

Sitecore Experience Commerce Installation Guide for On-Premise Solutions

Sitecore Experience Commerce 9.0

Installation guide for administrators and developers



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Chapter 1

Getting started

This guide describes how to install Sitecore Experience Commerce™ (XC) 9.0 in a single-server configuration (local environment). For details on installing Sitecore XC in other environments (for example, production environments), see the *Sitecore Experience Commerce DevOps Guide*.

Note

This document assumes that you have already installed the Sitecore Experience Platform 9.0 software (using the XP Single configuration), as described in the *Sitecore Experience Platform Installation Guide*, available from dev.sitecore.net.

The document contains the following chapters:

- **Chapter 1 – Getting started**
An introduction to the Sitecore Experience Commerce (XC) 9.0 solution and a description of system software and hardware requirements.
- **Chapter 2 – Preparing for Sitecore XC installation**
Describes tasks you must complete before deploying Sitecore XC on top of your Sitecore XP installation.
- **Chapter 3 – Installing Sitecore XC**
Describes the Sitecore XC deployment script and how to customize your configuration for Sitecore XC installation in your environment.
- **Chapter 4 – Post-installation steps**
Describes necessary actions after installation.

1.1 Sitecore Experience Commerce solution

Sitecore Experience Commerce (XC) is an e-commerce solution, built on the Sitecore Experience Platform (Sitecore XP).

The Sitecore XC solution provides a core framework for rapidly delivering commerce functionality through the following components:

- **Commerce Engine**
An extensible commerce core framework, hosting commerce services such as Cart, Order, Pricing, Promotions, Catalogs, and Inventory. The Commerce Engine includes a pluggable framework for extending the engine to modify or add to existing functionality.
- **Commerce Business Tools**
A set of rich business tools for merchandisers and customer service representatives. The business tools are built on the Angular framework, and can also be extended using the same pluggable framework.
- **Sitecore Experience Accelerator (SXA) Storefront**
A sample storefront website that is integrated with the Commerce Engine. You can use the SXA Storefront as a starting point to building a customized storefront.

For more information about Sitecore XP, refer to the Sitecore Documentation site – <http://doc.sitecore.net>.

For assistance, or to report any discrepancies between this document and the product, please contact <http://support.sitecore.net/helpdesk/>.

As of Sitecore 9.0, the on-premises installation of the platform occurs in the context of the Sitecore Installation Framework (SIF). The framework deploys Web Deploy Packages (WDP) by passing parameters to configuration files through a Microsoft® PowerShell module.

1.2 Overview of the installation process

This section provides an overview of the installation process using the Sitecore Installation Framework.

For more information about the installation framework, cmdlets, and extensibility points, refer to the *Sitecore Installation Framework Configuration Guide*. You can download the guide from the Sitecore Downloads page – <https://dev.sitecore.net>.

To install an instance of Sitecore Experience Commerce on your local machine:

1. Ensure you meet the software and hardware requirements as described in the [System requirements](#) section of this guide.
2. Install the Sitecore Installation Framework (SIF) and Sitecore XP 9.0 software (using the XP Single configuration). For detailed instructions, see the *Sitecore Experience Platform 9.0 Installation Guide*, available for download from the Sitecore Downloads page on dev.sitecore.net.
3. Download the release package for Sitecore XC 9.0 and complete the following prerequisite tasks:
 - Create a certificate for Commerce Engine Connect.
 - Stop the XConnect site.
4. Customize the Sitecore XC deployment script to reflect your own environment, and run the script to install the software on your local machine.
5. Complete the post-installation set-up steps to finish the installation.

1.3 System requirements

This section describes the software and hardware requirements for a Sitecore XC 9.0 hosting environment.

Note

You need a Braintree sandbox account to enable web payment functionality through the Commerce Engine. Follow the instructions on the [Braintree website](#) to set up an account, and note the `MerchantID`, `PublicKey` and `PrivateKey` information. You need to specify the values for those parameters in the Sitecore XC deployment script.

1.3.1 Hosting environment requirements

Operating system	Windows Server 2016 Windows 10 Professional (32/64-bit) Windows 8.1 Professional (32/64-bit)
.NET Framework	.NET Framework 4.6.2 Developer Pack (including available updates) ASP.NET MVC 4 or later ASP.NET Core 2.0 .NET Core Windows Server Hosting 2.0.0 OData 7.2.0
Database	Microsoft SQL Server 2016 SP1 Note: Sitecore XP 9.0, specifically Experience Database (xDB), does not support other SQL versions, and does not support MongoDB and Oracle.
Web server	IIS 10.0 or IIS 8.5 (the version supported by your operating system) Microsoft Web Deploy 3.6 URL Rewriter
Development	Visual Studio 2017 .NET Core 2.0.0 Visual Studio 2017 Tooling MSBuild Microsoft Visual Studio Web targets (available from Nuget) Git client
Deployment	PowerShell 5.1 or later
Runtime	Node.js OData Connected Service (available from Visual Studio Marketplace)
Search indexing	Solr 6.6.2
Sitecore software	Sitecore Experience Platform 9.0 Update-1 Sitecore Experience Accelerator 1.6 (available on dev.sitecore.net) Sitecore PowerShell Extensions 4.7.2 (available from the Sitecore Marketplace)

