaws.com:11211

redis:username:password@wcm-redis-
001.g1eosl.0001.euw2.cache.amazonaws.com:6379

Note: The same ElastiCache service can be used as both session manager and cache server.



2.4.12.1.8.1.4.1 JSP Memcached

Optionally, a number of configuration parameters can be provided for the cache server:

- CACHE_SERVER

memcached:username:password@host:port?expiry=EXPIRY&suspend=SUSPEND&time
out=TIMEOUT&threshold=THRESHOLD

Where the parameters are:



- EXPIRY
The number of seconds before cached data expires and is re-read from the database server.
As default the expiry time is 300 seconds (5 minutes).
- SUSPEND
The number of seconds for which caching is suspended if connection to the configured cache server fails. (Failure to connect to the configured cache server may slow down website response times significantly, so attempts to connect to the cache server are suspended for a period of time for the cache server to eventually recover).
As default the suspend time is 300 seconds (5 minutes).
- TIMEOUT
The operation timeout in milliseconds.
As default the timeout time is 2500 milliseconds.
- THRESHOLD
The maximum timeout exception threshold in milliseconds.
As default the threshold time is 1000 milliseconds.

For details on the parameters, please see the general documentation on the SpyMemcache Java client library.

2.4.12.1.8.1.4.2 JSP Redis

Optionally, a number of configuration parameters can be provided for the cache server:

- CACHE_SERVER

`redis:username:password@host:port?expiry=EXPIRY&suspend=SUSPEND&timeout=TIMEOUT&connectTimeout=CONNECTTIMEOUT&database=DATABASE&connectionPoolSize=POOLSIZE&connectionMinimumIdleSize=IDLESIZE&retryAttempts=RETRYATTEMPTS&retryInterval=RETRYINTERVAL`

Where the parameters are:

- EXPIRY
The number of seconds before cached data expires and is re-read from the database server.
As default the expiry time is 300 seconds (5 minutes).
- SUSPEND
The number of seconds for which caching is suspended if connection to the configured cache server fails. (Failure to connect to the configured cache server may slow down website response times significantly, so attempts to connect to the cache server are suspended for a period of time for the cache server to eventually recover).
As default the suspend time is 300 seconds (5 minutes).
- TIMEOUT
The response timeout in milliseconds.
As default the timeout time is 2500 milliseconds.



- **CONNECTTIMEOUT**
The connect timeout in milliseconds.
As default the timeout time is 10000 milliseconds.
- **DATABASE**
The database index number to be used.
As default the database index number is 0.
- **POOLSIZE**
The connection pool size.
As default the connection pool size is 64.
- **IDLESIZE**
The minimum idle connection pool size.
As default the idle connection pool size is 24.
- **RETRYATTEMPTS**
The number of failed connection retry attempts.
As default the retry attempts is 3.
- **RETRYINTERVAL**
The time interval between failed connection retry attempts in milliseconds.
As default the retry interval is 1500.

For details on the parameters, please see the general documentation on the Redisson Java client library.

2.4.12.1.8.1.4.3 .NET Memcached

Optionally, a number of configuration parameters can be provided for the cache server:

- **CACHE_SERVER**

memcached:username:password@host:port?expiry=EXPIRY&suspend=SUSPEND&connectionTimeout=CONNECTTIMEOUT&deadTimeout=DEADTIMEOUT&minPoolSize=MINPOOLSIZE&maxPoolSize=MAXPOOLSIZE

Where the parameters are:

- **EXPIRY**
The number of seconds before cached data expires and is re-read from the database server.
As default the expiry time is 300 seconds (5 minutes).
- **SUSPEND**
The number of seconds for which caching is suspended if connection to the configured cache server fails. (Failure to connect to the configured cache server may slow down website response times significantly, so attempts to connect to the cache server are suspended for a period of time for the cache server to eventually recover).
As default the suspend time is 300 seconds (5 minutes).



- CONNECTTIMEOUT
The connection timeout in seconds.
- DEADTIMEOUT
The unresponsive node timeout in seconds.
- MINPOOLSIZE
The minimum number of connections to the cache server.
As default the minimum pool size is 10.
- MAXPOOLSIZE
The maximum number of connections to the cache server.
As default the maximum poolsize is 20.

For details on the parameters, please see the general documentation on the Enyim Memcached .NET client library.

2.4.12.1.8.1.4.4 .NET Redis

Optionally, a number of configuration parameters can be provided for the cache server:

- CACHE_SERVER

```
redis:username:password@host:port?expiry=EXPIRY&suspend=SUSPEND&ConnectTimeout=CONNECTTIMEOUT&SyncTimeout=SYNCTIMEOUT&PoolSize=POOLSIZE  
&database=DATABASE
```

Where the parameters are:

- EXPIRY
The number of seconds before cached data expires and is re-read from the database server.
As default the expiry time is 300 seconds (5 minutes).
- SUSPEND
The number of seconds for which caching is suspended if connection to the configured cache server fails. (Failure to connect to the configured cache server may slow down website response times significantly, so attempts to connect to the cache server are suspended for a period of time for the cache server to eventually recover).
As default the suspend time is 300 seconds (5 minutes).
- CONNECTTIMEOUT
The connection timeout in seconds.
- SYNCTIMEOUT
The synchronous operations timeout in seconds.
- POOLSIZE
The number of connections to the cache server.



- DATABASE
The cache server database index number.
As default the database is 0.

For details on the parameters, please see the general documentation on the StackExchange.Redis.Extensions .NET client library.

2.4.12.1.8.1.4.5 *PHP Memcached*

Optionally, a number of configuration parameters can be provided for the cache server:

- CACHE_SERVER

memcached:username:password@host:port?expiry=EXPIRY&suspend=SUSPEND

Where the parameters are:

- EXPIRY
The number of seconds before cached data expires and is re-read from the database server.
As default the expiry time is 300 seconds (5 minutes).
- SUSPEND
The number of seconds for which caching is suspended if connection to the configured cache server fails. (Failure to connect to the configured cache server may slow down website response times significantly, so attempts to connect to the cache server are suspended for a period of time for the cache server to eventually recover).
As default the suspend time is 300 seconds (5 minutes).

For details on the parameters, please see the general documentation on the Memcached PHP Session Manager functionality.

2.4.12.1.8.1.4.6 *PHP Redis*

Optionally, a number of configuration parameters can be provided for the cache server:

- CACHE_SERVER

redis:username:password@host:port?expiry=EXPIRY&suspend=SUSPEND

Where the parameters are:

- EXPIRY
The number of seconds before cached data expires and is re-read from the database server.
As default the expiry time is 300 seconds (5 minutes).
- SUSPEND
The number of seconds for which caching is suspended if connection to the configured cache server fails. (Failure to connect to the configured cache server may slow down website response times significantly, so attempts to connect to the cache server are suspended for a period of time for the cache server to



eventually recover).
As default the suspend time is 300 seconds (5 minutes).

For details on the parameters, please see the general documentation on the Redis PHP Session Manager functionality.

2.4.12.1.8.2 Capacity

For a “load balanced” environment the min. and max. number of deployed web/application server instances must be configured.

All web/application server instance types are supported by the web content management system. A micro instance type may be sufficient for a small website. For larger websites, a larger instance type may be required. Please see general Amazon AWS Elastic Beanstalk and EC2 documentation for details.

2.4.12.1.8.2.1 Automatic capacity scaling

For a “load balanced” deployment with multiple web/application server instances a number of parameters for when additional web/application server instances are deployed and when unneeded web/application server instances are terminated. Please see the Amazon AWS Elastic Beanstalk documentation for details.

The screenshot displays the AWS Elastic Beanstalk console interface. On the left, a navigation pane shows the hierarchy: Elastic Beanstalk > Environments > Applications > wcm-jsp > Application versions > Saved configurations. The main content area is titled 'Scaling triggers' and contains the following configuration fields:

- Scaling cooldown:** A numeric input field set to 360, followed by the unit 'seconds'.
- Scaling triggers:**
 - Metric:** A dropdown menu set to 'NetworkOut'.
 - Statistic:** A dropdown menu set to 'Average'.
 - Unit:** A dropdown menu set to 'Bytes'.
 - Period:** A numeric input field set to 5, followed by the unit 'Min'.
 - Breach duration:** A numeric input field set to 5, followed by the unit 'Min'.
 - Upper threshold:** A numeric input field set to 6000000, followed by the unit 'Bytes'.
 - Scale up increment:** A numeric input field set to 1, followed by the unit 'EC2 instances'.
 - Lower threshold:** A numeric input field set to 2000000, followed by the unit 'Bytes'.
 - Scale down increment:** A numeric input field set to -1, followed by the unit 'EC2 instances'.



Time-based scaling

Use the following settings to control time-based scaling actions. [Learn more](#)

Current status
1 instance(s) in service, Min: 1, Max: 1

Time zone
☒ UTC
☐ Local

Actions Add scheduled action

<input type="checkbox"/>	Name	Min	Max	Desired	Next occurrence (UTC)
No scheduled actions					

2.4.12.1.9 Apply and Redeploy Environment/Application Configuration Changes

Note: Configuration changes should not just be “applied”. The environment/application should also be “redeployed” to ensure that the configuration changes take effect.

When you “apply” configuration changes the web/application server environment will be updated. However, this only saves software environment properties configuration changes – it does not install and reconfigure components you may have added, changed or removed.

To ensure that software environment properties configuration changes take effect, the web/application server environment should also be “redeployed”. This can be done through the web/application server environment’s “Application versions”. Select the currently deployed application version and select “Actions – Deploy”.

2.4.12.1.9.1 Apply configuration changes

Apply configuration to save the configuration changes.

Elastic Beanstalk

Environments

Applications

Elastic Beanstalk > Environments > Wcm-env > Configuration

Configuration overview

Cancel Review changes Apply configuration

Table View

Elastic Beanstalk

Environments

Applications

Elastic Beanstalk > Environments > Wcm-env

Elastic Beanstalk is updating your environment.
To cancel this operation select **Abort Current Operation** from the **Actions** dropdown.
[View Events](#)

Wcm-env

Wcm-env.eba-23dsucuq.eu-west-2.elasticbeanstalk.com (e-jkzq4ymkt)

Application name: wcm

Refresh Actions

Health

Ok

Causes

Running version

wcm-source

Upload and deploy

Platform

Tomcat 8.5 with Java 8 running on 64bit Amazon Linux/3.3.8

Change

Page 114 of 206



Elastic Beanstalk ×

Environments
Applications

▼ wcm
Application versions
Saved configurations

▼ **Wcm-env**
Go to environment [🔗](#)
Configuration
Logs

Elastic Beanstalk > Environments > Wcm-env

Wcm-env
Wcm-env:eba-23dsucq.eu-west-2.elasticbeanstalk.com [🔗](#) (e-jkzq4nymkt)
Application name: wcm

Refresh Actions

Health

Ok
Causes

Running version
wcm-source
Upload and deploy

Platform

Tomcat 8.5 with Java 8 running on 64bit Amazon Linux/3.3.8
Change

2.4.12.1.9.2 Redeploy environment/application configuration changes

Redeploy the environment/application to install and reconfigure added/changed components.

Elastic Beanstalk ×

Environments
Applications

▼ wcm
Application versions
Saved configurations

Recent environments
Wcm-env

Elastic Beanstalk > Applications > wcm > Application versions

Application versions

<input checked="" type="checkbox"/>	Version label	Description	Date created	Deployed to
<input checked="" type="checkbox"/>	wcm-source		2020-07-16T09:41:20+01:00	Wcm-env

Actions ▲ Settings Upload Refresh

Delete
Deploy
Manage tags
2020198ep-AsbruWCM.jsp.zip

Elastic Beanstalk ×

Environments
Applications

▼ wcm
Application versions
Saved configurations

Recent environments
Wcm-env

Elastic Beanstalk > Applications > wcm > Application versions

Deploy Application Version ×

Version label:
wcm-source

Environment:
Wcm-env

Environment URL:
Wcm-env.eba-23dsucq.eu-west-2.elasticbeanstalk.com

Cancel Deploy

Elastic Beanstalk ×

Environments
Applications

▼ wcm
Application versions
Saved configurations

Recent environments
Wcm-env

Elastic Beanstalk > Applications > wcm > Application versions

Info
The deployment to Wcm-env started successfully. See the [events page](#).

Application versions

<input checked="" type="checkbox"/>	Version label	Description	Date created	Source	Deployed to
<input checked="" type="checkbox"/>	wcm-source		2020-07-16T09:41:20+01:00	2020198ep-AsbruWCM.jsp.zip	Wcm-env

Actions ▼ Settings Upload Refresh



The screenshots show the AWS Elastic Beanstalk console interface. The left sidebar contains a navigation menu with 'Elastic Beanstalk' at the top, followed by 'Environments' and 'Applications'. Under 'Environments', there is a section for 'wcm' with 'Application versions' and 'Saved configurations'. Below that, there is a section for 'Wcm-env' with 'Go to environment', 'Configuration', 'Logs', 'Health', 'Monitoring', 'Alarms', and 'Managed updates'. The main content area shows the 'Wcm-env' environment details, including the application name 'wcm', the running version 'wcm-source', and the platform 'Tomcat 8.5 with Java 8 running on 64bit Amazon Linux/3.3.8'. The top screenshot shows the environment in a 'Updating' state with a blue banner and a circular arrow icon. The bottom screenshot shows the environment in a 'Healthy' state with a green checkmark icon.

2.4.13 Asbru WCMS QuickStart Configuration

When the web/application server environment has been configured and deployed, the web content management system should be configured through the automatically given web/application server address – for example:

<http://wcm-env.eba-23dsucuq.eu-west-2.elasticbeanstalk.com/webadmin/>

Note: If you access the web/application server address and you are redirected to the “unavailable” error web page then your web/application server has not been configured correctly or the database server is not available. For example, no database server details or incorrect database server details have been configured – note that the configured database name should be your deployed database server’s “initial database name” – not the Amazon AWS administration name for the deployed database server.

2.4.13.1 Step 1: Database

Simply select “Save”.

Note: The automatically generated Database Connection string should not be changed (this should only be configured through the AWS Elastic Beanstalk Software Environment Properties)

Note: Database Connection Read Only is only displayed for database server configurations with separate Writer and Reader database server instances.



2.4.13.2 Step 2-6: Licenses, Superadmin, Content, Design, Settings

Please see 3 Quickstart Configuration - 3.3 License and onwards for details.

2.4.13.3 Website - Media Storage

Note: The automatically configured Configuration / System / Website / Media Storage settings should not be changed (these should only be configured through the AWS Elastic Beanstalk Software Environment Properties).



Home Browse & Edit Website Configuration admin Logout Help

ASBRU Workspace Structure Content Media Ecommerce Databases Experience Users Analytics Configuration

Configuration

- System
 - Database
 - License
 - Superadmin
 - Website**
 - Micro-Websites
 - Ecommerce
 - Usage Statistics
 - Collaboration
- Features
 - Content
 - Images
 - Files
 - Links
 - Versions
 - Users
 - Comments
 - Projects
 - Ecommerce
 - Databases
 - Packages
 - Bundles

Save

Website Design Website Settings Email & Forms Security Settings Special Pages Special Settings URL Rewriting **Media Storage**

Media Storage

Use local disk/network storage (default) or cloud storage for media library images and files. Leave input fields blank for local disk/network storage.

Cloud Storage

Access credentials for the web content management system to store media on your cloud storage.

Service

☐ - none -

☒ Amazon AWS S3 Storage

☐ Microsoft Azure Blob Storage

☐ Google Cloud Storage

☐ - other -

Username / Key (Amazon/Microsoft)

AKIATMQGHDIMG2OKWOZO

Password / Secret (Amazon/Microsoft)

H+hjBU0uAovR6fDloYHxoLnW+hfh9EeBlGoc

Region (Amazon)

eu-west-2

Credentials (Google)

Folder/(Bucket/Container) Name

asbru-wcm

Media URL

Web address for the web content management system to retrieve media from your cloud storage.

Media web addresses URL prefix

https://asbru-wcm.s3.eu-west-2.amazonaws.com/

Publishing

☐ Use dynamic web addresses for published pages

☒ Enable use of static web addresses for published pages

☐ Publish * .html and * .js and * .css as dynamic pseudo-files/folders (default)

☐ Publish * .html and * .js and * .css as static files (faster but disables some functionality)

☒ Do not create files for static web addresses (required for cloud storage)

Note: To create/update/delete files for static web addresses after changing this configuration setting you must do a "database upgrade".

Comments

2.4.13.4 Connection Timeout

Please note that currently the Amazon AWS Elastic Beanstalk Load Balancer service use a connection timeout of 60 seconds. Unfortunately, this is not currently configurable, so any access to the web content management system so as database initialisation and import which may take longer than 60 seconds may be timed out by the AWS Elastic Beanstalk Load Balancer service.

Database initialisation and import may take longer than 60 seconds resulting in a connection timeout, but the database initialisation and import should continue to run in the background. You can simply access the web content management system administration database configuration pages again, and the web content management system may show that the database initialisation and import is still running. When the database initialisation and import has completed you can use the web content management system administration.

Alternatively, you can configure the deployed AWS cloud services to allow direct access to the deployed web server instances. Please see the general AWS documentation for details.



2.5 Microsoft Azure Cloud Deployment

The Asbru Web Content Management system supports easy deployment to the Microsoft Azure cloud hosting services simply by creating a cloud website, database and storage to use, and uploading the Asbru Web Content Management software package.

2.5.1 Asbru WCMS software licenses

Note: A software license for the Asbru Web Content Management System software is required for each started web/application server instance (or a Corporate software license for an unlimited number of instances is required).

You are not permitted to start more Asbru Web Content Management System software web/application server instances than you have Asbru Web Content Management System software licenses – except for short-term temporary test and development purposes, for example, to upgrade to a new Asbru Web Content Management System software version.

2.5.2 Platform Architecture / Planning

Before deploying the Asbru Web Content Management System software you should consider the required cloud platform architecture and plan the deployment.

As minimum cloud deployment of the Asbru Web Content Management System software requires 3 cloud service components:

- Media Storage
for permanent storage of your website media files such as images.
- Database Server
for permanent storage of your website content and user data etc.
- Web/Application Server
for running the Asbru Web Content Management System software and your website.

Optionally, you may also need/want 2 additional cloud service components:

- Cache Server
for temporary storage of your website content data etc. for improved website response times and reduced database server use and load.
- Session Manager
for temporary storage of website visitor and web content management system administrator logins and other user data.

Also, all your cloud service components should be able to communicate with each other through the use of 2 underlying cloud service components:

- Virtual Network
for network access between your cloud service components.
- Public Endpoints and Firewall Access
for authorised access between your cloud service components.



NOTE: Currently, Microsoft Azure Web App ASP.NET deployment only supports Microsoft SQL Database. You cannot use the .NET version of the web content management system with other databases than Microsoft SQL Database. To use another database than Microsoft SQL Database, you need to use the Java/JSP or PHP version of the web content management system for your Microsoft Azure Web App. Alternatively, Microsoft need to add database drivers for other database servers to their ASP.NET Azure Web App deployments.

NOTE: Currently, Microsoft Azure Web App ASP.NET deployment only supports use of Microsoft Azure Cache For Redis as Session Manager. You cannot use the .NET version of the web content management system with the Microsoft Azure SQL Database as Session Manager. Alternatively, Microsoft need to add support for session state management to their ASP.NET Azure Web App and Azure SQL Database deployments.

NOTE: Currently, Microsoft Azure Web App PHP deployment does not support Memcached. You cannot use the PHP version of the web content management system with Memcached as Session Manager and/or Cache Server. Instead, you can use Microsoft Azure Cache For Redis as Session Manager and/or Cache Server (if any). To use Memcached as Session Manager and/or Cache Server, you need to use the Java/JSP version of the web content management system for your Microsoft Azure Web App. Alternatively, Microsoft need to add support for PHP Memcached installation.

2.5.3 Deployment Checklist & Notes

To deploy the Asbru Web Content Management System on Microsoft Azure, you will need to deploy and configure a number of different, connected services. As you configure each service you should note some basic details, which may be needed later.



.....

MICROSOFT AZURE DEPLOYMENT CHECKLIST & NOTES		
MICROSOFT AZURE PORTAL		
Username		KEEP SECRET
Password		KEEP SECRET
VIRTUAL NETWORK (optional)		
Virtual Network details		
MEDIA STORAGE		
Account name		fx. asbruwcm
Container name		fx. wcm-media
Address		fx. https://ACCOUNTNAME.blob.core.windows.net/CONTAINERNAME
Secret Access Key		KEEP SECRET
DATABASE SERVER		
Type		mysql postgresql oracle mssql db2
Address		fx. wcm.database.windows.net
Port		3306 5432 1521 1433 50000
Database name		fx. wcm
Username		KEEP SECRET
Password		KEEP SECRET



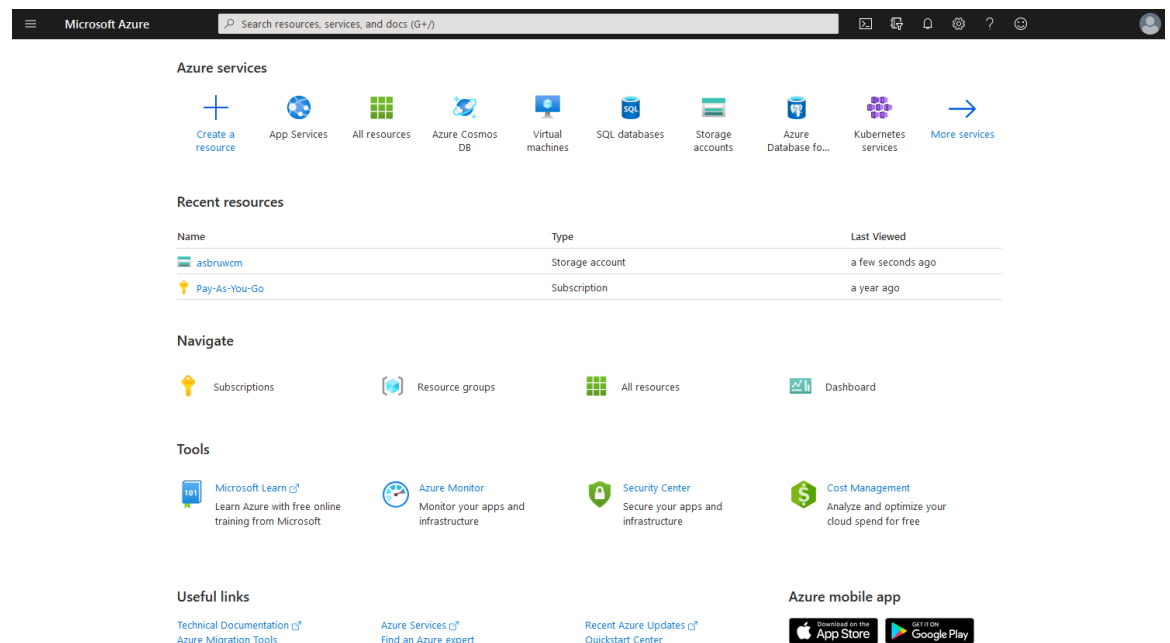
SESSION MANAGER		
Type		redis memcached mysql pgsql oracle mssql db2
Address		fx. wcm- redis.redis.cache.windows.ne t
CACHE SERVER		
Type		redis memcached
Address		fx. wcm- redis.redis.cache.windows.ne t
Port		6379 11211
Password		KEEP SECRET
WEB/APPLICATION SERVER		
Address		.azurewebsites.net
WEBSITE		
Address		fx. www.yourwebsite.com
ASBRU WEB CONTENT MANAGEMENT SYSTEM		
Superadmin username		KEEP SECRET
Superadmin password		KEEP SECRET
Superadmin email		
Number of software licenses		= maximum number of deployed web/application server instances
Software license keys		KEEP SECRET



2.5.4 Microsoft Azure Management Portal

To use Microsoft Azure Cloud Deployment, sign up for an account at <http://azure.microsoft.com/> and access the Microsoft Azure Management Portal at <http://portal.azure.com/>. A large number of different Azure cloud services are available for advanced requirements. The Asbru Web Content Management software can be easily deployed using the Azure App Services service.

Please note that the Azure services, user interface and options may be changed. Please see the general Azure documentation for details.



2.5.5 Azure Virtual Network

All your website server components, web server, database server and cache server (if used), should have access to communicate with each other.

As default this is done through deployment with “public endpoints” and “Allow access to Azure services” for your database server and optional cache server.

Alternatively, ideally all your website server components, web server, database server and cache server (if used), should be located on the same, private Virtual Network for access to communicate with each other. Please see the general Microsoft Azure documentation for details.

2.5.6 Cloud Storage

As default cloud deployed web/application servers do not have persistent storage. When a web/application server is terminated, all data on the web/application server is lost. So it is essential that website media files such as images uploaded to the web content management system and/or the website is stored on persistent storage that is not lost when web/application servers are terminated.



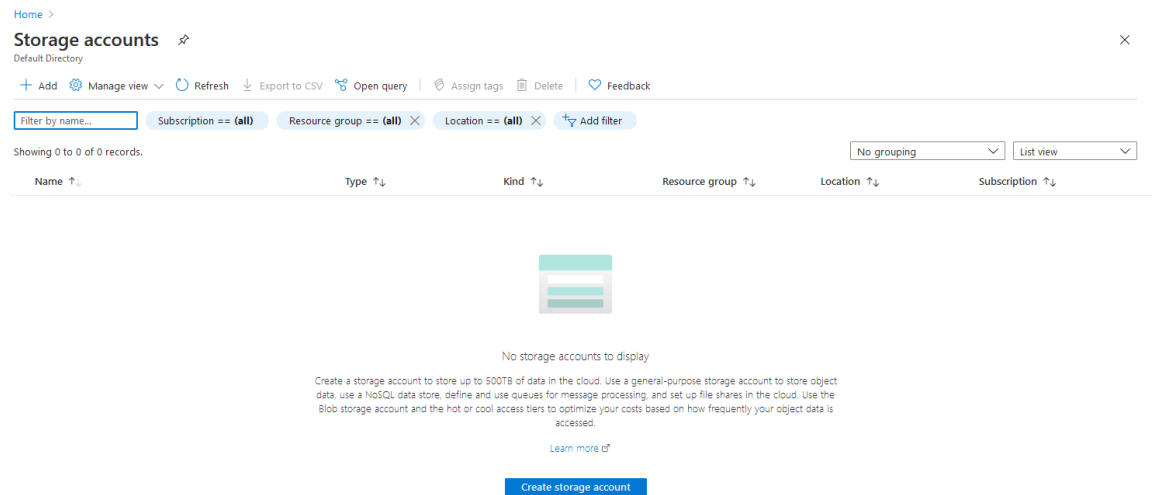
Also, with deployment of multiple web/application servers for the same website they must all have access to and share all website media files.

Persistent media storage is supported by the web content management system through the Microsoft Azure Storage Accounts service.

Note: Alternatively, web/application servers could be deployed with shared network storage (transparent to the web content management system). Please see general documentation on your operating system and Microsoft Azure services.

2.5.6.1 Storage Account

Select Storage Accounts and Create Storage Account to create cloud storage for the web content management system.



Enter a Storage Account Name and other details for your website cloud storage:

- Resource Group
The created/selected resource group should be the same for both your App Service and Database or the two services may not be able to communicate without special configuration.
- Storage account name
- Location
Should be the same as your App Service for best performance.

When creating the storage account, the “Storage account name” should be noted as it will be needed to configure the web content management system, later.



[Home](#) > [Storage accounts](#) >

Create storage account



Basics Networking Data protection Advanced Tags Review + create

Azure Storage is a Microsoft-managed service providing cloud storage that is highly available, secure, durable, scalable, and redundant. Azure Storage includes Azure Blobs (objects), Azure Data Lake Storage Gen2, Azure Files, Azure Queues, and Azure Tables. The cost of your storage account depends on the usage and the options you choose below. [Learn more about Azure storage accounts](#)

Project details

Select the subscription to manage deployed resources and costs. Use resource groups like folders to organize and manage all your resources.

Subscription *	Pay-As-You-Go
Resource group *	AsbruWCM
	Create new

Instance details

The default deployment model is Resource Manager, which supports the latest Azure features. You may choose to deploy using the classic deployment model instead. [Choose classic deployment model](#)

Storage account name *	asbruwcm
Location *	(Europe) UK South
Performance	<input checked="" type="radio"/> Standard <input type="radio"/> Premium
Account kind	StorageV2 (general purpose v2)
Replication	Read-access geo-redundant storage (RA-GRS)
Blob access tier (default)	<input type="radio"/> Cool <input checked="" type="radio"/> Hot

[Review + create](#) < Previous Next : Networking >

As your website visitors may need to access media files stored on your cloud storage, it should be configured as a “Public endpoint”.

[Home](#) > [Storage accounts](#) >

Create storage account



Basics **Networking** Data protection Advanced Tags Review + create

Network connectivity

You can connect to your storage account either publicly, via public IP addresses or service endpoints, or privately, using a private endpoint.

Connectivity method *	<input checked="" type="radio"/> Public endpoint (all networks) <input type="radio"/> Public endpoint (selected networks) <input type="radio"/> Private endpoint
	<p>i All networks will be able to access this storage account. Learn more about connectivity methods</p>

Network routing

Determine how to route your traffic as it travels from the source to its Azure endpoint. Microsoft network routing is recommended for most customers.

Routing preference *	<input checked="" type="radio"/> Microsoft network routing (default) <input type="radio"/> Internet routing
----------------------	--

[Review + create](#) < Previous Next : Data protection >

As your website visitors may need to access media files stored on your cloud storage, it should be configured with “Allow Blob public access” enabled.



[Home](#) > [Storage accounts](#) >

Create storage account



Basics Networking Data protection **Advanced** Tags Review + create

Security

Secure transfer required  ☐ Disabled ☒ Enabled

Allow Blob public access  ☐ Disabled ☒ Enabled

Minimum TLS version 

Infrastructure encryption  ☒ Disabled ☐ Enabled

 Sign up is currently required to enable infrastructure encryption on a per-subscription basis. [Sign up for infrastructure encryption](#)

Azure Files


Large file shares  ☒ Disabled ☐ Enabled

 The current combination of storage account kind, performance, replication and location does not support large file shares.

Data Lake Storage Gen2

Hierarchical namespace  ☒ Disabled ☐ Enabled

NFS v3  ☒ Disabled ☐ Enabled

 Sign up is currently required to utilize the NFS v3 feature on a per-subscription basis. [Sign up for NFS v3](#)

[Review + create](#)

[< Previous](#)

[Next : Tags >](#)

A number of other storage account configuration options are available. Please see the general Microsoft Azure documentation for details.



[Home](#) > [Storage accounts](#) >

Create storage account



✓ Validation passed

Basics Networking Data protection Advanced Tags Review + create

Basics

Subscription	Pay-As-You-Go
Resource group	AsbruWCM
Location	UK South
Storage account name	asbruwcm
Deployment model	Resource manager
Account kind	StorageV2 (general purpose v2)
Replication	Read-access geo-redundant storage (RA-GRS)
Performance	Standard
Blob access tier (default)	Hot

Networking

Connectivity method	Public endpoint (all networks)
Default routing tier	Microsoft network routing (default)

Data protection

Point-in-time restore	Disabled
Blob soft delete	Disabled
Container soft delete	Disabled
File share soft delete	Disabled
Blob change feed	Disabled
Versioning	Disabled

Advanced

Secure transfer required	Enabled
Infrastructure encryption	Disabled
Allow Blob public access	Enabled
Minimum TLS version	Version 1.2
Large file shares	Disabled
Hierarchical namespace	Disabled
NFS v3	Disabled

Create

< Previous

Next >

[Download a template for automation](#)

Creating the storage account should take a few minutes.

[Home](#) >

Microsoft.StorageAccount-20200908113023 | Overview

Deployment

Search (Ctrl+/)

Delete Cancel Redeploy Refresh

Overview

Inputs

Outputs

Template

We'd love your feedback! →

Deployment is in progress

	Deployment name: Microsoft.StorageAccount-20200908113023 Subscription: Pay-As-You-Go Resource group: AsbruWCM	Start time: 9/8/2020, 11:38:47 AM Correlation ID: 9389026e-ae3d-459b-a550-c6978e04a658
--	---	---

Deployment details [\(Download\)](#)

Resource	Type	Status	Operation details
No results.			

Deployment in progress... 11:38 AM
Deployment to resource group 'AsbruWCM' is in progress.



Security Center

Secure your apps and infrastructure
[Go to Azure security center >](#)

Free Microsoft tutorials

[Connect an app to Azure Storage](#)
[Store application data with Azure Blob Storage](#)
[Secure your Azure Storage Account](#)
[Monitor, diagnose, and troubleshoot your Azure Storage](#)



The top screenshot displays the Azure portal deployment overview for 'Microsoft.StorageAccount-20200908113023'. It shows a successful deployment with a green checkmark and the message 'Your deployment is complete'. Deployment details include the name, subscription ('Pay-As-You-Go'), resource group ('AsbruWCM'), start time (9/8/2020, 11:38:47 AM), and correlation ID. A notification banner at the top right states 'Deployment succeeded'.

The bottom screenshot shows the 'asbruwcm' storage account overview page. It includes a left-hand navigation menu with options like Overview, Activity log, Access control (IAM), Tags, Diagnose and solve problems, Data transfer, Events, Storage Explorer (preview), Settings, Access keys, Geo-replication, CORS, and Configuration. The main content area shows 'Essentials' with details for the resource group ('AsbruWCM'), status ('Primary: Available, Secondary: Available'), location ('UK South, UK West'), subscription ('Pay-As-You-Go'), and subscription ID. Below this are four service tiles: Containers, File shares, Tables, and Queues, each with a brief description and a 'Learn more' link.

2.5.6.2 Storage Container

Select Containers and Create A Container to create a Storage Container, which is required for the Asbru Web Content Management System.

When creating the storage container, the “Container name” should be noted as it will be needed to configure the web content management system, later.

As your website visitors may need to access media files stored on your cloud storage, it should be configured with “Public access level: Blob (anonymous read access for blobs only)”.

Alternatively, the Access for the new container can be Private, but this requires the Asbru Web Content Management system to be configured to deliver all images and other files through its image and file delivery program script. Please see the Configuration Guide for details.



The screenshot shows the Azure portal interface. On the left, the 'Containers' page for the 'asbruwcm' storage account is visible, showing a list of containers. On the right, the 'New container' dialog is open, showing the 'Name' field set to 'wcm' and the 'Public access level' set to 'Blob (anonymous read access for blobs only)'. A warning message states: 'Blobs within the container can be read by anonymous request, but container data is not available. Anonymous clients cannot enumerate the blobs within the container.' Below the dialog, a notification banner indicates 'Successfully created storage container' for 'wcm'.

Name	Last modified	Public access level	Lease state
wcm	9/8/2020, 11:52:56 AM	Blob	Available

2.5.6.3 Storage Address

You will need the website address of your media files container to configure the web content management system, later. The website address is automatically generated from your chosen storage account name and container name.

To get the specific website address as well as to test the configured access permissions, you can upload a test file to the container.

If the configured access permissions work correctly with public view permissions, the uploaded image/file should be displayed if you try to open the uploaded file's "URL" in a new web browser window.

The "URL" website address should be noted (see 2.5.3 Deployment Checklist & Notes) as it will be needed to configure the web content management system, later – for example:

<https://asbruwcm.blob.windows.net/wcm>

Optionally, you may want to configure your Domain Name Service (DNS) with an alias (CNAME) for this website address, so that you can use your own domain for your media instead of the automatically generated Microsoft Azure Storage website address – for example:

<https://media.yourwebsite.com>

Please see the general Microsoft Azure documentation for details.



2.5.6.4 Access Keys

Select Settings / Access Keys and note the storage account name and either the primary or secondary access key, any one of which is required for the Asbru Web Content Management system to access the storage.

2.5.7 Database Server

All website content and other data used by the website and the web content management system is stored in a database server.

The web content management system supports all the Relational Database Servers currently provided by Microsoft Azure.

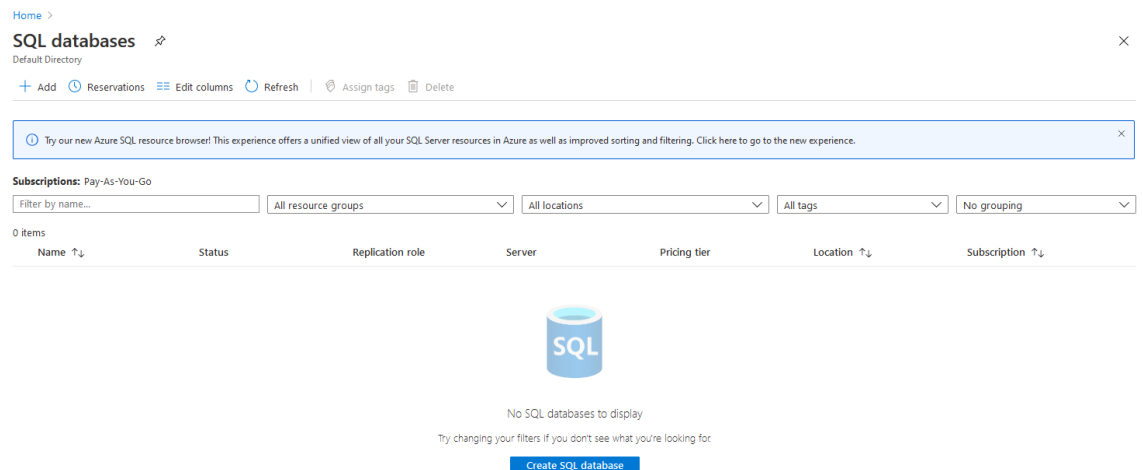


NOTE: Currently, Microsoft Azure Web App ASP.NET deployment only supports Microsoft SQL Database. You cannot use the .NET version of the web content management system with other databases than Microsoft SQL Database. To use another database than Microsoft SQL Database, you need to use the Java/JSP or PHP version of the web content management system for you Microsoft Azure Web App.

2.5.7.1 Microsoft Azure SQL Database

Microsoft Azure supports a number of different Microsoft SQL Server deployments. All current Microsoft SQL Server deployments are supported by the web content management system. Please see the general Microsoft Azure documentation for details on dedicated Microsoft SQL Server deployments as managed instances and virtual machines. The following describes deployment of the serverless, cloud Azure SQL Database option.

Select SQL Databases and Create SQL Database to create a database for the web content management system.



2.5.7.1.1 Settings

The database server instance must be given a unique name.

A master username and password must also be configured for the database server.

The database master username and password should be noted (see 2.4.3 Deployment Checklist & Notes) as they will be needed to configure the web content management system, later.

For example:

- Resource Group:
AsbruWCM

The created/selected resource group should be the same for both your App Service and Database or the two services may not be able to communicate without special configuration.



- Database Name:
wcm
- Server:
Select existing database server or create a new database server:
 - Server:
wcm
 - Server admin login:
admin
 - Password:
secretsecret
 - Location:
Should be the same as your App Service for best performance.

The database name, server name/address, server admin login and password should be noted (see 2.5.3 Deployment Checklist & Notes) as they will be needed to configure the web content management system, later.

2.5.7.1.1.1 Database instance type and size

Several database instance type and size options are available and supported by the web content management system.

A small “Basic” database server may be sufficient for a small, low traffic website. A larger database server may be needed for a larger, high traffic website. A “serverless” database server may offer convenience and value for money with automatic scaling (up and down) or required database server resources. Please see the general Microsoft Azure documentation for details.

- SQL Elastic Pool:
 - Yes – create/use a database server resources pool which can be shared between your own other app services to host multiple database instances.
 - No – use database server resources dedicated to this database.
- Configure database / pool
 - Basic / Standard / Premium / General Purpose: Provisioned / General Purpose: Serverless / Hyperscale / Business Critical
 - Read Scale-Out
Some database configurations provide additional, secondary read-only database server instances for increased performance and scalability. These configurations are also supported by the web content management system.

Any additional read-only database server addresses provided should be noted as they will be needed to configure the web content management system, later.



Please see the general Microsoft Azure documentation for details.

Page 133 of 206



2.5.7.1.2 Networking and Additional Settings

Use of the database server with the web content management system requires access between the web content management system and the database server. The database server should be deployed with a “public endpoint”. Alternatively, the database server can be deployed with a “private endpoint” within a private virtual network. Please see the general Microsoft Azure documentation for details.

[Home](#) > [SQL databases](#) >

Create SQL Database

Microsoft



Basics Networking Additional settings Tags Review + create

Configure network access and connectivity for your server. The configuration selected below will apply to the selected server 'tghmshg' and all databases it manages. [Learn more](#)

Network connectivity

Choose an option for configuring connectivity to your server via public endpoint or private endpoint. Choosing no access creates with defaults and you can configure connection method after server creation. [Learn more](#)

Connectivity method * 
☐ No access
☒ Public endpoint
☐ Private endpoint

Firewall rules

Setting 'Allow Azure services and resources to access this server' to Yes allows communications from all resources inside the Azure boundary, that may or may not be part of your subscription. [Learn more](#)
Setting 'Add current client IP address' to Yes will add an entry for your client IP address to the server firewall.

Allow Azure services and resources to access this server *

Add current client IP address *

[Review + create](#)

[< Previous](#)

[Next : Additional settings >](#)

[Home](#) > [SQL databases](#) >

Create SQL Database

Microsoft



Basics Networking Additional settings Tags Review + create

Customize additional configuration parameters including collation & sample data.

Data source

Start with a blank database, restore from a backup or select sample data to populate your new database.

Use existing data *

Database collation

Database collation defines the rules that sort and compare data, and cannot be changed after database creation. The default database collation is SQL_Latin1_General_CP1_CI_AS. [Learn more](#)

Collation * 
[Find a collation](#)

Advanced data security

Protect your data using advanced data security, a unified security package including data classification, vulnerability assessment and advanced threat protection for your server. [Learn more](#)

Get started with a 30 day free trial period, and then 11,179,635 GBP/server/month.

Enable advanced data security * 

[Review + create](#)

[< Previous](#)

[Next : Tags >](#)

2.5.7.1.3 Create Database

Creating the database server may take some minutes to complete.



[Home](#) > [SQL databases](#) >

Create SQL Database

Microsoft



Basics Networking Additional settings Tags **Review + create**

Product details

SQL database
by Microsoft
[Terms of use](#) | [Privacy policy](#)

Estimated cost per month
4.64 GBP
[View pricing details](#)

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Basics

Subscription	Pay-As-You-Go
Resource group	AsbruWCM
Region	UK South
Database name	wcm
Server	(new) asbruwcm
Compute + storage	Basic: 2 GB storage

Networking

Allow Azure services and resources to access this server	No
Private endpoint	None

Additional settings

Use existing data	Blank
Collation	SQL_Latin1_General_CP1_CI_AS
Advanced data security	Not now

Tags

Create < Previous Download a template for automation

[Home](#) >

Microsoft.SQLDatabase.newDatabaseNewServer_52a16dfe480b4daf8246b | Overview

Deployment

Search (Ctrl+/) < Delete Cancel Redeploy Refresh

Overview

Inputs

Outputs

Template

We'd love your feedback! →

Deployment is in progress

Deployment name: Microsoft.SQLDatabase.newDatabaseNewServ... Start time: 9/8/2020, 11:19:42 AM
Subscription: Pay-As-You-Go Correlation ID: 2607be07-7b14-4e21-86e8-30082eb261b5
Resource group: AsbruWCM

Deployment details (Download)

Resource	Type	Status	Operation details
No results.			

Deployment in progress... 11:19 AM
Deployment to resource group 'AsbruWCM' is in progress.



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Microsoft.SQLDatabase.newDatabaseNewServer_52a16dfe480b4daf8246b | Overview

Deployment

Search (Ctrl+/) < Delete Cancel Redeploy Refresh

Overview

Inputs

Outputs

Template

We'd love your feedback! →

Your deployment is complete

Deployment name: Microsoft.SQLDatabase.newDatabaseNewServ... Start time: 9/8/2020, 11:19:42 AM
Subscription: Pay-As-You-Go Correlation ID: 2607be07-7b14-4e21-86e8-30082eb261b5
Resource group: AsbruWCM

Deployment details (Download)

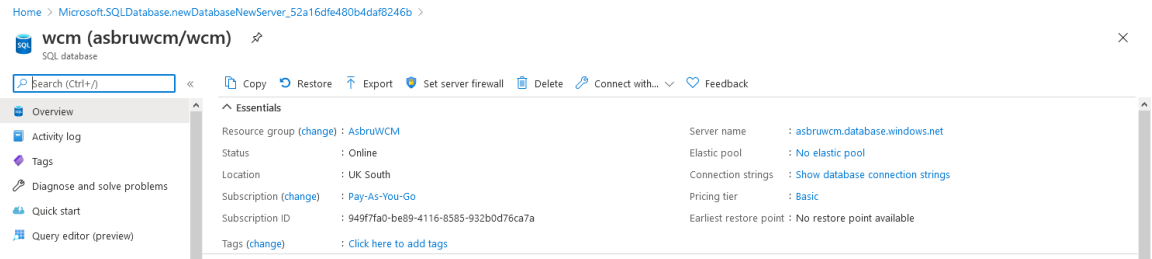
Next steps

[Go to resource](#)



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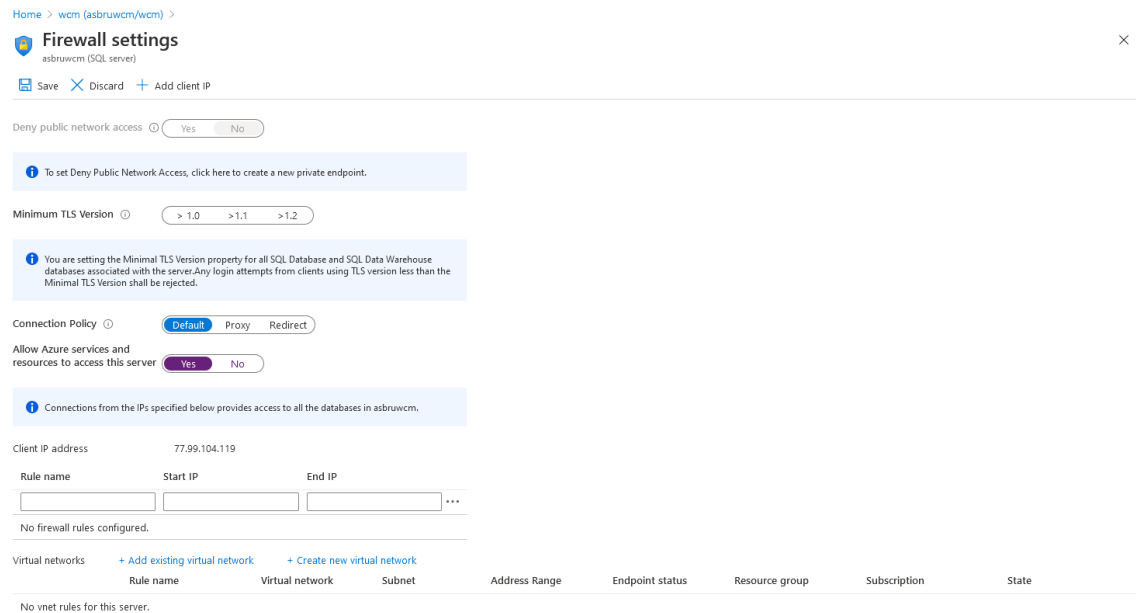


2.5.7.1.4 Firewall Settings

As default, there may be no access to the database server.

The web content management system should be able to access the database server, which can be done through “Set server firewall” and enabling “Allow Azure services and resources to access this server”.

Alternatively, you can configure your own custom firewall rules to control access to the database server from your web content management system web/application server.



2.5.7.1.5 Database address

The created database server is automatically assigned a server name address. The automatically assigned server name address as well as the “Port” number (as default the Microsoft SQL Database port number is 1433) should be noted (see 2.5.3 Deployment Checklist & Notes) as they will be needed to configure the web content management system, later.

For example:



- Server Name:
asbruwcm.database.windows.net
- Port:
1433

Optionally, “Show database connection strings” may provide you with additional recommended/required database connection parameters for you to configure the web content management with custom database connection strings. Typically, you should just configure the basic database server details for the web content management system and use its automatically generated database connection string.