1.3.2 Hardware requirements

The minimum hardware configuration requirements for running a single Sitecore XC installation are:

- 4 core processor
- 16GB of RAM

Note

The recommended hardware requirements for running the software on a single computer. For more information about running Sitecore XC on different kinds of hardware, consult your Sitecore partner or technical sales representative.

Chapter 2

Preparing for a Sitecore XC installation

This chapter outlines the tasks you must complete before installing Sitecore XC 9.0 on a single machine in a non-production environment.

This chapter contains the following sections:

- Verify your Sitecore XP 9.0 setup
- Download the Sitecore XC release package and prerequisites
- Create a certificate for Sitecore Commerce Engine Connect
- Stop the xConnect site

2.1 Verify your Sitecore XP 9.0 setup

The instructions in this document assumes that you have already installed the Sitecore XP 9.0 software on your system, as described in the *Sitecore Experience Platform Installation Guide*.

These instructions assume that you have .NET Core SDK 2.0.0 installed in your development environment and have the following installed in your deployment environment:

- .NET Core Windows Server Hosting 2.0.0
- Solr 6.6.2 deployment (with HTTPs enabled)
- Sitecore Experience Platform 9.0 (XP Single deployment)

The following sections highlight important functional areas that must be configured correctly before you install the Sitecore XC solution.

2.1.1 Search provider setup

Solr is the recommended search provider for a single-server installation. However, Azure Search is also supported.

The following guidelines apply to Solr.

For Solr, before installing the Sitecore XC solution, make sure that Solr is running properly by rebuilding the search indexes and the link databases in the Sitecore client (**Control Panel > Indexing Manager**). Detailed instructions are provided in the *Sitecore Experience Platform Installation Guide*.

In addition, make a note of the values you used for the Solr installation (`$SolrUrl`, `$SolrRoot`, `$SolrService`) during the Sitecore XP installation. You must specify these values in the Sitecore XC deployment script.

For Azure Search, you must create an Azure Search Service and make a note of the values for the service name, the service admin key, and the service query key. You must specify these values in the Sitecore XC deployment script.

2.1.2 SQL server setup

The Sitecore Installation Framework (SIF) installs the required databases during Sitecore XP deployment, but you must set up the correct user roles for authentication. Ensure that you add a recognized user (for example, `collectionuser`) to the xDB shard databases (as described in the *Sitecore Experience Platform Installation Guide*).

Sitecore XP uses SQL authentication during installation (for example, `$SqlAdminUser = "sa"`). Sitecore XC uses Windows Authentication during installation, which means that the user identity running the Sitecore XC deployment script is typically the current Windows logon user. This user account must have proper database permissions (for example, `sysadmin` at the SQL instance level) during the installation.

In addition, make a note of the value you used for the SQL installation (`$SqlServer`) during the Sitecore XP installation. You must specify this value in the Sitecore XC deployment script.

2.1.3 IIS setup

If the Sitecore XP IIS site name is different from its application pool name (by default, they are the same), you must change the values in the Sitecore XC deployment scripts for the `StopAppPool` and `StartAppPool` parameters in the `SXASStorefront.CreateBinding.json` file to reflect the correct application pool name.

2.2 Download the Sitecore XC release package and prerequisites

You can download the Sitecore XC release package from the *Sitecore Experience Commerce Download* page.

To download the Sitecore XC 9.0 release package:

1. Open a browser and go to the [Sitecore Experience Commerce Download page](#).
2. Download the Sitecore Experience Commerce release package (zipped file).
3. Extract the contents of the zip file onto the environment from which you are going to deploy Sitecore XC (for example, `c:\deploy`).

The extraction process results in multiple `.zip` files on your machine.

4. Go to the folder where you extracted the zip files (for example, `c:\deploy\<extracted files>`) and unzip the following files:
 - o `SIF.Sitecore.Commerce.x.x.xxxx.zip`
 - o `Sitecore.Commerce.Engine.SDK.x.x.xxxx.zip`
 - o `Sitecore.BizFX.x.x.xxx.zip`

Make a note of the destination folders (for example, `c:\deploy\Sitecore.BizFX.x.x.xxx\`). You must specify the path to their locations in the Sitecore XC deployment script. Leave all other files in the release package zipped.