Home > Microsoft.SQLDatabase.newDatabaseNewServer_52a16dfe480b4daf8246b > wcm (asbruwcm/wcm)

wcm (asbruwcm/wcm) | Connection strings

SQL database

Search (Ctrl+/)

- Overview
- Activity log
- Tags
- Diagnose and solve problems
- Quick start
- Query editor (preview)

Power Platform

- Power BI (preview)
- Power Apps (preview)
- Power Automate (preview)

Settings

- Configure
- Geo-Replication
- Connection strings

ADO.NET

ADO.NET (SQL authentication)

```
Server=tcp:asbruwcm.database.windows.net,1433;Initial Catalog=wcm;Persist Security Info=False;User ID=wcm;Password={your_password};MultipleActiveResultSets=False;Encrypt=True;TrustServerCertificate=False;Connection Timeout=30;
```

[Download ADO.NET driver for SQL server](#)

Home > Microsoft.SQLDatabase.newDatabaseNewServer_52a16dfe480b4daf8246b > wcm (asbruwcm/wcm)

wcm (asbruwcm/wcm) | Connection strings

SQL database

Search (Ctrl+/)

- Overview
- Activity log
- Tags
- Diagnose and solve problems
- Quick start
- Query editor (preview)

Power Platform

- Power BI (preview)
- Power Apps (preview)
- Power Automate (preview)

Settings

- Configure
- Geo-Replication
- Connection strings

JDBC

JDBC (SQL authentication)

```
jdbc:sqlserver://asbruwcm.database.windows.net:1433;database=wcm;user=wcm@asbruwcm;password={your_password_here};encrypt=true;trustServerCertificate=false;hostNameInCertificate=*.database.windows.net;loginTimeout=30;
```

[Download JDBC driver for SQL server](#)



Home > Microsoft.SQLDatabase.newDatabaseNewServer_52a16dfe480b4daf8246b > wcm (asbruwcm/wcm)

wcm (asbruwcm/wcm) | Connection strings

SQL database

Search (Ctrl+/)

- Overview
- Activity log
- Tags
- Diagnose and solve problems
- Quick start
- Query editor (preview)

Power Platform

- Power BI (preview)
- Power Apps (preview)
- Power Automate (preview)

Settings

- Configure
- Geo-Replication
- Connection strings

ADO.NET JDBC ODBC PHP Go

ODBC (Includes Node.js) (SQL authentication)

```
Driver={ODBC Driver 13 for SQL Server};Server=tcp:asbruwcm.database.windows.net,1433;Database=wcm;Uid=wcm;Pwd={your_password_here};Encrypt=yes;TrustServerCertificate=no;Connection Timeout=30;
```

[Download ODBC driver for SQL server](#)

Home > Microsoft.SQLDatabase.newDatabaseNewServer_52a16dfe480b4daf8246b > wcm (asbruwcm/wcm)

wcm (asbruwcm/wcm) | Connection strings

SQL database

Search (Ctrl+/)

- Overview
- Activity log
- Tags
- Diagnose and solve problems
- Quick start
- Query editor (preview)

Power Platform

- Power BI (preview)
- Power Apps (preview)
- Power Automate (preview)

Settings

- Configure
- Geo-Replication
- Connection strings

ADO.NET JDBC ODBC PHP Go

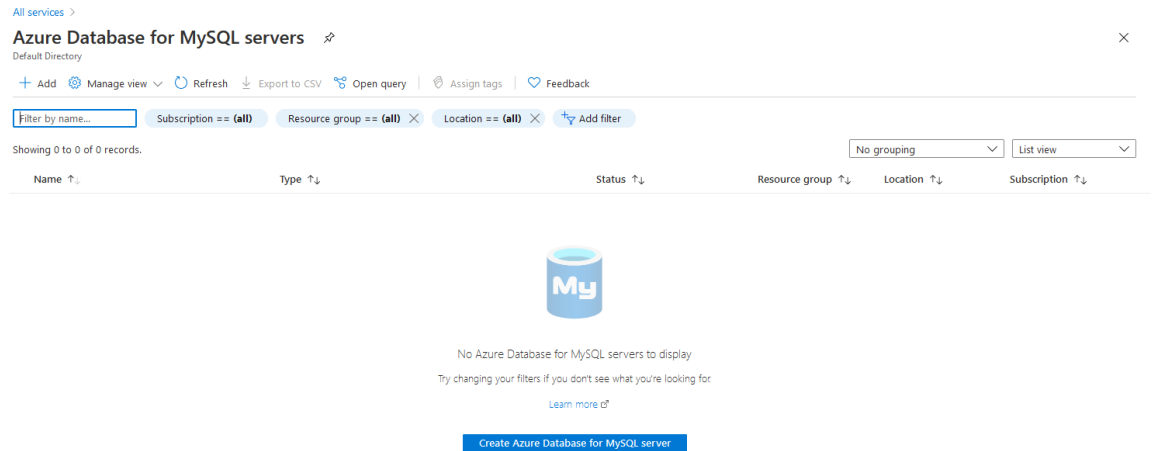
PHP (SQL authentication)

```
1 <?php
2 // PHP Data Objects(PDO) Sample Code:
3 try {
4     $conn = new PDO("sqlsrv:server = tcp:asbruwcm.database.windows.net,1433; Database = wcm", "wcm", "{your_password_here}");
5     $conn->setAttribute(PDO::ATTR_ERRMODE, PDO::ERRMODE_EXCEPTION);
6 }
7 catch (PDOException $e) {
8     print("Error connecting to SQL Server.");
9     die(print_r($e));
10 }
11
12 // SQL Server Extension Sample Code:
13 $connectionInfo = array("UID" => "wcm", "pwd" => "{your_password_here}", "Database" => "wcm", "LoginTimeout" => 30, "Encrypt" => 1,
14 "TrustServerCertificate" => 0);
15 $serverName = "tcp:asbruwcm.database.windows.net,1433";
16 $conn = sqlsrv_connect($serverName, $connectionInfo);
```

[Download PHP driver for SQL server](#)

2.5.7.2 Azure Database for MySQL Servers

Select All Services / Azure Database for MySQL Servers and Create Azure Database For MySQL Server to create a database for the web content management system.



2.5.7.2.1 Settings

The database server instance must be given a unique name.

A master username and password must also be configured for the database server.

The database master username and password should be noted (see 2.4.3 Deployment Checklist & Notes) as they will be needed to configure the web content management system, later.

For example:

- Resource Group:
AsbruWCM

The created/selected resource group should be the same for both your App Service and Database or the two services may not be able to communicate without special configuration.

- Server Name:
wcm-mysql
- Location:
Should be the same as your App Service for best performance.
- Version:
All current MySQL versions should be supported the web content management system.
- Admin Username:
wcm
- Password:
secretsecret



The database server name, admin username and password should be noted (see 2.5.3 Deployment Checklist & Notes) as they will be needed to configure the web content management system, later.

Note: Microsoft Azure MySQL database access may require “USERNAME@SERVERNAME” as the database username. For example: “wcm@wcm-mysql”.

2.5.7.2.1 Database instance type and size

Several database instance type and size options are available and supported by the web content management system.

A small “Basic” database server may be sufficient for a small, low traffic website. A larger database server may be needed for a larger, high traffic website. Please see the general Microsoft Azure documentation for details.

[All services](#) > [Azure Database for MySQL servers](#) >

Create MySQL server

Microsoft



[Basics](#) [Additional settings](#) [Tags](#) [Review + create](#)

Create an Azure Database for MySQL server. [Learn more](#)

Project details

Select the subscription to manage deployed resources and costs. Use resource groups like folders to organize and manage all your resources.

Subscription *	<input type="text" value="Pay-As-You-Go"/>
Resource group *	<input type="text" value="AsbruWCM"/> Create new

Server details

Enter required settings for this server, including picking a location and configuring the compute and storage resources.

Server name *	<input type="text" value="wcm-mysql"/>
Data source *	<input type="button" value="None"/> <input type="button" value="Backup"/>
Location *	<input type="text" value="(Europe) UK South"/>
Version *	<input type="text" value="5.7"/>
Compute + storage *	<div>Basic 1 vCores, 50 GB storage Configure server</div>
Administrator account	
Admin username *	<input type="text" value="wcm"/>
Password *	<input type="password" value="*****"/>
Confirm password *	<input type="password" value="*****"/>

[Review + create](#) [Next : Additional settings >](#)

2.5.7.2.2 Create Database

Creating the database server may take some minutes to complete.



[All services](#) > [Azure Database for MySQL servers](#) >

Create MySQL server

Microsoft



Basics Additional settings Tags **Review + create**

Product details

Azure Database for MySQL
by Microsoft
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Estimated cost per month
25.38 GBP
[View pricing details](#)

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Basics

Subscription	Pay-As-You-Go
Resource group	AsbruWCM
Server name	wcm-mysql
Data source	None
Server admin login name	wcm
Location	UK South
Version	5.7
Compute + storage	Basic, Gen5, 1 vCores, 50 GB Storage
Backup retention period	7 day(s)
Backup redundancy	Locally redundant
Storage Auto Grow	Enabled

Tags

Create < Previous [Download a template for automation](#)

[All services](#) >

Microsoft.MySQLServer.createMySQLServer_0d58f00f7f474e77a056dabd | Overview

Deployment

Search (Ctrl+/) Delete Cancel Redeploy Refresh

Overview

Inputs

Outputs

Template

We'd love your feedback! →

Deployment is in progress

Deployment name: Microsoft.MySQLServer.createMySQLServer_0d...
Subscription: Pay-As-You-Go
Resource group: AsbruWCM
Start time: 9/16/2020, 4:46:23 PM
Correlation ID: f4b35b8b-4ff5-41f8-ab42-5fe207d035f2

Deployment details (Download)

Resource	Type	Status	Operation details
No results.			

*** Deployment in progress... 4:46 PM
Deployment to resource group 'AsbruWCM' is in progress.



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Microsoft.MySQLServer.createMySQLServer_0d58f00f7f474e77a056dabd | Overview

Deployment

Search (Ctrl+/) Delete Cancel Redeploy Refresh

Overview

Inputs

Outputs

Template

We'd love your feedback! →

Your deployment is complete

Deployment name: Microsoft.MySQLServer.createMySQLServer_0d...
Subscription: Pay-As-You-Go
Resource group: AsbruWCM
Start time: 9/16/2020, 4:46:23 PM
Correlation ID: f4b35b8b-4ff5-41f8-ab42-5fe207d035f2

Deployment details (Download)

Next steps

[Go to resource](#)



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All services > Microsoft.MySQLServer.createMySQLServer_0d58f007f474e77a056dabd >

wcm-mysql
Azure Database for MySQL server

Search (Ctrl+/) < Reset password Restore Delete Restart Feedback

Overview

Activity log
Access control (IAM)
Tags
Diagnose and solve problems
Settings

Essentials

Resource group (change) : AsbruWCM
Status : Available
Location : UK South
Subscription (change) : Pay-As-You-Go
Subscription ID : 949f7fa0-be89-4116-8585-932b0d76ca7a
Tags (change) : Click here to add tags

Server name : wcm-mysql.mysql.database.azure.com
Server admin login name : wcm@wcm-mysql
MySQL version : 5.7
Performance configuration : Basic, 1 vCore(s), 50 GB
SSL enforce status : **ENABLED**

2.5.7.2.3 Connection Security

As default, there may be no access to the database server.

The web content management system should be able to access the database server, which can be done through “Connection Security” and enabling “Allow access to Azure services”.

Alternatively, you can configure your own custom firewall rules to control access to the database server from your web content management system web/application server.

As default the web content management system does not require/use a SSL connection to the database server, so the “Enforce SSL Connection” should be disabled.

Alternatively, you may need to add the Microsoft Azure SSL Certificate Authority certificate to your web/application server deployment and configure a custom database connection string for the web content management system to use a SSL connection to the database server.

All services > Microsoft.MySQLServer.createMySQLServer_0d58f007f474e77a056dabd > wcm-mysql

wcm-mysql | Connection security
Azure Database for MySQL server

Search (Ctrl+/) < Save Discard + Add client IP

Overview

Activity log
Access control (IAM)
Tags
Diagnose and solve problems
Settings

Connection security

Connection strings
Server parameters
Active Directory admin
Pricing tier
Properties
Locks
Export template

Intelligent Performance
Query Performance insight
Performance recommendations

Firewall rules

Connections from the IPs specified below provides access to all the databases in wcm-mysql.

Allow access to Azure services ☐ No ☒ Yes

+ Add current client IP address (77.99.104.119) + Add 0.0.0.0 - 255.255.255.255

Firewall rule name	Start IP	End IP
Firewall rule name	Start IP	End IP

SSL settings

Enforcing SSL connections on your server may require additional configuration to your applications connecting to the server. [Learn more](#)

Enforce SSL connection ☒ ENABLED ☐ DISABLED

TLS setting

Select the minimum TLS version supported by the server which may require additional configuration to your application connecting to the server. Click here to [Learn more](#)

Minimum TLS version ☐ 1.0 ☒ 1.1 ☐ 1.2

2.5.7.2.4 Database address

The created database server is automatically assigned a server name address. The automatically assigned server name address as well as the “Port” number (as default the MySQL Database port number is 3306) should be noted (see 2.5.3 Deployment Checklist & Notes) as they will be needed to configure the web content management system, later.

For example:



- Server Name:
wcm-mysql.mysql.database.azure.com
- Port:
3306

Optionally, “Connection Strings” may provide you with additional recommended/required database connection parameters for you to configure the web content management with custom database connection strings. Typically, you should just configure the basic database server details for the web content management system and use its automatically generated database connection string.

All services > Microsoft.MySQLServer.createMySQLServer_0d58f00f7474e77a056dabd > wcm-mysql

wcm-mysql | Connection strings ✕

Azure Database for MySQL server

Search (Ctrl+/) <<

- Overview
- Activity log
- Access control (IAM)
- Tags
- Diagnose and solve problems
- Settings
 - Connection security
 - Connection strings**
 - Server parameters
 - Active Directory admin
 - Pricing tier
 - Properties

ADO.NET

```
Server=wcm-mysql.mysql.database.azure.com;Port=3306;Database={your_database};Uid=wcm@wcm-mysql;Pwd={your_password};SqlMode=Preferred;
```

JDBC

```
String url = "jdbc:mysql://wcm-mysql.mysql.database.azure.com:3306/{your_database}?useSSL=true&requireSSL=false";myDbConn = DriverManager.getConnection(url, "wcm@wcm-mysql", {your_pa...
```

Node.js

```
var conn = mysql.createConnection({host: "wcm-mysql.mysql.database.azure.com", user: "wcm@wcm-mysql", password: {your_password}, database: {your_database}, port: 3306, ssl:{ca:fs.readFileSyn...
```

PHP

```
$con=mysql_init();mysql_ssl_set($con, NULL, NULL, {ca-cert filename}, NULL, NULL);mysql_real_connect($con, "wcm-mysql.mysql.database.azure.com", "wcm@wcm-mysql", {your_password}, {your_...
```

Python

```
cnx = mysql.connector.connect(user="wcm@wcm-mysql", password={your_password}, host="wcm-mysql.mysql.database.azure.com", port=3306, database={your_database}, ssl_ca={ca-cert filename} ...
```

Ruby

```
client = MySQL2::Client.new(username: "wcm@wcm-mysql", password: {your_password}, database: {your_database}, host: "wcm-mysql.mysql.database.azure.com", port: 3306, sslca:{ca-cert filename}, ...
```

Web App

```
Database={your_database};Data Source=wcm-mysql.mysql.database.azure.com;User Id=wcm@wcm-mysql;Password={your_password}
```

2.5.7.3 Azure Database for MariaDB Servers

MariaDB is a MySQL-compatible database server, which can also be used for the Asbru Web Content Management System. A MariaDB database should simply be configured as if it is a MySQL database (see 2.5.7.2 Azure Database for MySQL Servers).

All services >


Azure Database for MariaDB servers ✕

Default Directory

+ Add Manage view Refresh Export to CSV Open query Assign tags Feedback

Filter by name... Subscription == (all) Resource group == (all) Location == (all) Add filter

Showing 0 to 0 of 0 records.

Name ↑↓	Type ↑↓	Status ↑↓	Resource group ↑↓	Location ↑↓	Subscription ↑↓
<div><p>No Azure Database for MariaDB servers to display Try changing your filters if you don't see what you're looking for. Learn more</p><p>Create Azure Database for MariaDB server</p></div>					

2.5.7.4 Azure Database for PostgreSQL Servers

Select All Services / Azure Database for PostgreSQL Servers and Create Azure Database For PostgreSQL Server to create a database for the web content management system.



[All services](#) >

Azure Database for PostgreSQL servers

Default Directory

[+ Add](#)

[Manage view](#)

[Refresh](#)

[Export to CSV](#)

[Open query](#)

[Assign tags](#)

[Feedback](#)

Filter by name...

Subscription == (all)

Resource group == (all)

Location == (all)

[Add filter](#)

Showing 0 to 0 of 0 records.

No grouping

List view

Name


Type

Status

Resource group

Location

Subscription



No Azure Database for PostgreSQL servers to display
Try changing your filters if you don't see what you're looking for.
[Learn more](#)

Create Azure Database for PostgreSQL server


A number of different PostgreSQL database server configurations are available (or in Preview at the time of writing). All current configurations of PostgreSQL are supported by the web content management system. Please see the general Microsoft Azure PostgreSQL documentation for details.

[All services](#) > [Azure Database for PostgreSQL servers](#) >

Select Azure Database for PostgreSQL deployment option


Microsoft

How do you plan to use the service?

**Single server**
Best for broad range of traditional transactional workloads.


Enterprise ready, fully managed community PostgreSQL server with up to 64 vCores, optional geospatial support, full-text search and more.

Create Learn more

**Flexible server (Preview)**
Best for workloads that require advanced customization and cost optimization.


Maximum control with a simplified developer experience. Supports custom maintenance windows, zone redundant high availability, and simple cost optimization. Flexible server is currently in preview.

Create Learn more

**Hyperscale (Citus) server group**
Best for ultra-high performance and data needs beyond 100GB.

Ideal for multi-tenant applications and real-time analytical workloads that need sub-second response. Supports both transactional/operational workloads and hybrid transactional analytics workloads.

Create Learn more

**Azure Arc enabled PostgreSQL Hyperscale (Preview)**
Best for ultra-high performance and data needs beyond 100GB on your infrastructure.

Deployed on the infrastructure of your choice (on-premises/edge/multi-cloud), it is ideal for multi-tenant applications, transactional/operational workloads and real-time analytical workloads that need sub-second response.

Learn more

2.5.7.4.1 Settings

The database server instance must be given a unique name.

A master username and password must also be configured for the database server.

The database master username and password should be noted (see 2.4.3 Deployment Checklist & Notes) as they will be needed to configure the web content management system, later.

For example:

Page 144 of 206



- Resource Group:
AsbruWCM

The created/selected resource group should be the same for both your App Service and Database or the two services may not be able to communicate without special configuration.

- Server Name:
wcm-pgsql
- Location:
Should be the same as your App Service for best performance.
- Version:
All current PostgreSQL versions should be supported the web content management system.
- Admin Username:
wcm
- Password:
secretsecret

The database server name, admin username and password should be noted (see 2.5.3 Deployment Checklist & Notes) as they will be needed to configure the web content management system, later.

Note: Microsoft Azure PostgreSQL database access may require “USERNAME@SERVERNAME” as the database username. For example: “wcm@wcm-pgsql”.

2.5.7.4.1.1 Database instance type and size

Several database instance type and size options are available and supported by the web content management system.

A small “Basic” database server may be sufficient for a small, low traffic website. A larger database server may be needed for a larger, high traffic website. Please see the general Microsoft Azure documentation for details.



[All services](#) > [Azure Database for PostgreSQL servers](#) > [Select Azure Database for PostgreSQL deployment option](#) >

Single server

Microsoft




[Basics](#) [Additional settings](#) [Tags](#) [Review + create](#)

Create an Azure Database for PostgreSQL server. [Learn more](#)

Project details


Select the subscription to manage deployed resources and costs. Use resource groups like folders to organize and manage all your resources.


Subscription * 


Resource group *  [Create new](#)


Server details


Enter required settings for this server, including picking a location and configuring the compute and storage resources.

Server name * 


Data source *  ☐ ☐


Location * 

Version * 

Compute + storage 
Basic
1 vCores, 50 GB storage
[Configure server](#)

Administrator account

Admin username * 

Password * 

Confirm password *

[Review + create](#)

[Next : Additional settings >](#)

2.5.7.4.2 Create Database

Creating the database server may take some minutes to complete.

[All services](#) > [Azure Database for PostgreSQL servers](#) > [Select Azure Database for PostgreSQL deployment option](#) >

Single server

Microsoft



[Basics](#) [Additional settings](#) [Tags](#) [Review + create](#)

Product details

Azure Database for PostgreSQL
by Microsoft
[Terms of use](#) | [Privacy policy](#)

Estimated cost per month
25.38 GBP
[View pricing details](#)

Terms

By clicking "Create", I (a) agree to the legal terms and privacy statement(s) associated with the Marketplace offering(s) listed above; (b) authorize Microsoft to bill my current payment method for the fees associated with the offering(s), with the same billing frequency as my Azure subscription; and (c) agree that Microsoft may share my contact, usage and transactional information with the provider(s) of the offering(s) for support, billing and other transactional activities. Microsoft does not provide rights for third-party offerings. For additional details see [Azure Marketplace Terms](#). [E2](#)

Basics

Subscription	Pay-As-You-Go
Resource group	AsbruWCM
Server name	wcm-pgsql
Data source	None
Server admin login name	wcm
Location	UK South
Version	10
Compute + storage	Basic, Gen5, 1 vCores, 50 GB Storage
Backup retention period	7 day(s)
Backup redundancy	Locally redundant
Storage Auto Grow	Enabled

Tags

[Create](#)

[< Previous](#)

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Deployment is in progress

Deployment name: Microsoft.PostgreSQLServer.createPostgreSqlServer_d1fd168e973f4a | Overview

Subscription: Pay-As-You-Go

Resource group: AsbruWCM

Resource	Type	Status	Operation details
No results.			

Your deployment is complete

Deployment name: Microsoft.PostgreSQLServer.createPostgreSqlServer_d1fd168e973f4a | Overview

Subscription: Pay-As-You-Go

Resource group: AsbruWCM

Resource	Type	Status	Operation details
No results.			

Overview

Activity log

Access control (IAM)

Tags

Diagnose and solve problems

Settings

Essentials

Resource group (change): AsbruWCM

Status: Available

Location: UK South

Subscription (change): Pay-As-You-Go

Subscription ID: 949f7fa0-be89-4116-8585-932b0d76ca7a

Tags (change): Click here to add tags

Server name: wcm-pgsq1.postgres.database.azure.com

Admin username: wcm@wcm-pgsq1

PostgreSQL version: 10

Performance configuration: Basic, 1 vCore(s), 50 GB

SSL enforce status: ENABLED

2.5.7.4.3 Connection Security

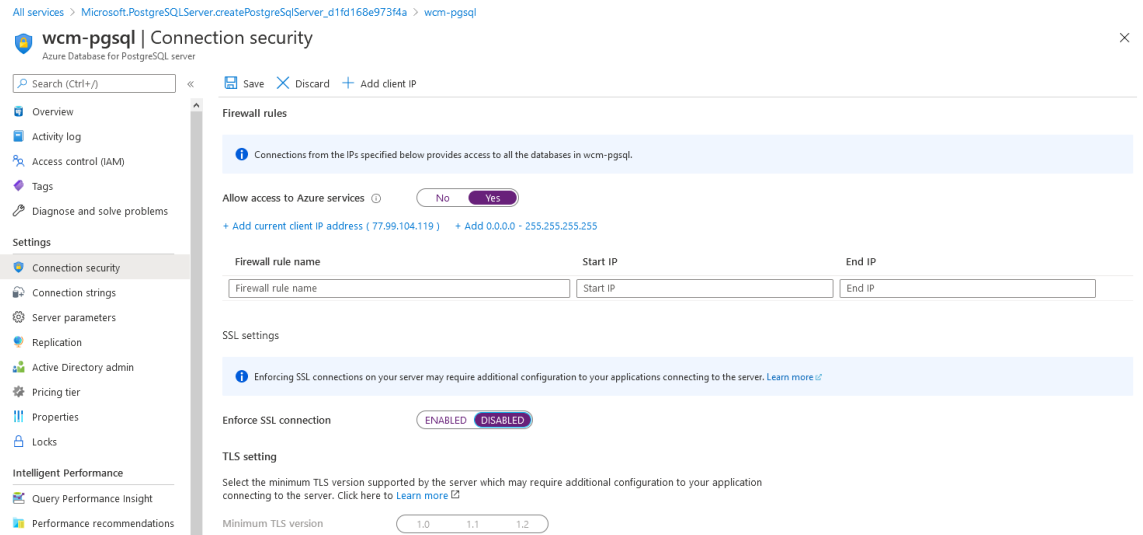
As default, there may be no access to the database server.

The web content management system should be able to access the database server, which can be done through “Connection Security” and enabling “Allow Azure services and resources to access this server”.

Alternatively, you can configure your own custom firewall rules to control access to the database server from your web content management system web/application server.

As default the web content management system does not require a SSL connection to the database server, so the “Enforce SSL Connection” can be enabled or disabled.

Alternatively, you may need to add the Microsoft Azure SSL Certificate Authority certificate to your web/application server deployment and configure a custom database connection string for the web content management system to use/require a SSL connection with a verified database server SSL certificate to the database server.



2.5.7.4.4 Database address

The created database server is automatically assigned a server name address. The automatically assigned server name address as well as the “Port” number (as default the PostgreSQL Database port number is 5432) should be noted (see 2.5.3 Deployment Checklist & Notes) as they will be needed to configure the web content management system, later.

For example:

- Server Name:
wcm-pgsql.postgres.database.azure.com
- Port:
5432

Optionally, “Connection Strings” may provide you with additional recommended/required database connection parameters for you to configure the web content management with custom database connection strings. Typically, you should just configure the basic database server details for the web content management system and use its automatically generated database connection string.



All services > Microsoft.PostgreSQLServer.createPostgreSQLServer_d1fd168e973f4a > wcm-pgsql

wcm-pgsql | Connection strings

Azure Database for PostgreSQL server

Search (Ctrl+/)

- Overview
- Activity log
- Access control (IAM)
- Tags
- Diagnose and solve problems

Settings

- Connection security
- Connection strings
- Server parameters
- Replication
- Active Directory admin
- Pricing tier
- Properties
- Locks

Intelligent Performance

- Query Performance Insight

ADO.NET

```
Server=wcm-pgsql.postgres.database.azure.com;Database={your_database};Port=5432;User Id=wcm@wcm-pgsql;Password={your_password};Sql Mode=Require;
```

C++ (libpq)

```
host=wcm-pgsql.postgres.database.azure.com port=5432 dbname={your_database} user=wcm@wcm-pgsql password={your_password} sslmode=require
```

JDBC

```
jdbc:postgresql://wcm-pgsql.postgres.database.azure.com:5432/{your_database}?user=wcm@wcm-pgsql&password={your_password}&sslmode=require
```

Node.js

```
host=wcm-pgsql.postgres.database.azure.com port=5432 dbname={your_database} user=wcm@wcm-pgsql password={your_password} sslmode=require
```

PHP

```
psql "host=wcm-pgsql.postgres.database.azure.com port=5432 dbname={your_database} user=wcm@wcm-pgsql password={your_password} sslmode=require"
```

psql

```
psql "host=wcm-pgsql.postgres.database.azure.com port=5432 dbname={your_database} user=wcm@wcm-pgsql password={your_password} sslmode=require"
```

Python

```
dbname='{your_database}' user='wcm@wcm-pgsql' host='wcm-pgsql.postgres.database.azure.com' password='{your_password}' port='5432' sslmode='true'
```

Ruby

```
host=wcm-pgsql.postgres.database.azure.com; dbname={your_database} user=wcm@wcm-pgsql password={your_password} port=5432 sslmode=require
```

Web App

```
Database={your_database}; Data Source=wcm-pgsql.postgres.database.azure.com; User Id=wcm@wcm-pgsql; Password={your_password}
```

2.5.8 Cache Server

Optionally, a Cache Server may be deployed for co-ordinated caching of website content and other data and/or for session manager storage.

The web content management system supports Microsoft Azure Cache for Redis cache servers.

All services >


Azure Cache for Redis

Default Directory

+ Add Manage view Refresh Export to CSV Open query Assign tags Feedback Leave preview

Filter by name... Subscription == all Resource group == all Location == all Add filter

Showing 0 to 0 of 0 records.

Name	Location	Status	Size	SKU	Subscription
 <p>No Redis caches to display</p> <p>Try changing your filters if you don't see what you're looking for.</p> <p>Learn more</p> <p>Create Redis cache</p>					

2.5.8.1 Azure Cache for Redis

The cache server instance must be given a unique name.

The cache server should be deployed to the same location as the database server and web/application server – as created and noted previously.


Any cache type (pricing tier) is supported by the web content management system.



[All services](#) > [Azure Cache for Redis](#) >

New Redis Cache



 Changing Basic options may reset selections you have made. Review all options prior to creating the resource.

[Basics](#) [Networking](#) [Advanced](#) [Tags](#) [Review + create](#)

Azure Cache for Redis helps your application stay responsive even as user load increases. It does so by leveraging the low latency, high-throughput capabilities of the Redis engine. [Learn more](#)

Project details

Select the subscription to manage deployed resources and costs. Use resource groups like folders to organize and manage all your resources.

Subscription *	<div>Pay-As-You-Go</div>
Resource group *	<div>AsbruWCM</div> <div>Create new</div>

Instance Details

DNS name *	<div>wcm-redis</div> <div>.redis.cache.windows.net</div>
Location *	<div>UK South</div>
Cache type (View full pricing details) *	<div>Basic C0 (250 MB Cache)</div>

[Review + create](#)

[< Previous](#)

[Next : Networking >](#)

Use of the cache server with the web content management system requires access between the web content management system and the cache server. The cache server should be deployed with a “public endpoint”. Alternatively, the cache server can be deployed with a “private endpoint” within a private virtual network. Please see the general Microsoft Azure documentation for details.

[All services](#) > [Azure Cache for Redis](#) >


New Redis Cache



[Basics](#) [Networking](#) [Advanced](#) [Tags](#) [Review + create](#)

Network Connectivity

You can connect either publically, via Public IP addresses or service endpoints, or privately, using a private endpoint.

Connectivity method 	<div><input checked="" type="radio"/> Public Endpoint</div> <div><input type="radio"/> Virtual Networks</div> <div><input type="radio"/> Private Endpoint</div>
---	---

[Review + create](#)

[< Previous](#)

[Next : Advanced >](#)

Use of Non-TLS port to connect to the cache server should be enabled.

[All services](#) > [Azure Cache for Redis](#) >

New Redis Cache



[Basics](#) [Networking](#) [Advanced](#) [Tags](#) [Review + create](#)

Non-TLS port	<div><input checked="" type="checkbox"/> Enable</div>
--------------	---

[Review + create](#)

[< Previous](#)

[Next : Tags >](#)



[All services](#) > [Azure Cache for Redis](#) >

New Redis Cache



Basics Networking Advanced Tags **Review + create**

Basics

DNS name	wcm-redis
Subscription	Pay-As-You-Go
Resource group	AsbruWCM
Location	UK South
SKU	CO_Basic

Advanced

Non-TLS port	Enabled
Redis version	4

Create

< Previous

Next >

[Download a template for automation](#)

[All services](#) >

CreateRedis-wcm-redis-20201021120419 | Overview



Deployment

Search (Ctrl+/) <<

Delete Cancel Redeploy Refresh

Overview

Inputs

Outputs

Template

Deployment is in progress

Deployment name: CreateRedis-wcm-redis-20201021120419
Subscription: Pay-As-You-Go
Resource group: AsbruWCM

Start time: 10/21/2020, 12:07:05 PM
Correlation ID: f77b1445-1185-4a95-8a4b-2b4e5558f02c

Deployment details (Download)

Resource	Type	Status	Operation details
wcm-redis	Microsoft.Cache/redis	OK	Operation details



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CreateRedis-wcm-redis-20201021120419 | Overview



Deployment

Search (Ctrl+/) <<

Delete Cancel Redeploy Refresh

Overview

Inputs

Outputs

Template

Your deployment is complete

Deployment name: CreateRedis-wcm-redis-20201021120419
Subscription: Pay-As-You-Go
Resource group: AsbruWCM

Start time: 10/21/2020, 12:07:05 PM
Correlation ID: f77b1445-1185-4a95-8a4b-2b4e5558f02c

Deployment details (Download)

Next steps

[Go to resource](#)



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2.5.8.1.1 Cache server address

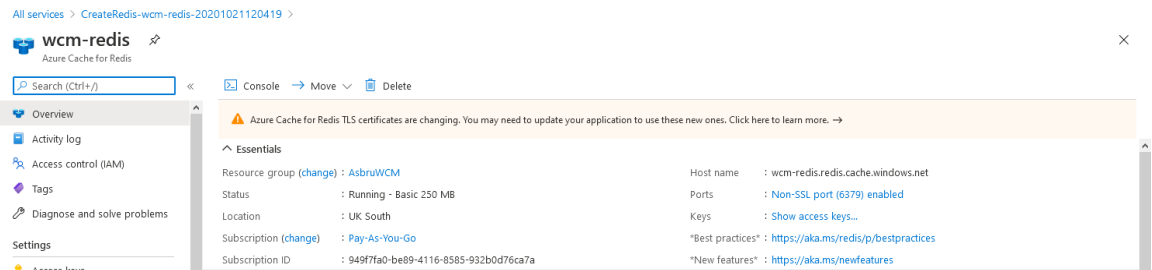
Creating the cache server may take some minutes to complete.

The created cache server is automatically assigned an endpoint address. The automatically assigned “Endpoint” address and “Port” number should be noted (see 2.5.3 Deployment Checklist & Notes) as they will be needed to configure the web content management system, later.

For example:



- Endpoint:
wcm-redis.redis.cache.windows.net
- Port:
6379

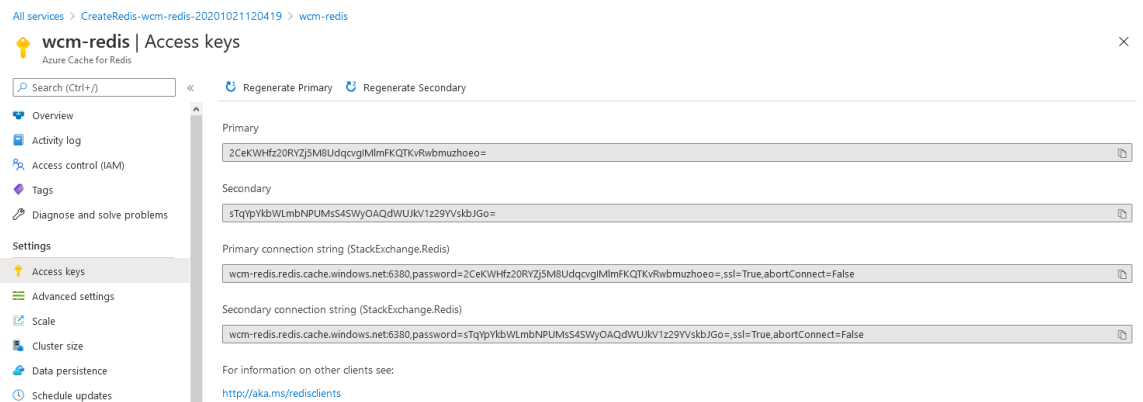


2.5.8.1.2 Cache access keys

The created cache server is automatically assigned two access keys (passwords). One of the automatically assigned access keys should be noted (see 2.5.3 Deployment Checklist & Notes) as it will be needed to configure the web content management system, later.

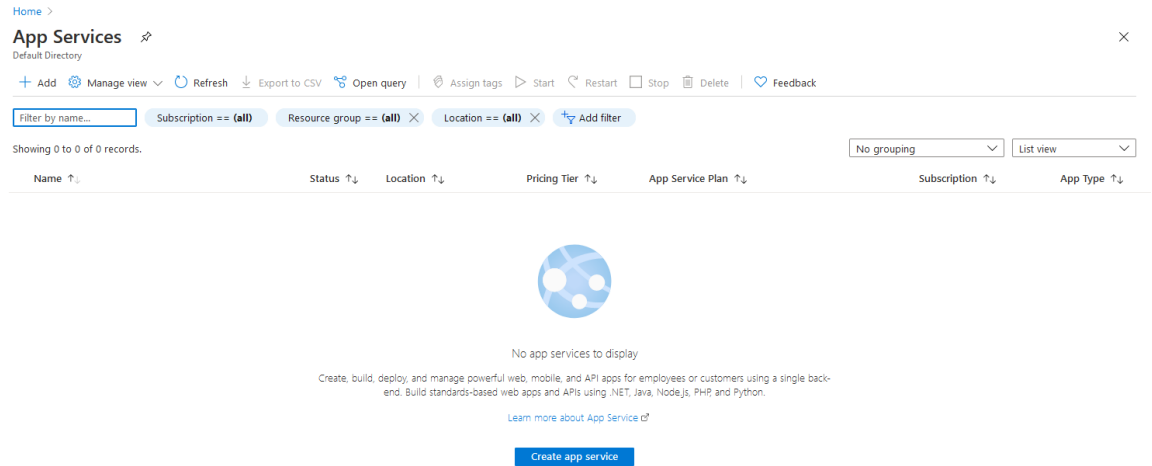
For example:

- Primary:
2CeKWHfz20RYZj5M8UdqcvglMlImFKQTKvRwbmuzhoeo=



2.5.9 Web/Application Server

Select App Services and Create App Service to deploy the Asbru Web Content Management software.



Enter a Name and other required details for your website.

- **Resource Group:**
The created/selected resource group should be the same for both your App Service and Database or the two services may not be able to communicate without special configuration.
- **Name:**
The initial deployment/administration URL sub-domain for your website. Another URL for your website can be added later).
- **Publish:**
Code
- **Region:**
Should be the same as your database server for best performance.

2.5.9.1 Runtime Stack

Depending on your preferred programming language version of the Asbru Web Content Management System, the appropriate runtime stack must be selected.

If you have no programming language version preference, the JSP programming language version is recommended.

2.5.9.1.1.1 JSP, Tomcat, Java

The JSP version of the Asbru Web Content Management System is developed and tested for the Java 8 and Tomcat 8.5 standard reference implementations of the Java 8 and the Java JSP 2.3 and Servlet 3.1 specifications, which is the recommended environment.

The Asbru Web Content Management System should also work with Java 8 compatible newer versions and alternative implementations of Java.

The Asbru Web Content Management System should also work with Tomcat 8.5 compatible newer versions and alternative implementations of the Java JSP 2.3 and Servlet 3.1



specifications. However, please note that the optional “Memcached/Redis session manager” software includes a Tomcat 8.5 version specific component (memcached-session-manager-tc8-x.x.x.jar), which may need to be replaced with another version for use with other Java/JSP application servers than Tomcat 8.5).

2.5.9.1.1.2 .NET, IIS, Windows Server

The .NET version of the Asbru Web Content Management System is developed and tested for the .NET Framework 4.6.2 and newer, compatible versions of .NET, IIS and Windows Server. ASP.NET 4.8 is the recommended environment.

Note: The “Sku and size” options for dev/test “shared infrastructure” with limited minutes/day compute and 1 GB disk storage are not sufficient for deployment of the .NET version of the Asbru Web Content Management and may result in “There is not enough space on the disk” errors on deployment.

2.5.9.1.1.3 PHP

The PHP version of the Asbru Web Content Management System is developed and tested for PHP 5.5 or newer. PHP 7.3 is the recommended environment.

[Home](#) > [App Services](#) >

Create Web App



Basics Monitoring Tags Review + create

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Project Details

Select a subscription to manage deployed resources and costs. Use resource groups like folders to organize and manage all your resources.

Subscription *	<div>Pay-As-You-Go</div>
Resource Group *	<div></div> <div>Create new</div>

Instance Details

Name *

Web App name. .azurewebsites.net

Publish * ☒ Code ☐ Docker Container

Runtime stack *

Select a runtime stack

Operating System ☒ Linux ☐ Windows

Region *

Central US

Not finding your App Service Plan? Try a different region.

App Service Plan

App Service plan pricing tier determines the location, features, cost and compute resources associated with your app. [Learn more](#)

Linux Plan (Central US)

Select App Service Plan

Select a resource group before selecting a plan.

[Review + create](#)

[< Previous](#)

[Next : Monitoring >](#)



[Home](#) > [App Services](#) >

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Project Details

Select a subscription to manage deployed resources and costs. Use resource groups like folders to organize and manage all your resources.

Subscription * ⓘ

Resource Group * ⓘ
[Create new](#)

Instance Details

Name * .azurewebsites.net

Publish * ☒ Code ☐ Docker Container

Runtime stack *

Operating System * ☐ Linux ☒ Windows

Region *
ⓘ Not finding your App Service Plan? Try a different region.

App Service Plan

App Service plan pricing tier determines the location, features, cost and compute resources associated with your app. [Learn more](#)

Windows Plan (UK South) * ⓘ
[Create new](#)

Sku and size * **Standard S1**
100 total ACU, 1.75 GB memory
[Change size](#)

[Review + create](#) [< Previous](#) [Next : Monitoring >](#)

2.5.9.2 Create Web App

Creating the web/application server environment may take some minutes to complete.

[Home](#) > [App Services](#) >

Create Web App



[Basics](#) [Monitoring](#) [Tags](#) [Review + create](#)

Summary



Details

Subscription	949f7fa0-be89-4116-8585-932b0d76ca7a
Resource Group	AsbruWCM
Name	asbruwcm
Publish	Code
Runtime stack	ASP.NET V4.7

App Service Plan (New)

Name	ASP-AsbruWCM-aaef
Operating System	Windows
Region	UK South
SKU	Standard
Size	Small
ACU	100 total ACU
Memory	1.75 GB memory

Monitoring

Application Insights	Not enabled
----------------------	-------------

[Create](#) [< Previous](#) [Next >](#) [Download a template for automation](#)



Home > Microsoft.Web-WebApp-Portal-0ef2b871-874c | Overview

Deployment

Search (Ctrl+/) < Delete Cancel Redeploy Refresh

Overview

Inputs

Outputs

Template

We'd love your feedback! →

Deployment is in progress

Deployment name: Microsoft.Web-WebApp-Portal-0ef2b871-874c Start time: 9/8/2020, 10:02:14 AM
Subscription: Pay-As-You-Go Correlation ID: 0e7f545-e10b-44df-85db-f33a3158ebba
Resource group: AsbruWCM

Deployment details (Download)

Resource	Type	Status	Operation details
No results.			

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Home > Microsoft.Web-WebApp-Portal-0ef2b871-874c | Overview

Deployment

Search (Ctrl+/) < Delete Cancel Redeploy Refresh

Overview

Inputs

Outputs

Template

We'd love your feedback! →

Your deployment is complete

Deployment name: Microsoft.Web-WebApp-Portal-0ef2b871-874c Start time: 9/8/2020, 10:02:14 AM
Subscription: Pay-As-You-Go Correlation ID: 0e7f545-e10b-44df-85db-f33a3158ebba
Resource group: AsbruWCM

Deployment details (Download)

Next steps

[Go to resource](#)

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Home > Microsoft.Web-WebApp-Portal-0ef2b871-874c > asbruwcm

asbruwcm
App Service

Search (Ctrl+/) < Browse Stop Swap Restart Delete Get publish profile Reset publish profile Send us your feedback

Overview

Activity log

Access control (IAM)

Tags

Diagnose and solve problems

Security

Events (preview)

Deployment

Quickstart

Deployment slots

Deployment Center

.NET Framework 4.8 is coming to App Service starting in late July 2020 and will complete around late September 2020. Click to learn more and see progress on the deployment. →

Essentials

Resource group (change)	: AsbruWCM	URL	: https://asbruwcm.azurewebsites.net
Status	: Running	App Service Plan	: ASP-AsbruWCM-aaef (\$1: 1)
Location	: UK South	FTP/deployment username	: asbruwcm(asbruwcm)
Subscription (change)	: Pay-As-You-Go	FTP hostname	: ftp://waws-prod-in1-031.ftp.azurewebsites.windows.net/site/...
Subscription ID	: 949f7fa0-be89-4116-8585-932b0d76ca7a	FTPS hostname	: ftps://waws-prod-in1-031.ftp.azurewebsites.windows.net/site/...
Tags (change)	: Click here to add tags		

Diagnose and solve problems
Our self-service diagnostic and troubleshooting experience helps you identify and resolve issues with your web app.

Application Insights
Application Insights helps you detect and diagnose quality issues in your app, and helps you understand what your users actually do with it.

App Service Advisor
App Service Advisor provides insights for improving app experience on the App Service platform. Recommendations are sorted by freshness, priority and impact to your app.

2.5.9.3 Website Domain Name

The automatically assigned website address can be used to access the website, but for production use you will probably want to use your own website domain name address.

A new website domain name can be registered through the Azure Portal domain name registration. Please see the Microsoft Azure documentation for details.

Alternatively, you may want to register a new website domain name or use an existing website domain name with a third-party domain name registration service and DNS. To use an existing website domain name for your deployed web/application server environment, you can configure a CNAME alias through your DNS provider - for example:



yourwebsite.com CNAME asbruwcm.azurewebsites.com
*.yourwebsite.com CNAME asbruwcm.azurewebsites.com

to direct yourwebsite.com and www.yourwebsite.com etc. to your deployed web/application server environment.

Optionally, you may also want to configure your own website subdomain name for your cloud storage – for example:

media.yourwebsite.com CNAME asbruwcm.blob.windows.net

Dashboard > Microsoft.Web-WebApp-Portal-5a2f3058-b779 > asbruwcm

asbruwcm | Custom domains

App Service

Search (Ctrl+/) Refresh Troubleshoot FAQs

Overview
Activity log
Access control (IAM)
Tags
Diagnose and solve problems
Security
Events (preview)
Deployment
Quickstart
Deployment slots
Deployment Center
Deployment Center (Preview)
Settings
Configuration
Authentication / Authorization
Application Insights
Identity
Backups
Custom domains
TLS/SSL settings
Networking

Custom Domains

Configure and manage custom domains assigned to your app [Learn more](#)

IP address: 51.140.185.151

Custom Domain Verification ID: 4f9dca837dfc508dcaa61737c3a09a806e08ab18efb8839bc089ef8d60874c45

HTTPS Only: Off

+ Add custom domain

Status Filter: All (1) Not Secure (0) Secure (1)

SSL STATE	ASSIGNED CUSTOM DOMAINS	SSL Binding
Secure	asbruwcm.azurewebsites.net	

App Service Domains

Purchase and manage domains for your Azure services with auto-renew and privacy protection. [Learn more](#)

+ Buy Domain

DOMAINS	EXPIRES	STATUS
No data found		

2.5.9.4 SSL Certificate

As default deployed web/application servers use both encrypted HTTPS and unencrypted HTTP communication for the automatically assigned website address. It is strongly recommended to also support encrypted HTTPS communication for your own website domain (if any). Use of HTTPS requires a Secure Socket Layer (SSL) certificate for your website domain. A SSL certificate can be issued or imported through the Azure Portal App Service TLS/SSL Settings.

A certificate should be issued for both your base domain name as well as wildcard subdomains for it to work with the web content management system subdomain “micro-websites” functionality - for example:

yourwebsite.com
*.yourwebsite.com



Dashboard > Microsoft.Web-WebApp-Portal-5a2f3058-b779 > asbruwcm

asbruwcm | TLS/SSL settings

App Service

Search (Ctrl+/) Refresh Delete bindings Buy Certificate Troubleshoot FAQs

Overview Activity log Access control (IAM) Tags Diagnose and solve problems Security Events (preview) Deployment Quickstart Deployment slots Deployment Center Deployment Center (Preview) Settings Configuration

Bindings Private Key Certificates (.pfx) Public Key Certificates (.cer)

Protocol Settings

Protocol settings are global and apply to all bindings defined by your app.