5. Download the following software to your local deployment folder (for example, `c:\deploy\assets\`).
 - o Sitecore PowerShell Extensions 4.7.2 (available from the [Sitecore Marketplace](#))
 - o Sitecore Experience Accelerator 1.6 (available from [dev.sitecore.net](#))
 - o MSBuild Microsoft Visual Studio Web targets (available from [Nuget](#))

When you unpack the Web targets NuGet package, copy the `\tools\VSToolsPath\Web\Microsoft.Web.XmlTransform.dll` file into a folder and note the path (for example, extract the file to the root directory).

6. Note the location of the `Sitecore.Commerce.Engine.DB.dacpac` file (in the folder where you extracted the `Sitecore.Commerce.Engine.SDK.x.x.xxxx.zip` file), as you must specify this path in the Sitecore XC deployment script.

2.3 Create a certificate for Sitecore Commerce Engine Connect

You must create a certificate for the Sitecore Commerce Engine Connect to authenticate with the Sitecore XC Engine.

To create the certificate:

1. Launch PowerShell as an administrator.
2. Create the certificate by running the following cmdlet:

```
New-SelfSignedCertificate -certstorelocation cert:\localmachine\my  
-dnsname "<name>"
```

3. Export the certificate to a file by running the following cmdlet:

```
Export-Certificate -Cert cert:\localMachine\my\<Thumbprint-of-cert> -  
FilePath <path-with-filename.cer>
```

4. Copy the certificate file to your deployment root.

2.4 Stop the xConnect site

You must stop the Sitecore xConnect site in the Internet Information Services (IIS) before you deploy Sitecore XC.

To stop the xConnect site:

1. On your Windows server, open the IIS Manager.
2. Navigate to the <SiteName>.xconnect site.
3. In the right pane, under **Manage Website**, click **Stop**.

Chapter 3

Installing Sitecore XC

The Sitecore XC release package includes PowerShell scripts for installing Sitecore XC. The `Deploy-Sitecore-Commerce.ps1` script (located in the *SIF Sitecore Commerce* folder) installs all of the Sitecore XC modules and the SXA Storefront site.

This chapter contains the following sections:

- Customize the deployment script
- Run the deployment script

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3.1 Customize the deployment script

The Sitecore XC deployment script executes a single command to deploy Sitecore XC, and includes a number of parameters that you must change. Sitecore recommends that you modify the existing deployment script and save it with a new name (to preserve a record of the factory default script).

After you specify values and paths to reflect your own deployment environment you can run the script to install the solution. If there are any parameters for which no value is specified, the script prompts you to enter a value during installation.

To customize the deployment script:

1. Navigate to the *SIF Sitecore Commerce* folder (for example, `c:\deploy\SIF.Sitecore.Commerce.1.0.1748\`).
2. Open the `Deploy-Sitecore-Commerce.ps1` script in a text editor.
3. Save a copy of the file with a new name (for example, `MyDeploy-Sitecore-Commerce.ps1`).
4. Specify values for the following parameters, according to your own environment. In particular, make sure that the path values correspond to the locations where you unzipped or copied files needed for the installation.

Parameter	Description
<code>Path</code>	The path to the <code>Master_SingleServer.json</code> file provided in the <code>SIF.Sitecore.Commerce</code> package.
<code>SiteName</code>	Name of your Sitecore site.
<code>SiteHostHeaderName</code>	Host header for your site.
<code>InstallDir</code>	Location of the Sitecore site.
<code>XConnectInstallDir</code>	Location of the xConnect site.
<code>CertificateName</code>	Name of the Sitecore certificate.
<code>CommerceServicesDbServer</code>	Location of the database server where you want to deploy the Commerce databases.
<code>CommerceServicesDbName</code>	Name of the database for the Commerce Services shared database.
<code>CommerceServicesGlobalDbName</code>	Name of the database for the Commerce Services global database name.
<code>SitecoreDbServer</code>	Location of the database server hosting the Sitecore databases (same value used for <code>\$SqlServer</code> during Sitecore XP installation).
<code>SitecoreCoreDbName</code>	Name of the Sitecore core database. Replace the <code>\$SqlDbPrefix</code> string in this parameter value with the Sitecore DB prefix value you used for the Sitecore XP installation (for example, "xpo").
<code>CommerceSearchProvider</code>	The type of Search provider you are using for your deployment (Solr or Azure).
<code>SolrUrl</code>	URL for the Solr service (same value used for the Sitecore XP installation), if the Search provider is Solr.
<code>SolrRoot</code>	Path to Solr installation (same value used for the Sitecore XP installation), if the Search provider is Solr.