HTTPS Only: Off On
Minimum TLS Version: 1.0 1.1 1.2

TLS/SSL bindings

Bindings let you specify which certificate to use when responding to requests to a specific hostname over HTTPS. TLS/SSL Binding requires valid private certificate (.pfx) issued for the specific hostname. [Learn more](#)

+ Add TLS/SSL Binding

Host name	Private Certificate Thumbprint	TLS/SSL Type
No TLS/SSL bindings configured for the app.		

2.5.9.5 Configuration

After the initial web/application environment has been deployed, a number of application settings for the web content management system and the cloud storage, database base server and optional cache server need to be configured.

The cloud storage, database server and optional cache server must be configured for the web content management system through the web/application environment's "Settings - Configuration".

Home > asbruwcm

asbruwcm | Configuration

App Service

Search (Ctrl+/) Refresh Save Discard

Quickstart Deployment slots Deployment Center Settings Configuration Authentication / Authorization Application Insights Identity Backups Custom domains TLS/SSL settings Networking Scale up (App Service plan) Scale out (App Service plan) WebJobs Push MySQL In App Properties Locks Export template

Application settings General settings Default documents Path mappings

Application settings

Application settings are encrypted at rest and transmitted over an encrypted channel. You can choose to display them in plain text in your browser by using the controls below. Application Settings are exposed as environment variables for access by your application at runtime. [Learn more](#)

+ New application setting Show values Advanced edit

Filter application settings

Name	Value	Source	Deployment slot setting	Delete	Edit
(no application settings to display)					

Connection strings

Connection strings are encrypted at rest and transmitted over an encrypted channel.

+ New connection string Show values Advanced edit

Filter connection strings

Name	Value	Type	Deploym...	Delete	Edit
(no connection strings to display)					

2.5.9.5.1 Application Settings

The cloud storage, database server and optional cache server must be configured for the web content management system through the web/application environment's "Configuration - Application Settings".



Enter the following keys and values into the Application Settings section (and select Save).

2.5.9.5.1.1 *Media Storage*

The cloud storage details for the created media storage as noted previously (see 2.5.3 Deployment Checklist & Notes) must be configured for the web content management system to access it.

- AZURE_BLOB_ACCOUNTNAME

Your previously chosen Azure storage account name – fx:

asbruwcm

- AZURE_BLOB_ACCESSKEY

One of your generated Azure store account access keys as previously noted above – fx:

rPtM7Vu4CIXbucb/ZksHSApxMI1/Z3fV9+D8XoK1+ToKX/XpSrJxZGwUMewT56zP
5EId0ILOcgJQM0aJ3jncQA==

- AZURE_BLOB_CONTAINER

Your previously chosen Azure storage container name – fx:

wcm-media

- AZURE_BLOB_URL

The website address URL for your Azure storage container which should be
<https://ACCOUNTNAME.blob.core.windows.net/CONTAINERNAME> – fx:

<https://asbruwcm.blob.core.windows.net/wcm-media>

2.5.9.5.1.2 *Database Connection*

The database server details for the deployed database server instance as noted previously (see 2.5.3 Deployment Checklist & Notes) must be configured for the web content management system to access it.

- RDS_HOSTNAME

The database server address – fx:

asbruwcm.database.windows.net

Note: For database server deployments with both “Writer” and “Reader” database server instances, this should be the address of the “Writer” database server instance.

- RDS_PORT

The database server port – fx:



1433

- RDS_DB_NAME

The database name – fx:

wcm

- RDS_USERNAME

The database server username – fx:

wcm

- RDS_PASSWORD

The database server password – fx:

secretsecret

- RDS_DRIVER

Optionally, the database driver name to use. ODBC database driver name for .NET. JDBC database driver class name for JSP. Extension library name for PHP. If left blank, the web content management will use a default database driver name. Fx:

- .NET:

ODBC Driver 17 for SQL Server
Microsoft ODBC for Oracle
MySQL ODBC 8.0 Unicode Driver
PostgreSQL Unicode

- JSP:

com.microsoft.sqlserver.jdbc.SQLServerDriver
oracle.jdbc.driver.OracleDriver
com.mysql.jdbc.Driver
org.postgresql.Driver

- PHP:

mssql
oci8
mysql
pgsql

- For database server deployments with both “Writer” and “Reader” database server instances, these additional database server properties should also be configured. For



database server deployments without both “Writer” and “Reader” database server instances, these additional database server properties should be left blank.

- RDS2_HOSTNAME

The database server “Reader” address – fx:

asbruwcm-reader.database.windows.net

Note: For database server deployments with both “Writer” and “Reader” database server instances, this should be the address of the “Reader” database server instance.

- RDS2_PORT

The database server port – fx:

1433

- RDS2_DB_NAME

The database name – fx:

wcm

- RDS2_USERNAME

The database server username – fx:

wcm

- RDS2_PASSWORD

The database server password – fx:

secretsecret

- RDS2_DRIVER

Optionally, the database driver name to use. ODBC database driver name for .NET. JDBC database driver class name for JSP. Extension library name for PHP. If left blank, the web content management will use a default database driver name. Fx:

○ .NET:

ODBC Driver 17 for SQL Server
Microsoft ODBC for Oracle
MySQL ODBC 8.0 Unicode Driver
PostgreSQL Unicode

○ JSP:



com.microsoft.sqlserver.jdbc.SQLServerDriver
oracle.jdbc.driver.OracleDriver
com.mysql.jdbc.Driver
org.postgresql.Driver

○ PHP:

mssql
oci8
mysql
pgsql

Dashboard > asbruwcm

asbruwcm | Configuration App Service

Search (Ctrl+/)

Overview
Activity log
Access control (IAM)
Tags
Diagnose and solve problems
Security
Events (preview)

Deployment
Quickstart
Deployment slots
Deployment Center

Settings
Configuration
Authentication / Authorization
Application Insights
Identity
Backups
Custom domains
TLS/SSL settings

Add/Edit application setting

Name

Value

☐ Deployment slot setting

OK Cancel

Dashboard > asbruwcm

asbruwcm | Configuration App Service

Search (Ctrl+/) Refresh Save Discard

Application settings * General settings Default documents Path mappings

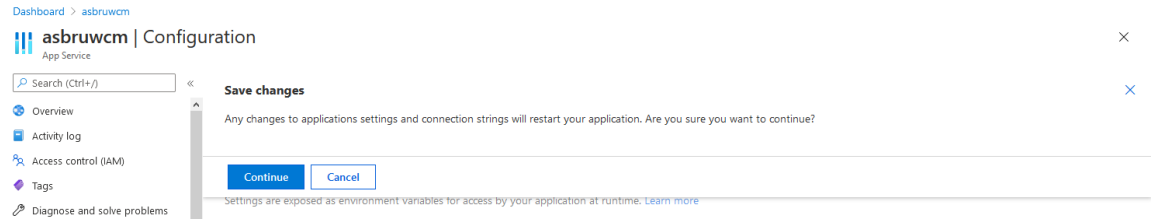
Application settings

Application settings are encrypted at rest and transmitted over an encrypted channel. You can choose to display them in plain text in your browser by using the controls below. Application Settings are exposed as environment variables for access by your application at runtime. [Learn more](#)

+ New application setting Show values Advanced edit

Filter application settings

Name	Value	Source	Deployment slot setting	Delete	Edit
AZURE_BLOB_ACCESSKEY	Hidden value. Click to show value	App Config			
AZURE_BLOB_ACCOUNTNAME	Hidden value. Click to show value	App Config			
AZURE_BLOB_CONTAINER	Hidden value. Click to show value	App Config			
AZURE_BLOB_URL	Hidden value. Click to show value	App Config			
RDS_DB_NAME	Hidden value. Click to show value	App Config			
RDS_HOSTNAME	Hidden value. Click to show value	App Config			
RDS_PASSWORD	Hidden value. Click to show value	App Config			
RDS_PORT	Hidden value. Click to show value	App Config			
RDS_USERNAME	Hidden value. Click to show value	App Config			



When the application settings are saved, the web app service will be restarted, which may take a few minutes to complete.

2.5.9.5.1.2.1 Custom database connection string

As default, the web content management system will use the configured RDS_XXXXX (and RDS2_XXXXX) properties to connect to the database.

Optionally, if you need to use a specific database driver or special database connection string parameters then a custom database connection string can be configured.

- JDBC_CONNECTION_STRING

Custom database connection string as used by the web content management system – fx:

```
mysql:com.mysql.jdbc.Driver:admin:secretsecret@jdbc:mysql://wcm-  
mysql.mysql.database.azure.com:3306/wcm?useSSL=false
```

For database server deployments with both “Writer” and “Reader” database server instances, this additional database server property should also be configured. For database server deployments without both “Writer” and “Reader” database server instances, this additional database server property should be left blank.

- JDBC2_CONNECTION_STRING

Custom database connection string as used by the web content management system – fx:

```
mysql:com.mysql.jdbc.Driver:admin:secretsecret@jdbc:mysql://wcm-mysql-  
reader.mysql.database.azure.com:3306/wcm?useSSL=false
```

Note: The RDS_XXXXX (and RDS2_XXXXX) properties should still be configured even if a custom database connection string is configured.

2.5.9.5.1.3 Session Manager

For optional use of shared session manager storage the “SESSION_MANAGER” and “SESSION_MANAGER_HOST” environment properties must be configured.

Note: If no shared session manager storage is configured, each web/application server instance will manage its own session data and session data will not be shared between multiple web/application server instances. In which case website login and web content management system administration login etc. will only work correctly for single-instance deployments and for load balanced multi-instance deployments configured with “sticky” sessions.



2.5.9.5.1.3.1 Database

For use of the web content management system database for shared session manager storage the “SESSION_MANAGER” environment property value should be the database server type and the “SESSION_MANAGER_HOST” should be left blank (The database connection software environment properties RDS_HOSTNAME, RDS_PORT, RDS_DB_NAME, RDS_USERNAME and RDS_PASSWORD will be used, instead).

- SESSION_MANAGER

The database server type – fx:

mysql
pgsql
oracle
mssql
db2

- SESSION_MANAGER_HOST

Should be left blank.

Note: If you are using “mssql” to use your Microsoft Azure SQL Server database server as session manager, the separate “aspnet-XXXXX-sessions” database will be created and initialised when you first access the web content management system administration. Creating and initialising the session manager database may take a few minutes, and your access to the web content management system administration may fail with a timeout/unavailable error. In that case, please simply wait a few minutes and try to access the web content management system administration again.

2.5.9.5.1.3.2 Azure Cache

For use of a cache server for shared session manager storage the “SESSION_MANAGER” environment property value should be the cache server type and the “SESSION_MANAGER_HOST” and “SESSION_MANAGER_PORT” should be the cache server address and port. If authentication is required the “SESSION_MANAGER_PASSWORD” environment property value should be the cache server authentication key/password.

- SESSION_MANAGER

The cache server type – fx:

redis

- SESSION_MANAGER_HOST

The cache server address – fx:

wcm-redis.redis.cache.windows.net

- SESSION_MANAGER_PORT



The cache server port – fx:

6379

- SESSION_MANAGER_PASSWORD

The cache server authentication key/password (if any) – fx:

2CeKWHfz20RYZj5M8UdqcvgIMlmFKQTKvRwbmuzhoeo=

Note: The same Azure Cache service can be used as both session manager and cache server.

Configuration	SESSION_MANAGER	redis	App Config		
Authentication / Authorization	SESSION_MANAGER_HOST	wcm-redis.redis.cache.windows.net	App Config		
Application Insights	SESSION_MANAGER_PASSWORD	2CeKWHfz20RYZj5M8UdqcvgIMlmFKQTKvRwbmuzhoeo=	App Config		
Identity	SESSION_MANAGER_PORT	6379	App Config		

2.5.9.5.1.4 Cache Server

For optional use of shared cache server storage the “CACHE_SERVER” environment property must be configured.

Note: If no shared cache server storage is configured, each web/application server instance will manage its own memory cache data and cached data will not be shared between multiple web/application server instances. Added/updated website content may not propagate to all web/application server instances until their local cached data expires. As default local memory cache data is configured to expire after 5 minutes, so it may take up to 5 minutes for added/updated website content to be displayed by all web/application server instances).

- CACHE_SERVER

The cache server type:address:port – fx:

redis:wcm-redis.redis.cache.windows.net:6379

If the cache server requires password authentication – fx:

redis:password@wcm-redis.redis.cache.windows.net:6379

If the cache server requires username/password authentication – fx:

redis:username:password@wcm-redis.redis.cache.windows.net:6379

Note: The same Azure Cache service can be used as both session manager and cache server.

Configuration	CACHE_SERVER	redis:2CeKWHfz20RYZj5M8UdqcvgIMlmFKQTKvRwbmuzhoeo=	App Config		
---------------	--------------	--	------------	--	--

2.5.9.5.1.4.1.1 JSP Redis

Optionally, a number of configuration parameters can be provided for the cache server:

- CACHE_SERVER

redis:username:password@host:port?expiry=EXPIRY&suspend=SUSPEND&timeout=T



IMEOUT&connectTimeout=CONNECTTIMEOUT&database=DATABASE&connectionPoolSize=POOLSIZE&connectionMinimumIdleSize=IDLESIZE&retryAttempts=RETRYATTEMPTS&retryInterval=RETRYINTERVAL

Where the parameters are:

- EXPIRY
The number of seconds before cached data expires and is re-read from the database server.
As default the expiry time is 300 seconds (5 minutes).
- SUSPEND
The number of seconds for which caching is suspended if connection to the configured cache server fails. (Failure to connect to the configured cache server may slow down website response times significantly, so attempts to connect to the cache server are suspended for a period of time for the cache server to eventually recover).
As default the suspend time is 300 seconds (5 minutes).
- TIMEOUT
The response timeout in milliseconds.
As default the timeout time is 2500 milliseconds.
- CONNECTTIMEOUT
The connect timeout in milliseconds.
As default the timeout time is 10000 milliseconds.
- DATABASE
The database index number to be used.
As default the database index number is 0.
- POOLSIZE
The connection pool size.
As default the connection pool size is 64.
- IDLESIZE
The minimum idle connection pool size.
As default the idle connection pool size is 24.
- RETRYATTEMPTS
The number of failed connection retry attempts.
As default the retry attempts is 3.
- RETRYINTERVAL
The time interval between failed connection retry attempts in milliseconds.
As default the retry interval is 1500.

For details on the parameters, please see the general documentation on the Redisson Java client library.

2.5.9.5.1.4.1.2 .NET Redis

Optionally, a number of configuration parameters can be provided for the cache server:



- `CACHE_SERVER`

```
redis:username:password@host:port?expiry=EXPIRY&suspend=SUSPEND&ConnectTi  
meout=CONNECTTIMEOUT&SyncTimeout=SYNCTIMEOUT&PoolSize=POOLSIZE  
&database=DATABASE
```

Where the parameters are:

- **EXPIRY**
The number of seconds before cached data expires and is re-read from the database server.
As default the expiry time is 300 seconds (5 minutes).
- **SUSPEND**
The number of seconds for which caching is suspended if connection to the configured cache server fails. (Failure to connect to the configured cache server may slow down website response times significantly, so attempts to connect to the cache server are suspended for a period of time for the cache server to eventually recover).
As default the suspend time is 300 seconds (5 minutes).
- **CONNECTTIMEOUT**
The connection timeout in seconds.
- **SYNCTIMEOUT**
The synchronous operations timeout in seconds.
- **POOLSIZE**
The number of connections to the cache server.
- **DATABASE**
The cache server database index number.
As default the database is 0.

For details on the parameters, please see the general documentation on the [StackExchange.Redis.Extensions .NET client library](#).

2.5.9.5.1.4.1.3 PHP Redis

Optionally, a number of configuration parameters can be provided for the cache server:

- `CACHE_SERVER`

```
redis:username:password@host:port?expiry=EXPIRY&suspend=SUSPEND
```

Where the parameters are:

- **EXPIRY**
The number of seconds before cached data expires and is re-read from the database server.
As default the expiry time is 300 seconds (5 minutes).



- **SUSPEND**
The number of seconds for which caching is suspended if connection to the configured cache server fails. (Failure to connect to the configured cache server may slow down website response times significantly, so attempts to connect to the cache server are suspended for a period of time for the cache server to eventually recover).
As default the suspend time is 300 seconds (5 minutes).

For details on the parameters, please see the general documentation on the Redis PHP Session Manager functionality.

2.5.9.5.1.5 *PHP*

Microsoft Azure Web App PHP deployment also requires configuration of the additional application setting:

`PHP_INI_SCAN_DIR`

`/usr/local/etc/php/conf.d:/home/site/ini`

2.5.9.6 **Deployment**

The web content management system is provided as Zip file archive software packages. These can be deployed directly to the Microsoft Azure Web App Service; or they can be unpacked and uploaded through FTP.

A number of alternative deployment methods are also supported by Microsoft Azure Web App Service. Please see the general Microsoft Azure documentation for details.

2.5.9.6.1 **.NET Zip Deployment (website interface)**


The .NET programming language version of the web content management system can be deployed through the Microsoft Azure website address:

`https://XXXXXX.scm.azurewebsites.net/ZipDeployUI`

Replace “XXXXXX” with the automatically assigned website address for your deployed web app service – fx. “asbruwcm”.

Drag-and-drop the AsbruWCM.net.zip file to the deployment web page. Uploading and deploying the .zip file may take a few minutes.

The screenshot shows a web file manager interface with a breadcrumb path "/wwwroot + | 1 items". Below this is a table with three columns: "Name", "Modified", and "Size". The table contains one row for a file named "hostingstart.html", which was modified on "08/09/2020, 10:02:23" and has a size of "4 KB". Above the table, there is a progress bar indicating "50%" completion of an upload, with a small icon of a file being uploaded.

/wwwroot + 1 items		
Name	Modified	Size
 hostingstart.html	08/09/2020, 10:02:23	4 KB

When the upload and deployment has been completed you can see the folders and files from the web content management system software package.



/wwwroot + 82 items

	Name	Modified	Size
👤	📁 .extensions	08/09/2020, 10:18:03	
👤	📁 App_Code	08/09/2020, 10:18:06	
👤	📁 bin	08/09/2020, 10:18:09	
👤	📁 Content	08/09/2020, 10:18:10	
👤	📁 file	08/09/2020, 10:18:10	
👤	📁 file.original	08/09/2020, 10:18:10	
👤	📁 image	08/09/2020, 10:18:10	

Deployment Id : 3c49d6f238de496493d099a0132bcb09

- 2020-09-08T09:17:57.789932Z : Created via a push deployment
 - 2020-09-08T09:17:58.2862413Z : Updating submodules.
 - 2020-09-08T09:17:58.3822526Z : Preparing deployment for commit id '3c49d6f238'.
 - 2020-09-08T09:17:58.5518656Z : Generating deployment script.
 - 2020-09-08T09:17:59.521166Z : Running deployment command...
 - 2020-09-08T09:21:37.017363Z : Running post deployment command(s)...
 - 2020-09-08T09:21:37.1264828Z : Triggering recycle (preview mode disabled).
 - 2020-09-08T09:21:37.2202416Z : Deployment successful.

2.5.9.6.2 Zip Deployment (command line)

Currently, Azure does not support deployment of JSP and PHP directly through the Azure Portal. Instead, a command prompt / console shell command such as “curl” must be used.

First, a username and password is required for deployment. In the Microsoft Azure Portal select Dashboard / XXXXX (App Service) / Deployment Center / FTP / Dashboard (button at bottom) / User Credentials; and enter a Username and Password and select “Save Credentials”. Note the Username and Password.

The command prompt / console shell command “curl” command to deploy the web content management system Zip archive software package is:

- JSP:

```
curl -X POST -u AZUREUSERNAME  
https://XXXXX.scm.azurewebsites.net/api/zipdeploy -T AsbruWCM.jsp.zip
```

- PHP:

```
curl -X POST -u AZUREUSERNAME  
https://XXXXX.scm.azurewebsites.net/api/zipdeploy -T AsbruWCM.php.zip
```

You will then be prompted to enter the password for the given username, after which the web content management system Zip archive software package will be uploaded and deployed. This may take a few minutes.

Note: If the upload/deployment gives a “server error – invalid response” error message, simply try again and it should work.



Dashboard > wcm-jsp

wcm-jsp | Deployment Center
App Service

Search (Ctrl+/)

- Overview
- Activity log
- Access control (IAM)
- Tags
- Diagnose and solve problems
- Security
- Events (preview)

Deployment

- Quickstart
- Deployment slots
- Deployment Center
- Deployment Center (Preview)

Settings

- Configuration
- Authentication / Authorization
- Application Insights
- Identity
- Backups
- Custom domains
- TLS/SSL settings
- Networking
- Scale up (App Service plan)
- Scale out (App Service plan)
- WebJobs
- Push
- MySQL In App
- Export template
- Properties
- Locks

App Service plan

- App Service plan
- Quotas

Deployment Center

App Service Deployment Center enables you to choose the location of your code as well as options for build and deployment to the cloud. [Learn more](#)

1
SOURCE CONTROL

Continuous Deployment (CI / CD)

Azure Repos

Configure continuous integration with an Azure Repo, part of Azure DevOps Services (formerly known as VSTS).

GitHub

Configure continuous integration with a GitHub repo.

Not Authorized

Bitbucket

Configure continuous integration with a Bitbucket repo.

Not Authorized

Local Git

Deploy from a local Git repo.

Manual Deployment (push / sync)

FTP

Use an FTP connection to access and copy app files.

Dashboard

Dashboard > wcm-jsp

wcm-jsp | Deployment Center
App Service

Search (Ctrl+/)

- Overview
- Activity log
- Access control (IAM)
- Tags
- Diagnose and solve problems
- Security
- Events (preview)

Deployment

- Quickstart
- Deployment slots
- Deployment Center
- Deployment Center (Preview)

Settings

- Configuration
- Authentication / Authorization
- Application Insights

Deployment Center

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1
SOURCE CONTROL

Continuous Deployment (CI / CD)

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Configure continuous integration with an Azure Repo, part of Azure DevOps Services (formerly known as VSTS).

GitHub

Configure continuous integration with a GitHub repo.

Not Authorized

Manual Deployment (push / sync)

FTP

Use an FTP connection to access and copy app files.

Dashboard

FTP

App Service enables you to access your app content through FTP/S. [Learn more](#)

FTPS Endpoint `https://waws-prod-in1-041.ftps.azurewebsites.windows.net/site/wwwroot` [Copy](#)

App Credentials **User Credentials**

User Credentials are defined by you, the user, and can be used with all the apps to which you have access. These credentials can be used with FTP, Local Git and WebDeploy. If you are using User credentials to connect to your app, the username needs to be in the format "wcm-jsp/admin" when authenticating from the client. [Learn more](#)

Username
admin

Password
[password field]

Confirm Password
[confirm password field]

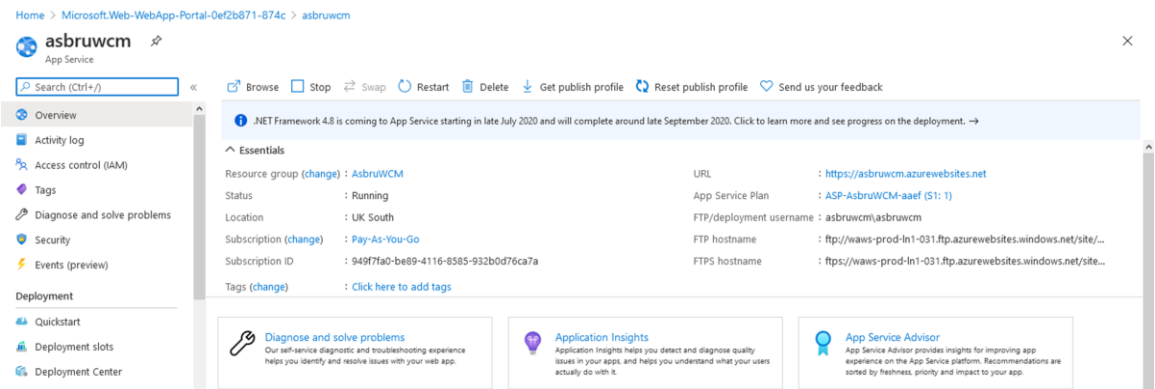
Save Credentials



2.5.9.6.3 FTP Upload

Alternatively, you can unpack the web content management system Zip archive software package and upload its folders and files to your Azure Web App Service through FTP.

Note the FTP/FTPS Host Name for your Azure website, and use this and your chosen FTP username and password to access your Azure website (please note that the FTP username is WEBSITENAME\FTPUSERNAME as noted on the Azure administration page instead of just the FTP username entered by you).



The Asbru Web Content Management software package's files and folders should be uploaded to your Azure website's "/site/wwwroot/" (.NET and PHP) or "/site/wwwroot/webapps/ROOT/" folder where the Asbru Web Content Management software package's "config.aspx"/ "config.jsp"/ "config.php", "index.aspx"/ "index.jsp"/ "index.php" files and "App_Code" and "webadmin" folders etc. should be located. Please note that all the Asbru Web Content Management software package's files and folders should be uploaded.

Please note that it may take a few minutes to upload the software package depending on your Internet connection speed.

2.5.9.6.4 PHP Platform Extensions

Currently, Microsoft Azure Web App PHP deployment does not include support for Redis and does not support automated installation of support for Redis. Support for Redis Session Manager and/or Cache Server must be installed manually through the Microsoft Azure Web App console website address (after deployment of the PHP Asbru Web Content Management software package):

`https://XXXXXX.scm.azurewebsites.net/webssh/host`

Replace "XXXXXX" with the automatically assigned website address for your deployed web app service – fx. "asbruwcm".

Enter the command:
`./install-php-redis.sh`



This should download, compile and install the Redis extension required for support for Redis. After installation the web server is restarted and the connection to the Microsoft Azure Web App console is closed.

2.5.10 Asbru WCMS QuickStart Configuration

When the web/application environment has been configured and deployed, the web content management system should be configured through the automatically given web/application server address – for example:

`http://asbruwcm.azurewebsites.net/webadmin/`

Note: If you access the web/application server address and you are redirected to the “unavailable” error web page then your web/application server has not been configured correctly or the database server is not available. For example, no database server details or incorrect database server details have been configured.

2.5.10.1 Step 1: Database

Simply select “Save”.

Note: The automatically generated Database Connection string should not be changed (this should only be configured through the Azure Web App Service Application Settings)

Note: Database Connection Read Only is only displayed for database server configurations with separate Writer and Reader database server instances.

2.5.10.2 Step 2-6: Licenses, Superadmin, Content, Design, Settings

Please see 3 Quickstart Configuration - 3.3 License and onwards for details.

2.5.10.3 Website - Media Storage

Note: The automatically configured Configuration / System / Website / Media Storage settings should not be changed (these should only be configured through the Azure Web App Service Application Settings).



HomeBrowse & EditWebsite Configurationadmin | Logout | Help

ASBRU

Configuration

- System
 - System
 - Database
 - License
 - Superadmin
 - Website
 - Micro-Websites
 - Ecommerce
 - Usage Statistics
 - Collaboration
- Features
 - Content
 - Images
 - Files
 - Ecommerce
 - Databases

Save

Website DesignWebsite SettingsEmail & FormsSecurity SettingsSpecial PagesSpecial SettingsURL RewritingMedia Storage

Media Storage

Use local disk/network storage (default) or cloud storage for media library images and files. Leave input fields blank for local disk/network storage.

Cloud Storage

Access credentials for the web content management system to store media on your cloud storage.

Service

☐ none -

☐ Amazon AWS S3 Storage

☒ Microsoft Azure Blob Storage

☐ Google Cloud Storage

☐ - other -

Username / Key (Amazon/Microsoft)

asbrucm

Password / Secret (Amazon/Microsoft)

rPIM7Vu4CDxbuch/ZkshSApM1/Z3fV9+D8XoK1+ToKX/XpSrJxZGwUMeWT56zP5Ed0ILO

Region (Amazon)

Credentials (Google)

Folder/(Bucket/Container) Name

wcm

Media URL

Web address for the web content management system to retrieve media from your cloud storage.

Media web addresses URL prefix

https://asbrucm.blob.core.windows.net/wcm

Publishing

☒ Use dynamic web addresses for published pages

☐ Enable use of static web addresses for published pages

☐ Publish *.html and *.js and *.css as dynamic pseudo-files/folders (default)

☐ Publish *.html and *.js and *.css as static files (faster but disables some functionality)

☒ Do not create files for static web addresses (required for cloud storage)

Note: To create/update/delete files for static web addresses after changing this configuration setting you must do a "database upgrade".

2.5.10.4 Connection Timeout

Database initialisation and import may take a number of minutes resulting in a connection timeout, but the database initialisation and import should continue to run in the background. You can simply access the web content management system administration database configuration pages again, and the web content management system may show that the database initialisation and import is still running. When the database initialisation and import has completed you can use the web content management system administration.

Page 173 of 206



3 Quickstart Configuration

After installing the Asbru Web Content Management system files to your website root/home directory, access your website using your usual website domain name or IP number. If your web server and programming/scripting language is working correctly, you should now automatically get access to the Asbru Web Content Management system's Quickstart Configuration web page.

The Quickstart Configuration web page shows a few simple steps to configure and start using the Asbru Web Content Management system. The next step to be configured is displayed. Please select/enter the requested quickstart configuration details such as the database connection string, license keys, superadmin and contact details and the initial website content.

After completing a step or by selecting Home in the left-hand menu, you return to the Quickstart Configuration web page and continue with the next step.

When the few simple steps have been completed you will see the Asbru Web Content Management main administration page instead of the Quickstart Configuration page.

3.1 Server

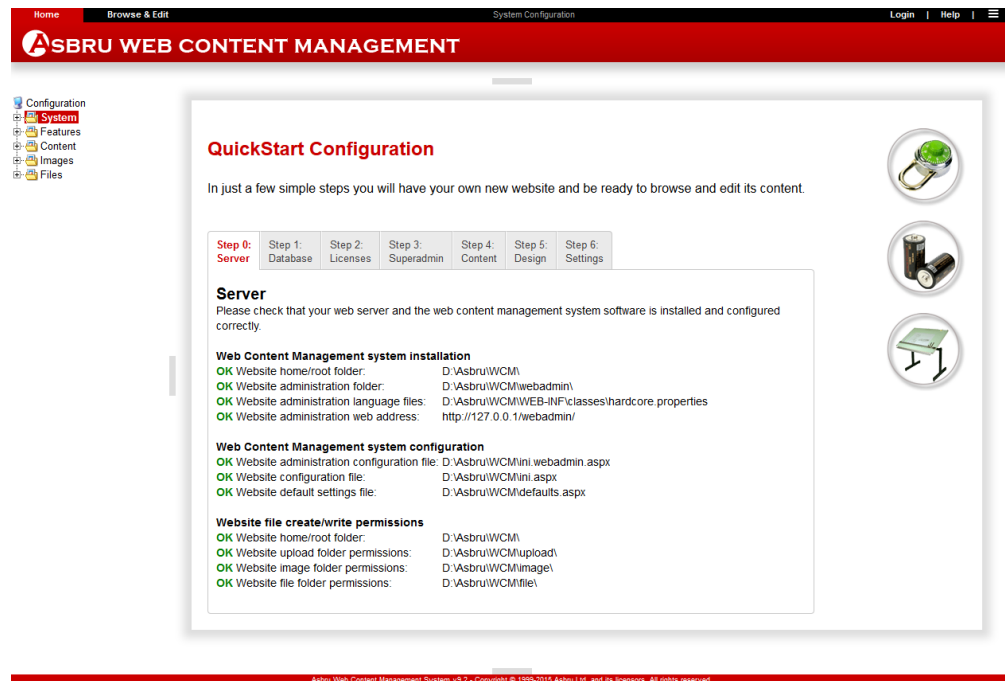
The Asbru Web Content Management system is a pure web application so it should run on any web server which supports one of the available programming language versions. Apart from that there are only a few "special" requirements. Primarily, that it is installed in the right location on the web server, and that the Asbru Web Content Management system has permissions to create/write files on the web server.

The server quickstart configuration lists and checks a number of different server settings and requirements:

- **Web Content Management system installation**
The Asbru Web Content Management system software must be installed in the website's home/root folder - the folder on the web server which your "www.yourwebsite.com" website domain name address points to, so that "http://www.yourwebsite.com/webadmin/" gives access to the web content management system administration web pages.
- **Web Content Management system configuration**
The Asbru Web Content Management system uses a number of configuration files, which it must have permission to create and write – at least initially when the web content management system is configured.
- **Website file create/write permissions**
The Asbru Web Content Management system must have permissions to create and write files in the "image", "file" and "upload" to be able to upload images and other files to the website. To publish content to user-friendly, static filenames on the website as for example "products.html", the Asbru Web Content Management system must also have permissions to create and write files in the website home/root folder and/or in other folders for content published to static filenames.



If the Asbru Web Content Management system server check reports any errors (in red text), you need to check and modify your web server configuration and/or your installation of the Asbru Web Content Management system. You should also note eventual warnings (in yellow text) of limitations reported by the Web Content Management system server check.



3.2 Database

Everything in the Asbru Web Content Management system is database driven. The first essential configuration step is to configure, which database the Asbru Web Content Management system shall use. You must configure your database before using any other features of the Asbru Web Content Management system. Otherwise, anything you do may result in errors or may only be applied to a default temporary database and be lost when you configure your database.

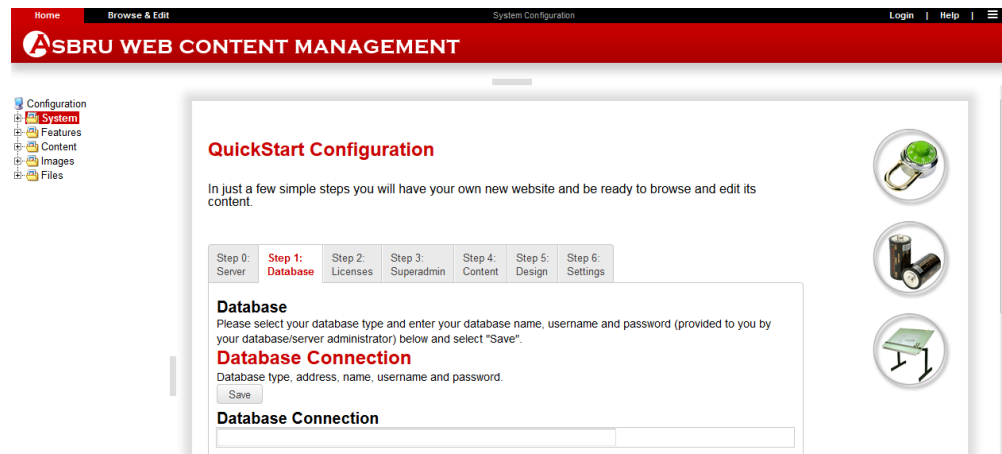
The web content management system needs to be configured with a database connection string which defines the type of database, the name of the database, the location of the database, the method to be used to connect to the database and the username and password to be used to connect to the database.

First, you must create the database to be used by the web content management using your general system / database administration tools, or your database details may be provided to you by your web hosting service provider / system administrator.

The database quickstart configuration lists a number of different database connection options for different types of databases. Select an appropriate option for your database. This will set the database connection string to the correct format for that type of database and database connection. Then modify the database name, address, username and password in the database connection string to match your database details and select Save.



For details on the different database connection options please see the following database configuration sections of this user guide. Due to system differences the database configuration differs depending on which operating system, programming/scripting language and database product you use for your Asbru Web Content Management system. Please see 3.2.1 Database Connection for .NET, 3.2.2 Database Connection for JSP, or 3.2.3 Database Connection for PHP respectively for the programming/scripting language you use. Finally, please continue with 3.2.4 Database Connection String.



3.2.1 Database Connection for .NET

If your programming/scripting language is .NET you have the choice between accessing your database directly or through an ODBC Data Source Name (DSN).

The Asbru Web Content Management system can access all supported database products directly through a given database driver. To connect to your database directly, your web hosting provider must provide you with the name of your database instance as well as the username and password to connect to your database instance. Your web hosting provider must also have installed and configured the native database driver to be used. Please note that default direct database driver configuration options are not provided for all database servers. For other database servers and drivers, please see your database server and database driver for database connection string details and simply put "mssql:", "mysql:", "oracle:", "db2:" or "pgsql:" in front of the database connection string.

The Asbru Web Content Management system can access all supported database products through an ODBC Data Source Name (DSN). To access the database through an ODBC Data Source Name (DSN) your web hosting provider must configure an ODBC Data Source Name (DSN) on your web/database server and provide you with the name of the ODBC Data Source Name (DSN) as well as the username and password to connect to your database instance.

To configure the Asbru Web Content Management system to access your database instance directly through a native database driver, please select one of the following options:

- Microsoft SQL Server



- MySQL Database Server
- Oracle Database Server
- IBM DB2 Universal Database Server
- PostgreSQL Database Server

To configure the Asbru Web Content Management system to access the database through the ODBC Data Source Name (DSN) go to the Database section in the System menu and select the relevant option for your database product. You can choose one of the following options:

- Microsoft SQL Server - ODBC Data Source Name (DSN)
- MySQL Database Server - ODBC Data Source Name (DSN)
- Oracle Database Server - ODBC Data Source Name (DSN)
- IBM DB2 Universal Server – ODBC Data Source Name (DSN)
- PostgreSQL Database Server – ODBC Data Source Name (DSN)

When you have chosen your database server, please adjust your database connection string as described in 3.2.4 Database Connection String.

Microsoft SQL Server
<input checked="" type="radio"/> Microsoft SQL Server <small>mssql:Provider=SQLNCLI11.1;Data Source=localhost;Initial Catalog=database;User ID=username;Password=password; This default setting uses a Microsoft SQL Server database.</small>
<input type="radio"/> Microsoft SQL Server <small>mssql:Driver={SQL Server};Server=localhost;Database=database;UID=username;Pwd=password; This default setting uses a Microsoft SQL Server database.</small>
<input type="radio"/> Microsoft SQL Server <small>mssql:Driver={SQL Server};Server=localhost\SQLEXPRESS;Initial Catalog=database;User ID=username;Password=password; This default setting uses a Microsoft SQL Server database.</small>
<input type="radio"/> Microsoft SQL Server - ODBC Data Source Name (DSN) <small>mssql:DSN=database;UID=username;PWD=password; This default setting uses a Microsoft SQL Server database which has been configured with an ODBC Data Source Name on your website server.</small>

MySQL Database Server
<input checked="" type="radio"/> MySQL Database Server <small>mysql:Driver=MySQL ODBC 5.2 Unicode Driver;SERVER=localhost;DATABASE=database;UID=username;PWD=password;Extended Properties='OPTION=10387';CHARSET=utf8; This default setting uses a MySQL Database Server database.</small>
<input type="radio"/> MySQL Database Server - ODBC Data Source Name (DSN) <small>mysql:DSN=database;UID=username;PWD=password; This default setting uses a MySQL Database Server database which has been configured with an ODBC Data Source Name on your website server.</small>

Oracle Database Server
<input checked="" type="radio"/> Oracle Database Server <small>oracle:Driver={Microsoft ODBC for Oracle};Server=localhost;UID=username;Pwd=password; This default setting uses an Oracle Database Server database.</small>
<input type="radio"/> Oracle Database Server <small>oracle:Driver={Oracle in XE};Server=localhost;Dbq=XE;UID=username;Pwd=password; This default setting uses an Oracle Database Server database.</small>
<input type="radio"/> Oracle Database Server - ODBC Data Source Name (DSN) <small>oracle:DSN=database;UID=username;PWD=password; This default setting uses an Oracle Database Server database which has been configured with an ODBC Data Source Name on your website server.</small>



IBM DB2 Database Server	
<input type="radio"/>	IBM DB2 Database Server <small>db2.Driver=IBM DB2 ODBC DRIVER;Hostname=localhost;Protocol=TCP/IP;Port=1234;Database=database;Uid=username;Pwd=password; This default setting uses an IBM DB2 Database Server database.</small>
<input type="radio"/>	IBM DB2 Database Server - ODBC Data Source Name (DSN) <small>db2.DSN=database;UID=username;PWD=password; This default setting uses an IBM DB2 Database Server database which has been configured with an ODBC Data Source Name on your website server.</small>

PostgreSQL Database Server	
<input type="radio"/>	PostgreSQL Database Server <small>pgsql.Driver=PostgreSQL;Server=localhost;Port=5432;Database=database;Uid=username;Pwd=password; This default setting uses a PostgreSQL Database Server database.</small>
<input type="radio"/>	PostgreSQL Database Server - ODBC Data Source Name (DSN) <small>pgsql.DSN=database;UID=username;PWD=password; This default setting uses a PostgreSQL Database Server database which has been configured with an ODBC Data Source Name on your website server.</small>

3.2.2 Database Connection for JSP

If your programming/scripting language is JSP you can connect to your database instance directly through native database drivers, through an ODBC Data Source Name (DSN) or through a Java Data Source.

- If a Java Data Source has been configured with the name “jdbc/wcm” and no other database connection string has been configured in the web content management system then the web content management system will automatically use the “jdbc/wcm” Java Data Source.
- To connect to your database through a another Java Data Source, your web hosting provider must configure a Java Data Source for your Java application server and provide you with the name of the Java Data Source as well as the username and password to connect to your database instance.
- To connect to your database through an ODBC Data Source Name (DSN), your web hosting provider must configure an ODBC Data Source Name (DSN) on your web/database server and provide you with the name of the ODBC Data Source Name (DSN) as well as the username and password to connect to your database instance. Your web hosting provider must also have installed and configured the “sun.jdbc.odbc.JdbcOdbcDriver” database driver.
- To connect to your database directly, your web hosting provider must provide you with the name of your database instance as well as the username and password to connect to your database instance. Your web hosting provider must also have installed and configured the native database driver to be used.

The Asbru Web Content Management database configuration includes options for the standard native database drivers such as “oracle.jdbc.driver.OracleDriver”. However, any JDBC compliant database driver can be used. Simply change the database driver class name (i.e. “oracle.jdbc.driver.OracleDriver”) and connection parameters (i.e. “jdbc:oracle:thin:@localhost:1521:database”) parts of the Asbru Web Content Management database connection string as required for your preferred database driver.

To configure the Asbru Web Content Management system to access your database instance directly through a native database driver, please select one of the following options:

- Microsoft SQL Server



- MySQL Database Server
- Oracle Database Server
- IBM DB2 Universal Database Server
- PostgreSQL Database Server

To configure the Asbru Web Content Management system to access your database instance through an ODBC Data Source Name (DSN), please select one of the following options:

- Microsoft SQL Server - ODBC Data Source Name (DSN)
- MySQL Database Server - ODBC Data Source Name (DSN)
- Oracle Database Server - ODBC Data Source Name (DSN)
- IBM DB2 Universal Database Server – ODBC Data Source Name (DSN)
- PostgreSQL Database Server – ODBC Data Source Name (DSN)

To configure the Asbru Web Content Management system to access your database instance through a Java Data Source, please select one of the following options:

- Microsoft SQL Server - Java Data Source
- MySQL Database Server - Java Data Source
- Oracle Database Server - Java Data Source
- IBM DB2 Universal Database Server – Java Data Source
- PostgreSQL Database Server – Java Data Source

When you have chosen a database option, please adjust your database connection string as described in 3.2.4 Database Connection String.

Microsoft SQL Server

☒ Microsoft SQL Server
msql.com.microsoft.sqlserver.jdbc:SQLServerDriver;username=password@jdbc:sqlserver://localhost
This default setting uses the Microsoft SQL Server JDBC driver to connect to a Microsoft SQL Server database.

☐ Microsoft SQL Server - ODBC Data Source Name (DSN)
msql:sun.jdbc.odbc.odbcdriver;username=password@jdbc:odbc:database
This default setting uses the SUN JDBC ODBC driver to connect to a Microsoft SQL Server database, which has been configured with an ODBC Data Source Name on your website/database server.

☐ Microsoft SQL Server - Java Data Source
msql:username,password@jdbc:database
This default setting uses a Microsoft SQL Server JDBC driver to connect to a Microsoft SQL Server database, which has been configured as a Java Data Source on your Java application server.



MySQL Database Server <input type="radio"/> MySQL Database Server <code>mysql.com.mysql.jdbc.Driver:username:password@jdbc:mysql://localhost/database</code> This default setting uses the MySQL JDBC driver to connect to a MySQL Database Server database.	
<input type="radio"/> MySQL Database Server - ODBC Data Source Name (DSN) <code>mysql:sun.jdbc.odbc.jdbcodbcDriver:username:password@jdbc:odbc:database</code> This default setting uses the SUN JDBC ODBC driver to connect to a MySQL Database Server database, which has been configured with an ODBC Data Source Name on your website/database server.	
<input type="radio"/> MySQL Database Server - Java Data Source <code>mysql:username:password@jdbc:database</code> This default setting uses a MySQL Database Server database, which has been configured as a Java Data Source on your Java application server.	
Oracle Database Server <input type="radio"/> Oracle Database Server <code>oracle:oracle.jdbc.driver.OracleDriver:username:password@jdbc:oracle:thin:@localhost:1521:database</code> This default setting uses the Oracle JDBC driver to connect to an Oracle Database Server database.	
<input type="radio"/> Oracle Database Server - ODBC Data Source Name (DSN) <code>oracle:sun.jdbc.odbc.jdbcodbcDriver:username:password@jdbc:odbc:database</code> This default setting uses the SUN JDBC ODBC driver to connect to an Oracle Database Server database, which has been configured with an ODBC Data Source Name on your website/database server.	
<input type="radio"/> Oracle Database Server - Java Data Source <code>oracle:username:password@jdbc:database</code> This default setting uses an Oracle Database Server database, which has been configured as a Java Data Source on your Java application server.	
IBM DB2 Database Server <input type="radio"/> IBM DB2 Database Server <code>db2.com.ibm.db2.jcc.DB2Driver:username:password@jdbc:db2://localhost/database</code> IBM DB2 Database Server	
<input type="radio"/> IBM DB2 Database Server <code>db2.com.ibm.db2.jcc.DB2Driver:username:password@jdbc:db2://localhost:50000/database</code> IBM DB2 Database Server	
<input type="radio"/> IBM DB2 Database Server - ODBC Data Source Name (DSN) <code>db2:sun.jdbc.odbc.jdbcodbcDriver:username:password@jdbc:odbc:database</code> This default setting uses the SUN JDBC ODBC driver to connect to an IBM DB2 Database Server database, which has been configured with an ODBC Data Source Name on your website/database server.	
<input type="radio"/> IBM DB2 Database Server - Java Data Source <code>db2:username:password@jdbc:database</code> This default setting uses an IBM DB2 Database Server database, which has been configured as a Java Data Source on your Java application server.	
PostgreSQL Database Server <input type="radio"/> PostgreSQL Database Server <code>org.postgresql.Driver:username:password@jdbc:postgresql://localhost/database</code> This default setting uses the PostgreSQL JDBC driver to connect to a PostgreSQL Database Server database.	
<input type="radio"/> PostgreSQL Database Server - ODBC Data Source Name (DSN) <code>postgresql:sun.jdbc.odbc.jdbcodbcDriver:username:password@jdbc:odbc:database</code> This default setting uses the SUN JDBC ODBC driver to connect to a PostgreSQL Database Server database, which has been configured with an ODBC Data Source Name on your website/database server.	
<input type="radio"/> PostgreSQL Database Server - Java Data Source <code>postgresql:username:password@jdbc:database</code> This default setting uses a PostgreSQL Database Server database, which has been configured as a Java Data Source on your Java application server.	

3.2.3 Database Connection for PHP

If your programming/scripting language is PHP you can connect to your database instance directly through native database drivers or through an ODBC Data Source Name (DSN):

- To connect to your database through an ODBC Data Source Name (DSN), your web hosting provider must configure an ODBC Data Source Name (DSN) on your web/database server and provide you with the name of the ODBC Data Source Name (DSN) as well as the username and password to connect to your database instance.
- To connect to your database directly, your web hosting provider must provide you with the name of your database instance as well as the username and password to connect to your database instance.

To configure the Asbru Web Content Management system to access your database instance directly through a native database driver, please select one of the following options:

- Microsoft SQL Server



- MySQL Database Server
- Oracle Database Server
- IBM DB2 Database Server
- PostgreSQL Database Server

To configure the Asbru Web Content Management system to access your database instance through an ODBC Data Source Name (DSN), please select one of the following options:

- Microsoft SQL Server - ODBC Data Source Name (DSN)
- MySQL Database Server - ODBC Data Source Name (DSN)
- Oracle Database Server - ODBC Data Source Name (DSN)
- IBM DB2 Universal Database Server – ODBC Data Source Name (DSN)
- PostgreSQL Database Server – ODBC Data Source Name (DSN)

When you have chosen a database option, please adjust your database connection string as described in 3.2.4 Database Connection String.

<p>Microsoft SQL Server</p> <p><input type="radio"/> Microsoft SQL Server</p> <p><small>mysql:mysql/username:password@localhost/database</small> This default setting uses a Microsoft SQL Server database.</p> <p><input type="radio"/> Microsoft SQL Server - ODBC Data Source Name (DSN)</p> <p><small>mysql:odbc/username:password@localhost/database</small> This default setting uses a Microsoft SQL Server database which has been configured with an ODBC Data Source Name on your website server.</p>	
<p>MySQL Database Server</p> <p><input type="radio"/> MySQL Database Server</p> <p><small>mysql:mysql/username:password@localhost/database</small> This default setting uses a MySQL Database Server database.</p> <p><input type="radio"/> MySQL Database Server - ODBC Data Source Name (DSN)</p> <p><small>mysql:odbc/username:password@localhost/database</small> This default setting uses a MySQL Database Server database which has been configured with an ODBC Data Source Name on your website server.</p>	
<p>Oracle Database Server</p> <p><input type="radio"/> Oracle Database Server</p> <p><small>oracle:odc:/username:password@localhost?service=database</small> This default setting uses an Oracle Database Server database.</p> <p><input type="radio"/> Oracle Database Server - ODBC Data Source Name (DSN)</p> <p><small>oracle:odbc/username:password@localhost?service=database</small> This default setting uses an Oracle Database Server database which has been configured with an ODBC Data Source Name on your website server.</p>	
<p>IBM DB2 Database Server</p> <p><input type="radio"/> IBM DB2 Database Server - ODBC Data Source Name (DSN)</p> <p><small>db2:odbc/username:password@localhost/database</small> This default setting uses an IBM DB2 Database Server database which has been configured with an ODBC Data Source Name on your website server.</p>	
<p>PostgreSQL Database Server</p> <p><input type="radio"/> PostgreSQL Database Server</p> <p><small>pgsql:pgsql/username:password@localhost/database</small> This default setting uses a PostgreSQL Database Server database.</p> <p><input type="radio"/> PostgreSQL Database Server - ODBC Data Source Name (DSN)</p> <p><small>pgsql:odbc/username:password@localhost/database</small> This default setting uses a PostgreSQL Database Server database which has been configured with an ODBC Data Source Name on your website server.</p>	



3.2.4 Database Connection String

When you have selected your database connection option, the Database field will display a default “database connection string”. Replace “database”, “username” and “password” in the default “database connection string” with the ODBC Data Source Name (DSN) / database instance name, username and password for your database instance as provided by your web hosting provider.

Your database server may run on the same computer as your web server or the database server and web server may run on separate computers depending on your web hosting provider:

- If your database server runs on the same computer as your web server, please leave “localhost” as it is in your database connection string.
- If your database server runs on a different computer than your web server, please replace “localhost” in your database connection string with the Internet domain name or IP-number of the database server as provided by your web hosting provider.

After selecting a database option and adjusting the database connection string please select Save.

If you get an error please wait a minute and select Save again as the web server may take a few seconds to recognise the database configuration. If you continue to get an error please check your database connection string and select Save again.

If the connection to your database instance is working correctly – that is if you do not get an error when you select Save – you are ready to initialise your database.

Optionally, the web content management system can also be configured to use additional “read only” and usagelog database instances for increased availability, performance and scalability. Please see the Configuration Guide – Database Configuration – Database Connection section for details.

3.3 License

To use the Asbru Web Content Management system you must obtain a license from Asbru (www.asbrusoft.com) and configure your license key(s). The license may also be provided by your web hosting provider, if they have provided you with the Asbru Web Content Management system.

The Asbru Web Content Management system and licenses are available in different editions with access to different features of the Asbru Web Content Management system.

- **Personal**
Single-user system for an individual website administrator to create and manage a small business or personal website.
- **Professional**
Full standard system, which supports all business needs for a larger website and multiple website administrators.



- **Enterprise**
Extended system, which supports back-end integration with other technical and business systems.
- **Hosting**
Internet, Hosting and Application Service Provider system, which supports easy hosting and administration for multiple clients.

A number of Asbru Web Content Management Add-On modules and licenses are also available:

- **E-Commerce**
Product catalogue, shopping cart, checkout, payment processing, order confirmation, order notification and order tracking.
- **Community**
User registration, personalisation, message board, chat forum, issue tracker, polls, mailing list and communication tools.
- **Databases**
Database creation, import/export, synchronisation, database administration and browse & search.
- **Statistics**
Website usage statistics for monitoring how and how much the website is used.
- **Experience**
Website visitor segmentation and content personalisation, content variants user tests, and website heatmaps.

To configure your Asbru Web Content Management system and Add-On modules licenses please copy/enter all the license codes provided by Asbru into the appropriate fields and select Save.

If you get an error when you select Save please check the license codes and try again.



QuickStart Configuration

In just a few simple steps you will have your own new website and be ready to browse and edit its content.

Step 0: Server Step 1: Database **Step 2: Licenses** Step 3: Superadmin Step 4: Content Step 5: Design Step 6: Settings

Licenses
Please enter your web content management system license codes below and select "Save".

Save

License

Personal Edition		
Professional Edition		
Enterprise Edition		
Hosting Edition		

Add-On Modules

E-Commerce		
Community		
Databases		
Statistics		
Experience		

3.4 Superadmin

The Asbru Web Content Management superadmin is your main website administrator with special permissions and access to configure your system.

A username and password as well as an e-mail address must be configured for your superadmin website administrator. As default the superadmin username and password is configured to "admin" and "admin". You should change the password to something else or anyone can easily get unauthorised access to manage your website.

It is important that you remember your superadmin username and password or you may not be able to get access to the Asbru Web Content Management system and to manage your website.

As a safeguard you should also configure a working e-mail address for your superadmin website administrator and remember to update it if it changes. If you loose your superadmin username and password the only easy way to retrieve them is to have them e-mailed to the configured superadmin e-mail address. Otherwise, you will have to access your database directly and manually to reset or retrieve the superadmin username and password.

An additional email address to which your website contact forms etc. are sent to as default should also be configured.

If you are using the E-Commerce Add-On module an additional email address to which your website orders etc. are sent to as default should also be configured.

To configure your Asbru Web Content Management system superadmin and email addresses please enter your preferred username, password and e-mail addresses and select Save.



3.5 Website Content

To get you started quickly with your website you can import your existing HTML file-based website or import one of a number of different example and quickstart websites included with the Asbru Web Content Management system.

Later, you can reimport your existing HTML file-based website or an example/quickstart website through the Database Configuration web content administration pages (Please see the Configuration Guide for details).

3.5.1 Import Existing Website

If you have an existing HTML file-based website you can select the “Import your existing website” option. Then you can select an “Editable region for page title” and an “Editable region for page content”. If your existing website’s HTML files are created using Dreamweaver templates a number of different “editable regions” extracted from your website HTML files may be listed and you should select which (if any) of your editable regions contains your web pages’ title and which (if any) of your editable regions contains your web pages’ primary content. Otherwise you should simply choose the default “none” and “all” options. Finally, select “Initialize & Import Website” to import your existing website HTML files.

The web content management system will then analyze and import “.dwt” files, “.html”/“.htm” files, images and other files on your website.

Each of your “.html”/“.htm” files will be stripped of any other content than the region selected



below and will be imported as a “page” in the web content management system. If there is an “index.html” file in the website home/root folder this page will become the “Default Page (Homepage)” in the web content management system.

If there are “.dwt” files on your website they will be imported as “templates” in the web content management system and these templates will be used for the “pages” created from your “.html”/“.htm” website files. If there are any additional regions in your “.dwt” files they will be imported as “classes”/“elements” in the web content management system.

3.5.2 Import Example/Quickstart Website

Alternatively, the available example and quickstart websites are listed. Some of the listed example and quickstart websites may be disabled and greyed out depending on your configured license keys.

- **Basic**
A blank website with pre-created and pre-configured Special Pages. This is the recommended option for you to create your own website from scratch.
- **Empty**
A completely blank website for you to create everything from scratch including all required Special Pages. (Usually the “Basic” website should be used instead of the “Empty” website).
- **Business Website Professional Suite (recommended)**
Advanced example website using a wide selection of the web content management system functionality.
This is the recommended option for your initial website content for an easy to modify, ready to use website template with most of the website content and functionality typically used on a company website. Unwanted website content and functionality can easily be removed; and the website content and design can easily be modified; and additional website content and functionality can be added.
- **Eagle Golf**
Advanced example websites using a wide selection of the web content management system functionality. A number of different Eagle Golf example websites for the different editions of the Asbru Web Content Management system are available.

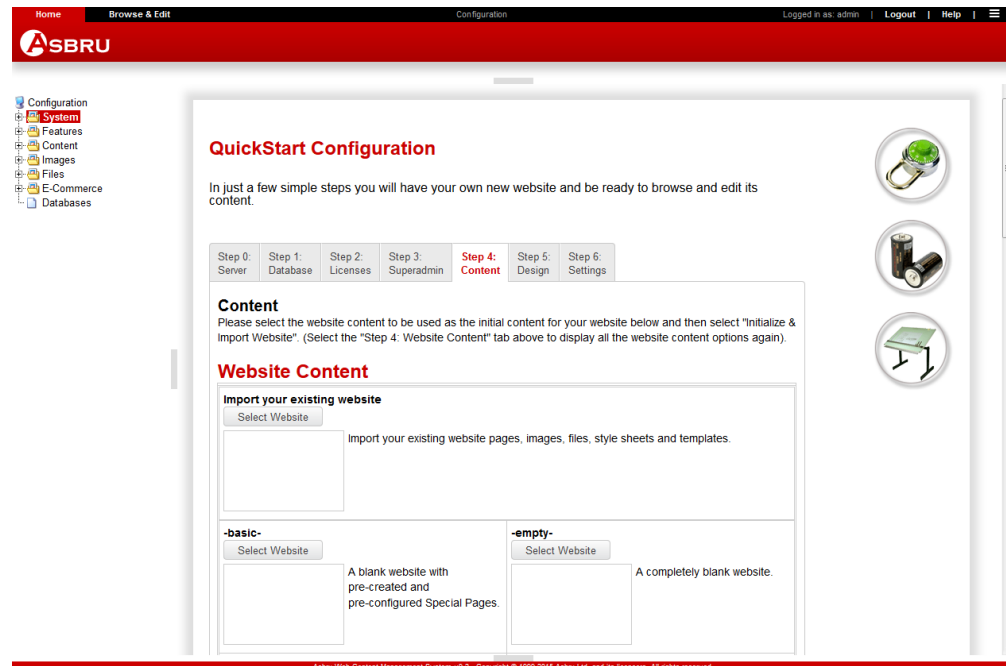
To initialise your website content please select the “Select Website” button for one of the listed example and quickstart websites and select the “Initialise & Import Website” button to confirm the website content initialisation (or select the “Step 4: Website Content” tab to list all the available example and quickstart website options again).

This will import the selected website content data into the web content management system database. This may take a few minutes or several minutes to complete. Database import progress information is displayed in your web browser.

If your database initialisation did not complete successfully, you need to reinitialise your database. Please repeat the database initialisation steps as described above or as described in detail in the 3.2 Database section. If your imported website content is relatively large and/or your database server is relatively slow at importing the data your web server may “timeout” before the database import is completed, and you may need to increase the resources available



to the website content import. Please see the Configuration Guide – Database Configuration – Advanced Import section for details.



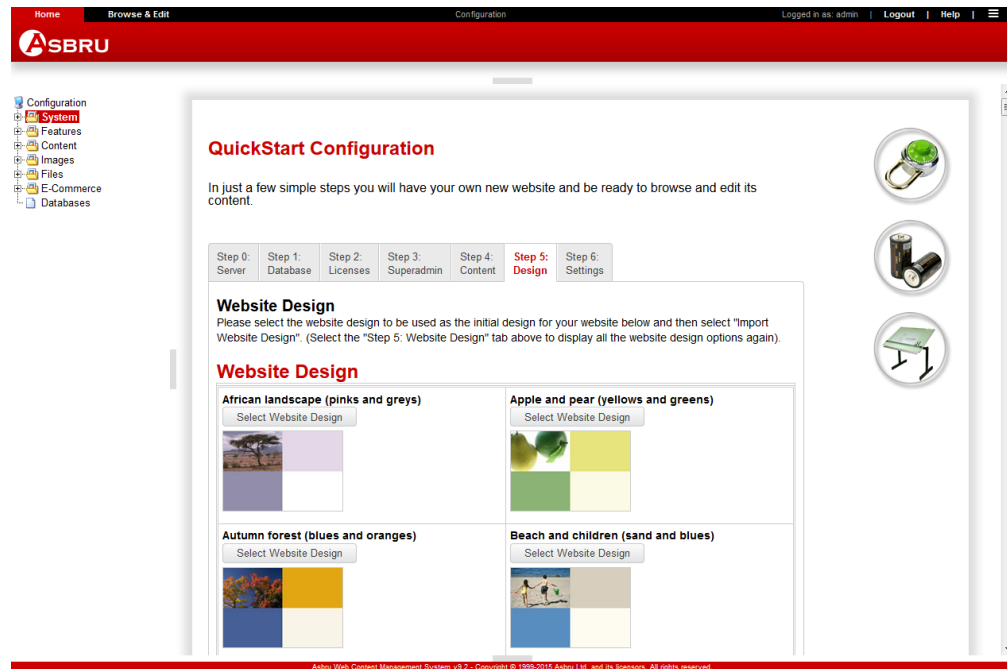
3.6 Website Design

To get you started quickly with your website a number of different quickstart website designs are included with the Asbru Web Content Management system. The available quickstart website designs are listed.

Please note that your selected/imported Website Content example/quickstart website may also already have imported a website design in which case this final Website Design quickstart configuration step will be skipped.

To import your website design please select the “Select Website Design” button for one of the listed website designs and select the “Import Website Design” button to confirm the website design import (or select the “Step 5: Website Design” tab to list all the available website design options again).

This will import the selected website design data into the web content management system database. This should only take a few seconds or a few minutes to complete. Database import progress information is displayed in your web browser.



3.7 Website Settings

Finally, you can adjust a number of website settings.

The basic website settings are two special HTML headers, which tells web browsers which version of HTML code and which character set encoding you are using for your website. If you do not have any preferences for this, simply leave the “HTML DOCTYPE” blank or select the “HTML 4.01 Transitional” option, and set the “HTML Content-Type charset” to the default “UTF-8”.

A number of additional website settings may also be listed depending on your imported Website Content and Website Design. You may simply want to leave these as they are, initially, and change them later.



Home

Browse & Edit

Configuration

Logged in as: admin | Logout | Help |

ASBRU

Configuration

System

Features

Content

Images

Files

E-Commerce

Databases

QuickStart Configuration

In just a few simple steps you will have your own new website and be ready to browse and edit its content.

Step 0: Server

Step 1: Database

Step 2: Licenses

Step 3: Superadmin

Step 4: Content

Step 5: Design

Step 6: Settings

Website Settings

Please select the website settings to be used as the initial settings for your website below and then select "Save".

Save

Website Settings

HTML DOCTYPE

☐ HTML 4.01 Transitional

☒ HTML 4.01 Strict

☐ XHTML 1.0 Transitional




☐ XHTML 1.0 Strict

☐ XHTML 1.1

☐ HTML 5

HTML Content-Type charset

UTF-8



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4 Installed and Configured

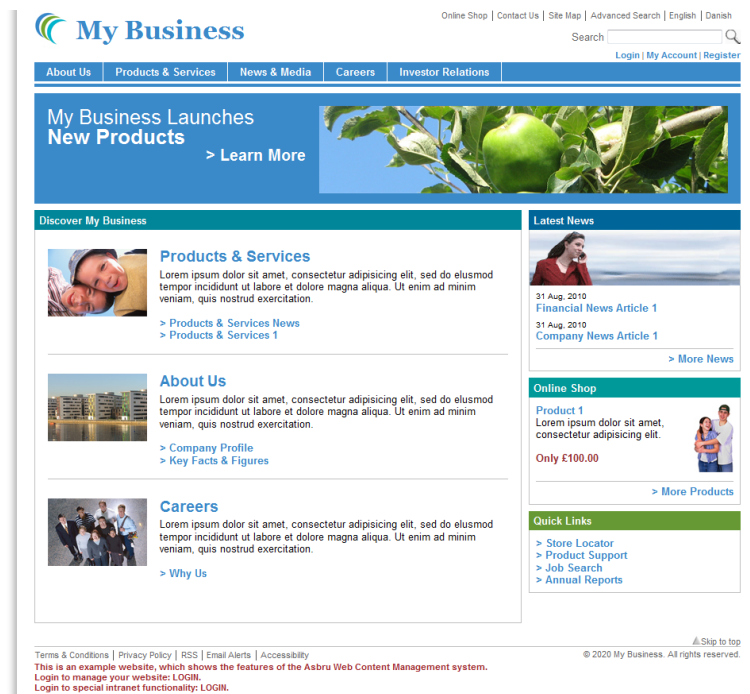
Once you have configured the database, license, superadmin, website content and website design as described in the previous sections, you are ready to start using the Asbru Web Content Management system.

There are many further configuration options to customise the Asbru Web Content Management system and to enable additional features to suit your requirements. You can reconfigure the Asbru Web Content Management system and enable or disable features at any time – even after using the system extensively, so there is no need to enable features until you actually need them. Please see the separate Configuration Guide document for details.

Initially, we recommend you to use the basic web content management features to get familiar with the basics, which are described in the separate Website Editor Guide and Website Administrator Guide.

When you configured and initialised the Asbru Web Content Management database, you were automatically “logged in” as the superadmin website administrator. You can “logout” by selecting the “Logout” link in the top-right hand corner of the Asbru Web Content Management administration web page.

When you logout you will see your new example website homepage.





4.1 Login

To access the Asbru Web Content Management system to manage your website you must open your usual website address followed by “/webadmin/”. For example, if you usually access your website using the address “http://127.0.0.1”, you must use the address “http://127.0.0.1/webadmin/” to access the Asbru Web Content Management system.

When accessing the Asbru Web Content Management system you must first authenticate yourself using the configured superadmin or another configured website administrator username and password to login. Please note that you must enter the username and password exactly as configured with lowercase/uppercase, spacing and punctuation etc.



4.2 Logout

After a successful login you have access to the Asbru Web Content Management system for your website – and so has anybody else with access to your computer. Before leaving your computer for a longer or shorter period of time you should logout from the Asbru Web Content Management system to prevent others from using it to make changes to your website. This is especially important if you use a computer which other people have access to.

To logout from the Asbru Web Content Management system, please select the “Logout” link in the top-left hand corner of the Asbru Web Content Management administration and Browse & Edit pages. After logging out you will see your website homepage.

You will also be logged out automatically after some time depending on the configuration of your web server. Technically, your login/logout is controlled through so-called “session variables” on your web server. Your web server may be configured to automatically expire session variables after anything from a few minutes to a few days.



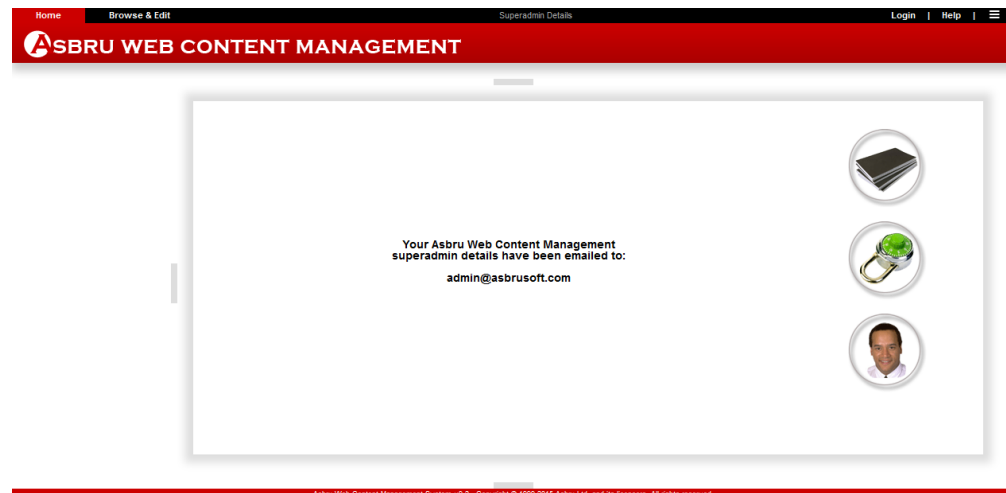
Please note that you will need to login again if your web server session variables and thus your login expire while you are using the Asbru Web Content Management system. E.g. if you are using a long time to edit the content of one of your web pages and your login expires before you save, your changes will be lost. If you experience this problem you should make sure to save your work regularly. Alternatively you can ask your web hosting provider to “increase the web server session variable expiration time”. Usually your web server configuration should be fine, but occasionally it may have been configured to expire session variables after just a few minutes.

4.3 Retrieve superadmin username and password

You should make sure not to forget and lose your superadmin username and password, which are essential to get full access to the Asbru Web Content Management system for your website.

However, if you do forget and lose your superadmin username and password you will be able to retrieve it if you have configured a working superadmin e-mail address.

To retrieve a forgotten and lost superadmin username and password you must open your usual website address followed by “/webadmin/password/”. For example, if you usually access your website using the address “http://127.0.0.1”, you must use the address “http://127.0.0.1/webadmin/password/” to have your superadmin username and password e-mailed to your configured superadmin e-mail address.



If you have forgotten and lost your superadmin username and password and your configured superadmin e-mail address is not configured or is not working, there is no other easy way to retrieve your superadmin username and password.

Alternatively, you must access your Asbru Web Content Management database manually and reset the superadmin username and password to the default “admin” and “admin” using the following SQL database command statements:

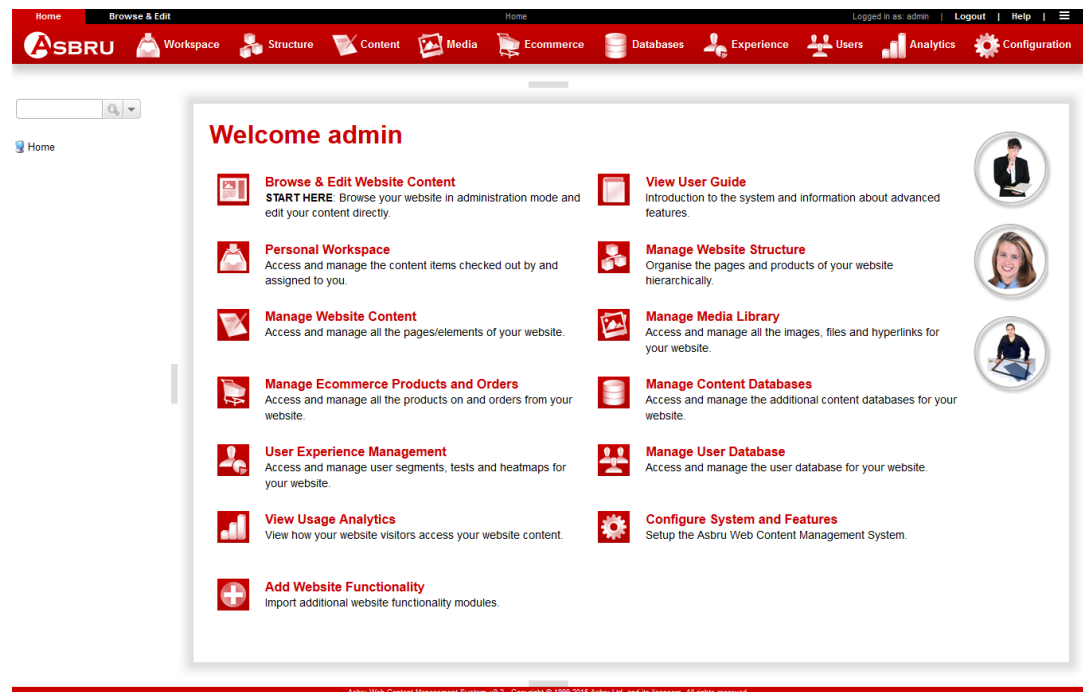
```
DELETE * FROM config WHERE configname='superadmin';  
DELETE * FROM config WHERE configname='superadmin_password';
```



WARNING: This requires specialist technical knowledge and errors may cause loss of part of or all of your website content etc. Please do not loose your superadmin username and password.

4.4 Home

After a successful login to the Asbru Web Content Management system you will see the main administration page.





5 Software Updates

The Asbru Web Content Management system is improved and extended, continuously, and new releases may be made available for download from the Asbru website (www.asbrusoft.com).

The current version of the Asbru Web Content Management system is displayed in the footer at the bottom of all the web content management system administration pages for v6.3 or newer. (For older versions the current version number is not visible on the web content management system administration pages, but it can be identified by the web content editor version number displayed at the bottom of the web content editor help pop-up window).

This section describes the general procedure for upgrading the Asbru Web Content Management system. However, the upgrade procedure may vary for some releases. Please make sure to read and follow any special upgrade instructions on the Asbru website.

Upgrading the Asbru Web Content Management should usually never cause any of your website content and other data to be modified or deleted. However, before upgrading the Asbru Web Content Management you should always make a backup copy of your existing program files, data files and database, which you can restore if anything goes wrong with the upgrade.

5.1 Download and Installation

To download and install a new release of the Asbru Web Content Management system, simply download a package in an appropriate format, unpack it and copy it to your website folder in a similar way to your initial installation. The program files in the new release should replace your existing program files – except for a few files. When upgrading you should not replace but keep your existing files of the following (located in the root folder of your website):

- ini.aspx and/or ini.jsp and/or ini.php
- ini.webadmin.aspx and/or ini.webadmin.jsp and/or ini.webadmin.php
- defaults.aspx and/or defaults.jsp and/or defaults.php

These files contain settings for your website. If you accidentally replace these files, your website may behave erroneously. However, your website settings are not lost but can and should be restored by opening the following web address in your web browser:

<http://127.0.0.1/webadmin/database/upgrade.aspx>

if you are using the .NET version of the Asbru Web Content Management system, or:

<http://127.0.0.1/webadmin/database/upgrade.jsp>

if you are using the JSP version of the Asbru Web Content Management system, or:

<http://127.0.0.1/webadmin/database/upgrade.php>

if you are using the PHP version of the Asbru Web Content Management system.

Please note that you must replace “127.0.0.1” with your own website address, and that “log in” using the superadmin administrator username and password for your website is required.

5.2 Database Upgrade

Immediately, after installing a new release of the Asbru Web Content Management system, you should always “log in” as the superadmin website administrator.



New releases of the Asbru Web Content Management system may require you to upgrade your database model. When you “log in” as the superadmin website administrator after installing a new release of the Asbru Web Content Management system, you may be presented with a “database upgrade required” message. Simply select the provided link to upgrade your database, which is done automatically.

The screenshot shows the Asbru Web Content Management System interface. At the top, there is a navigation bar with links for Home, Browse & Edit, Configuration, and a user status bar indicating 'Logged in as: admin' with links for Logout, Help, and a menu icon. Below the navigation bar is a sidebar with a tree view of the system's configuration options, including Configuration, System (highlighted), Features, Content, Images, Files, Links, Users, Versions, E-Commerce, Databases, Packages, and Bundles. The main content area displays a message titled 'Database Upgrade Required' in red. The message text states: 'Your Asbru Web Content Management system software has been upgraded to a newer version. Your Asbru Web Content Management system database needs to be upgraded to a newer version, too. Do not worry, the database upgrade is done very easily and quickly - and does not require any downloads or technical skills. [Click here to upgrade your Asbru Web Content Management system database](#)'.

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6 Internationalisation

The Asbru Web Content Management system supports internationalisation with translations of all text to other languages than the default (English) and automatic detection of each website administrator's language preferences.

6.1 Asbru Web Content Management system texts

All texts in the Asbru Web Content Management system are located in the “/WEB-INF/classes/hardcore.properties” file. This file contains the default texts used if no specific language is selected and available.

Additional language files can be created with translations of all texts to other languages. As default a Danish language translation file is included. The “/WEB-INF/classes/hardcore_da.properties” file contains all texts in the Asbru Web Content Management system translated to Danish.

To add support for other languages, simply copy the “/WEB-INF/classes/hardcore.properties” file and translate its contents. The copied file must be named “/WEB-INF/classes/hardcore_xx.properties” where “xx” is the ISO 639 language code such as:

- ar – Arabic
- de – German
- en – English
- es – Spanish
- fr – French
- ja – Japanese
- zh – Chinese

Additional language files for language variations can be created with translations for individual countries. To add support for language variations, simply copy the “/WEB-INF/classes/hardcore.properties” file or another language file and translate its contents. The copied file must be named “/WEB-INF/classes/hardcore_xx_YY.properties” where “xx” is the ISO 639 language code as described above and where “YY” is the ISO 3166 country code such as:

- AU – Australia
- CA – Canada
- GB – United Kingdom
- US – United States

To change the default language, simply replace the default English “/WEB-INF/classes/hardcore.properties” file with a copy of another language file.

6.2 Asbru Web Content Editor texts

All texts in the Asbru Web Content Editor are located in the “/webadmin/webeditor/properties.js” file. This file contains the default texts used if no specific language is selected and available.



Additional language files can be created with translations of all texts to other languages. As default a Danish language translation file is included. The “/webadmin/webeditor/properties_da.js” file contains all texts in the Asbru Web Content Editor translated to Danish.

To add support for other languages, simply copy the “/webadmin/webeditor/properties.js” file and translate its contents (and add the language to the “/webadmin/webeditor/webeditor.properties.js” as described below). The copied file must be named “/webadmin/webeditor/properties_xx.js” where “xx” is the ISO 639 language code such as:

- ar – Arabic
- de – German
- en – English
- es – Spanish
- fr – French
- ja – Japanese
- zh - Chinese

Additional language files for language variations can be created with translations for individual countries. To add support for language variations, simply copy the “/webadmin/webeditor/properties.js” file or another language file and translate its contents. The copied file must be named “/webadmin/webeditor/properties_xx_YY.js” where “xx” is the ISO 639 language code as described above and where “YY” is the ISO 3166 country code such as:

- AU – Australia
- CA – Canada
- GB – United Kingdom
- US – United States

To change the default language, simply replace the default English “/webadmin/webeditor/properties.js” file with a copy of another language file.

To add support for new language files, the “/webadmin/webeditor/webeditor.properties.js” file must be modified. Add the language/country code to the following line at the top of the file:

```
var webeditor_languages = "|da|en|";
```

To add support for a new language file name “/webadmin/webeditor/properties_xx.js” modify the line to:

```
var webeditor_languages = "|da|en|xx|";
```

To add support for a new language file name “/webadmin/webeditor/properties_xx_YY.js” modify the line to:

```
var webeditor_languages = "|da|en|xx_YY|";
```

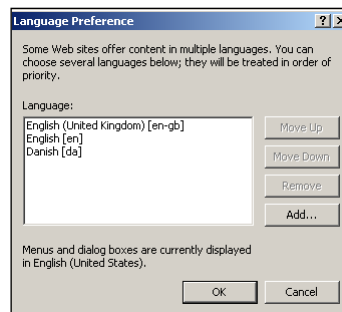
The language/country codes must be separated and enclosed by | characters.



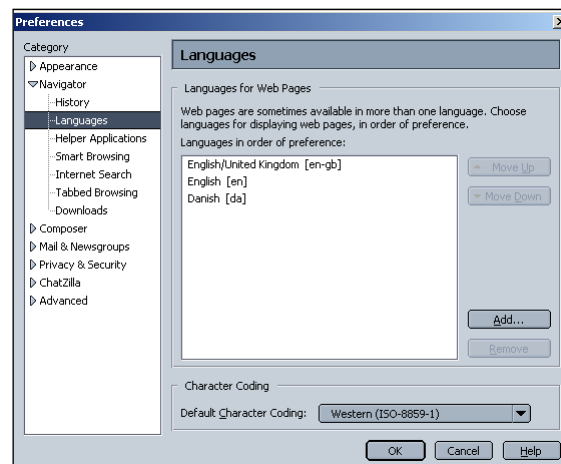
6.3 Website Administrator Language Preferences

The language used by the Asbru Web Content Management is selected by each individual website administrator through his/her web browser's language preferences settings.

In Microsoft Internet Explorer language preferences can be selected through the Tools – Internet Options – General – Languages menu/window. Please see the Microsoft Internet Explorer documentation for details.



In Mozilla language preferences can be selected through the Edit – Preferences – Navigator – Languages menu/window. Please see the Mozilla documentation for details.



The Asbru Web Content Management system will detect the selected web browser language preferences and use one of the selected languages if available. If none of the selected languages are available the default language will be used.



7 Add-On Modules and Extensions and programming API scripts

7.1 Custom / Third-Party Add-On Modules

The Asbru Web Content Management system enables you to create your own custom add-on modules and to use third-party developed add-on modules.

Custom / third-party add-on modules can be integrated with the Asbru Web Content Management system administration pages and can have their own administration section and/or add menu-items to the existing administration sections.

Custom /third-party add-on modules can also be payment service provider modules for use with the E-Commerce Add-On module

7.1.1 Installation and Configuration

To install an additional add-on module the module files must be copied to the web server (as default as a new folder under the "/webadmin/module/" folder).

The Asbru Web Content Management system must be configured to load the additional add-on module by editing the "/webadmin/module/config.xxx" file (where "xxx" is "aspx", "jsp" or "php" depending on which version of the Asbru Web Content Management system you are using) and adding an additional line to the bottom of the file. For example to activate the "example" module add the following lines:

- .NET:
`<!-- #include file="example/config.aspx" -->`
- JSP:
`<%@ include file=" example /config.jsp" %>`
- PHP:
`<?php include " example /config.php"; ?>`

If multiple add-on modules are configured the order of them determines the order their administration sections and menu items are displayed on the web content management system administration pages.

7.2 Custom / Third-Party Extensions

The Asbru Web Content Management system enables you to create your own custom extensions and to use third-party developed extensions.

Custom / third-party extensions can be integrated with the Asbru Web Content Management system content to include content from other applications and sources than the web content management system.

7.2.1 Installation and Configuration

To install an additional extension the extension file must be copied to the web server (as default as a new file under the "/webadmin/extension/" folder). No configuration is required.



7.3 Product Availability and Delivery Custom /Third-Party Extensions

The Asbru Web Content Management system E-Commerce Add-On module enables you to create your own product availability and delivery custom extensions and to use third-party developed extensions.

Product availability and delivery custom / third-party extensions can be integrated with the Asbru Web Content Management system E-Commerce Add-On module to check product availability and handle automated product delivery through other applications and sources than the web content management system.

7.3.1 Product Availability Custom/Third-Party Extensions

Product availability custom/third-party extensions can be used on product, shopping cart and checkout pages to check if a product is available. For example, to check your own external stock inventory system to see if a product is in stock; or to check a supplier's external stock inventory system to see if a product is in stock and can be ordered; or to check if non-physical products such as usernames, email addresses and Internet domain names are available or have already be registered.

7.3.1.1 Installation and Configuration

To install an additional product availability extension the extension file must be copied to the web server (as default as a new file under the "/webadmin/productavailability/" folder). No configuration is required.

7.3.2 Product Delivery Custom/Third-Party Extensions

Product delivery custom/third-party extensions can be used to automatically generate digital products and to update external systems when a product has been ordered. For example, to update your own external stock inventory system; or place an order with a supplier; or to generate/deliver non-physical products such as usernames, email addresses and Internet domain names.

7.3.2.1 Installation and Configuration

To install an additional product delivery extension the extension file must be copied to the web server (as default as a new file under the "/webadmin/productdelivery/" folder). No configuration is required.

7.4 Workflow Action Custom/Third-Party Extensions

The Asbru Web Content Management system enables you to create your own workflow action custom extensions and to use third-party developed extensions.

Workflow action custom / third-party extensions can be integrated with the Asbru Web Content Management system to make and log content administration actions through other applications and sources than the web content management system.

7.4.1 Installation and Configuration

To install an additional workflow action extension the extension file must be copied to the web server (as default as a new file under the "/webadmin/workflowaction/" folder). No configuration is required.



7.5 Web Content Editor Custom/Third-Party Extensions

The Asbru Web Content Management system enables you to create your own web content editor custom extensions and to use third-party developed extensions.

Web content editor custom / third-party extensions can be integrated with the Asbru Web Content Management system to use other web content editors than the Asbru Web Content Editor included in the web content management system.

7.5.1 Installation and Configuration

To install an additional web content editor extension the extension file(s) must be copied to the web server (as default as a new file under the "/webadmin/webeditors/EXTENSION NAME/" folder). No configuration is required.

7.6 Programming API Scripts

The Asbru Web Content Management system enables you to create your own custom program scripts to extend and customize the web content management system's functionality.

7.6.1 Installation and Configuration

To install programming API scripts they must be copied to the web server (as default as a file under the "/webadmin/api/" folder). No configuration is required.

7.6.2 External Website Publishing/Archiving Programming API

As default the Asbru Web Content Management system runs on the actual website and delivers the website content dynamically. However, for special requirements you may want to program your own program scripts to be executed when a content item is published or unpublished in the web content management system - for example to copy the file to another web server or an archive/backup server.

When a new or updated content item with a "static filename" is published the web content management system will check if a "/webadmin/api/published", "/webadmin/api/published.bat" or "/webadmin/api/published.sh" file exists and execute it with the published content item's static filename as parameter.

When a content item with a "static filename" is unpublished the web content management system will check if a "/webadmin/api/unpublished", "/webadmin/api/unpublished.bat" or "/webadmin/api/unpublished.sh" file exists and execute it with the published content item's static filename as parameter.

7.6.3 File Upload Programming API

As default the Asbru Web Content Management system simply adds uploaded images and other files as content items in the web content management system. However, for special requirements you may want to program your own program scripts to be executed when an "image" or a "file" is uploaded to the web content management system – for example to check files for virus infections or to convert the files to other formats or sizes.

When an "image" or a "file" is uploaded the web content management system will check if a "/webadmin/api/image", "/webadmin/api/image.bat", "/webadmin/api/image.sh", "/webadmin/api/file", "/webadmin/api/file.bat" or "/webadmin/api/file.sh" file exists and execute it with the uploaded file's filename as parameter.



Depending on what the program script does and what the web content management system should do the program script must return/output:

- The same filename as passed to the program script as a parameter
If the program script has not renamed, moved or deleted the uploaded file.
- The uploaded file's new filename
If the program script has renamed or moved the uploaded file. The web content management system will then update the content item with the new filename.
- Nothing
If the program script has deleted the uploaded file. The web content management system will then also delete the content item.

When an "image" or a "file" is uploaded the web content management system will also check if a `"/webadmin/api/image1"`, `"/webadmin/api/image1.bat"`, `"/webadmin/api/image1.sh"`, `"/webadmin/api/image2"`, `"/webadmin/api/image2.bat"`, `"/webadmin/api/image2.sh"`, `"/webadmin/api/image3"`, `"/webadmin/api/image3.bat"`, `"/webadmin/api/image3.sh"`, `"/webadmin/api/file1"`, `"/webadmin/api/file1.bat"`, `"/webadmin/api/file1.sh"`, `"/webadmin/api/file2"`, `"/webadmin/api/file2.bat"`, `"/webadmin/api/file2.sh"`, `"/webadmin/api/file3"`, `"/webadmin/api/file3.bat"` or `"/webadmin/api/file3.sh"` file exists and execute it with the uploaded file's filename as parameter. Depending on what the program script does and what the web content management system should do the program script must return/output:

- The filename of new, alternative copy of the uploaded file
If the program script has created a new, alternative copy of the uploaded file – for example a small resolution version of an image, or a PDF version of a Microsoft Word document, or a compressed version of a program file etc. The web content management system will then create an additional content item for the new file. The original uploaded file's content item's corresponding Additional Content / Image 1 / Image 2 / Image 3 / File 1 / File 2 / File 3 attribute will point to the new, alternative file's content item. The new, alternative file's content item's Content Relations / Page Up attribute will point to the original uploaded file's content item.
- Nothing
If the program script has not created a new, alternative copy of the uploaded file. No additional content item will be created by the web content management system.

7.6.4 Validate Content Data Programming API

If you have special requirements for the website content you can program your own program scripts to validate content when/before it is saved to the web content management system. If a `"/webadmin/api/validatecontent.xxx"` (replace "xxx" with your programming language extensions: "aspx", "jsp" or "php") program script exists then that will be executed when an added or updated content item is saved. The content item's data will be posted to the program script as standard HTML POST form data.

The posted content item data can then be validated and the program script should return a structured response to the web content management system:



- “OK”
The content item data are ok and the content item will be saved.
- “OK:ALERT:MESSAGE”
The content item data are ok and the content item will be saved and the “MESSAGE” will be displayed to the website administrator (replace “MESSAGE” with your own text).
- “ERROR:CONFIRM:MESSAGE”
There is a potential problem with the content item data and the website administrator will be prompted with the “MESSAGE” to confirm to save or cancel / re-edit the content item (replace “MESSAGE” with your own text).
- “ERROR:ALERT:MESSAGE”
There is a problem with the content item data and the content item will not be saved. The “MESSAGE” will be displayed to the website administrator and the website administrator must re-edit the content before it can be saved (replace “MESSAGE” with your own text).

7.6.5 Validate User Data Programming API

If you have special requirements for the website user accounts you can program your own program scripts to validate user data when/before they are saved to the web content management system. If a “/webadmin/api/validateuser.xxx” (replace “xxx” with your programming language extensions: “aspx”, “jsp” or “php”) program script exists then that will be executed when an added or updated user account is saved as well as when a user registers on the website. The user account’s data will be posted to the program script as standard HTML POST form data.

The posted user account data can then be validated and the program script should return a structured response to the web content management system:

- “OK”
The user account data are ok and the user account will be saved.
- “OK:ALERT:MESSAGE”
The user account data are ok and the user account will be saved and the “MESSAGE” will be displayed to the website administrator (replace “MESSAGE” with your own text). For website user registrations the “MESSAGE” will be displayed to the website user.
- “ERROR:CONFIRM:MESSAGE”
There is a potential problem with the user account data and the website administrator will be prompted with the “MESSAGE” to confirm to save or cancel / re-edit the user account (replace “MESSAGE” with your own text). For website user registrations the “MESSAGE” will be displayed to the website user.
- “ERROR:ALERT:MESSAGE”
There is a problem with the user account data and the user account will not be saved. The “MESSAGE” will be displayed to the website administrator and the website administrator must re-edit the user account before it can be saved (replace “MESSAGE” with your own text). For website user registrations the “MESSAGE” will be displayed to the website user.



7.6.6 Media Cloud Storage API

As default the Asbru Web Content Management system stores the website images and files on the website server. If the website and the Asbru Web Content Management system run on a cluster of website servers they must be setup to use shared or mirrored/replicated file storage to make the website images and files available on all the website servers. Alternatively, you may want to use a cloud storage service (or some other type of shared storage service) for your website images and files.

When the web content management system is configured to use cloud storage through Configuration / System / Website / Media Storage / Cloud Storage the web content management system will execute a number of “/webadmin/api/” program scripts when website images and files are uploaded, copied, moved/renamed, deleted and downloaded:

- /webadmin/api/exists.xxx” (replace “xxx” with: “aspx”, “jsp” or “php”)
The web content management system needs to know if a given website image/file exists on the cloud storage.
- /webadmin/api/upload.xxx” (replace “xxx” with: “aspx”, “jsp” or “php”)
A new website image/file has been uploaded to the website and should be uploaded to the cloud storage.
- /webadmin/api/copy.xxx” (replace “xxx” with: “aspx”, “jsp” or “php”)
A website image/file has been copied and should be copied on/to the cloud storage.
- /webadmin/api/move.xxx” (replace “xxx” with: “aspx”, “jsp” or “php”)
A website image/file has been moved/renamed and should be moved/renamed on the cloud storage.
- /webadmin/api/delete.xxx” (replace “xxx” with: “aspx”, “jsp” or “php”)
A website image/file has been deleted and should be deleted from the cloud storage.
- /webadmin/api/download.xxx” (replace “xxx” with: “aspx”, “jsp” or “php”)
A modified or non-existing website image/file has been accessed and should be downloaded from the cloud storage.

These “/webadmin/api/” program scripts are included with the web content management system with support for a number of cloud storage service providers as well as placeholder comments in the program code for you to add your own custom programming for your own or other third-party cloud storage service providers. Please see the included “/webadmin/api/” program scripts for details.

7.6.7 One-Time Password Login Programming API

If you have special requirements for login to the website and or web content management system administration using one-time passwords you can program your own program scripts to generate and/or distribute one-time password codes when website users and/or website administrators login to the website and/or the web content management system.

When a website user or website administrator login to the website or the web content management system administration, the web content management system will check if a “/webadmin/api/login”, “/webadmin/api/login.xxx” (replace “xxx” with your programming language extensions: “aspx”, “jsp” or “php”), “/webadmin/api/login.bat” or



“/webadmin/api/login.sh” file exists and execute it with the entered login username and password and one-time password code as well as the user account’s contact details and the one-time password code generated by the web content management system as parameters.

Depending on what the program script does and what the web content management system should do the program script must return/output:

- The same one-time password code as passed to the program script as a parameter
If the program script has sent the one-time password code to the website user/administrator.
- A new one-time password code
If the program script has generated a new one-time password code and sent it to the website user/administrator.
- Nothing
If the program script has not done anything. The web content management system should use its own generated one-time password code and email it to the website user/administrator.

7.6.8 Cloud Deployment API

The Asbru Web Content Management system can be installed on your own servers locally or with a hosting service provider of your own choice as well as cloud hosting services.

For a cloud hosted installation of the web content management system with dynamic scalability through addition of additional web servers, the web content management system installation may need to automatically detect and connect to the configured database server and media cloud storage when a new web server is added.

As default the Asbru Web Content Management system includes support for a number of cloud hosting services and database servers with automatic detection and connection to the database server. To use the web content management with other cloud hosting services and/or databases than the ones supported as default, you may need to add your own program code to automatically detect the configured database server and generate the database connection string to be used by the web content management system to connect to the configured database server as well as the media cloud storage configuration settings.

The cloud deployment detection and database connection and media cloud storage is handled by the “/config.cloud.xxx” (replace “xxx” with: “aspx”, “jsp” or “php”) special configuration program script. To add support for other cloud hosting service providers and database servers, simply edit this program script and add your own program code to:

- Detect the cloud deployment settings through the server environment variables or any other way these settings are made available by the cloud hosting services.
- Set the “database” to the database connection string for the configured database server as it would be entered into the web content management system’s Configuration / System / Database / Database Connection configuration page.
- Set the “database_init” configuration setting to any special SQL commands, which may be required to create and initialise the database server.



- Set the "csservice" configuration setting to one of the supported media cloud storage service providers or to any other unique id/name for your cloud storage service provider as also used in your Media Cloud Storage API program scripts.
- Set the "csusername", "cspassword", "csrootpath" and "csURLrootpath" configuration settings to the relevant values as they would be entered into the web content management system's Configuration / System / Website / Media Storage configuration page.

7.6.9 Usagelog Data Summarisation

The Asbru Web Content Management system Usage Statistics Add-On module includes functionality to periodically summarise old usagelog data for reduced database storage space. This can be done manually through the web content management system administration pages, or you may want to this automatically. To do this automatically, you can use your operating system's general functionality to execute programs periodically to access the web content management system's usagelog data summarisation functionality.

IMPORTANT: It is strongly recommended that you only do this locally on the web server, or using encryption over any network connection:

<http://localhost/webadmin/usage/summarise.aspx?username=USERNAME&password=PASSWORD>

<https://www.yourwebsite.com/webadmin/usage/summarise.aspx?username=USERNAME&password=PASSWORD>

Please note that each access to this will only summarise one configured usagelog data summarisation period, so this should be done with (at least) the same frequency as your configured usagelog data summarisation period - although, not more frequently than the usagelog data summarisation will have time to complete between each access.