Parameter	Description
SolrService	Name of the Solr service (same value used for the Sitecore XP installation), if the Search provider is Solr.
SolrSchemas	Path to the Commerce Solr schemas (provided as part of the SIF.Sitecore.Commerce package), if the Search provider is Solr.
SearchIndexPrefix	Prefix for the Search index. Using the SiteName value for the prefix is recommended.
AzureSearchServiceName	Name of the Azure Search service, if the Search provider is Azure.
AzureSearchAdminKey	The value of the admin API-key to access the Azure Search service, if the Search provider is Azure.
AzureSearchQueryKey	The value of the query API-key to access the Azure Search service, if the Search provider is Azure.
CommerceEngineDacPac	Path to the Sitecore.Commerce.Engine.DB.dacpac file in the Sitecore Commerce Engine SDK folder.
CommerceOpsServicesPort	Port for the Commerce Ops Service. Default value is 5015.
CommerceShopsServicesPort	Port for the Commerce Shops Service. Default value is 5005.
CommerceAuthoringServicesPort	Port for the Commerce Authoring Service. Default value is 5000.
CommerceMinionsServicesPort	Port for the Commerce Minions Service. Default value is 5010.
SitecoreCommerceEngineZipPath	Path to the Sitecore.Commerce.Engine.zip file.
SitecoreBizFxServicesContentPath	Path to the folder containing the contents extracted from the Sitecore.Commerce.BizFx.zip package.
SitecoreIdentityServerZipPath	Path to the Sitecore.IdentityServer.zip file.
CommerceEngineCertificatePath	Path to the Commerce Engine certificate generated as part of installation preparation.
SiteUtilitiesSrc	Path to the SiteUtilityPages folder (part of the SIF Sitecore Commerce package).
HabitatImagesModuleFullPath	Path to the Sitecore.Commerce.Habitat.Images.zip file.
AdvImagesModuleFullPath	Path to the Adventure Works Images.zip file.
CommerceConnectModuleFullPath	Path to Sitecore Commerce Connect Core.zip file.
CEConnectPackageFullPath	Path to the Sitecore.Commerce.Engine.Connect.update file.

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Parameter	Description
<code>PowerShellExtensionsModuleFullPath</code>	Path to the downloaded Sitecore PowerShell Extensions 4.7.2 package.
<code>SXAModuleFullPath</code>	Path to the downloaded Sitecore Experience Accelerator package.
<code>SXACommerceModuleFullPath</code>	Path to the Sitecore Experience Commerce Accelerator zip file.
<code>SXAStorefrontModuleFullPath</code>	Path to the Sitecore Experience Commerce Accelerator Storefront zip file.
<code>SXAStorefrontThemeModuleFullPath</code>	Path to the Sitecore Experience Commerce Accelerator Storefront Themes zip file.
<code>SXAStorefrontCatalogModuleFullPath</code>	Path to the Sitecore Experience Commerce Accelerator Storefront Habitat zip file.
<code>MergeToolFullPath</code>	Path to the <code>Microsoft.Web.XmlTransform.dll</code> file.
<code>UserAccount</code>	Credentials for a local account to be set up for the various application pools that are created as part of the deployment.
<code>BraintreeAccount</code>	Credentials for the Braintree account set up to enable web payment functionality through the Commerce Engine.
<code>SitecoreIdentityServerName</code>	Name of the Sitecore Identity Server.

5. When you have made your changes to your custom deployment script, save the file.

3.2 Run the deployment script

To run your customized Sitecore XC deployment script:

1. Launch PowerShell as an administrator.
2. Run the customized deployment script by executing the following command (using the file name you used for your deployment script):

```
c:\deploy\SIF.Sitecore.Commerce.1.0.1748\MyDeploy-Sitecore-Commerce.ps1
```


Chapter 4

Post-installation steps

Once you have successfully installed the Sitecore XC software, you must complete the following tasks to complete your deployment:

- Restart the xConnect site
- Configure user accounts
- Update Sitecore credential information (optional)
- Update the Storefront theme (optional)

4.1 Restart the xConnect site

Before you can perform any actions in the SXA Storefront, you must restart the xConnect site in IIS

Important

You must ensure that the xConnect Site is still stopped before you navigate to Sitecore or the SXA Storefront.

To restart the xConnect site:

1. Open a browser, and open the **Sitecore Launchpad** (for example, `https://<server>/sitecore`).
2. Open a new tab in the browser and load the SXA Storefront. You access the storefront at `https://sxa.storefront.com`.
3. After the sites have loaded, on your Windows server, open the IIS Manager.
4. Navigate to the **<SiteName>.xconnect** site.
5. In the right pane, under **Manage Website**, click **Start**.

4.2 Configure user accounts

The Sitecore XC deployment script creates one user by default (`admin`, `password=b`) with all the following pre-defined roles:

- Commerce Administrator
- Commerce Business User
- Customer Service Representative
- Customer Service Representative Administrator
- Pricer
- Pricer Manager
- Promotioner
- Promotioner Manager

You can configure additional users and assign roles using the **User Manager** tool on the **Sitecore Launchpad**.

To create users and assign roles:

1. Open a browser, and open the **Sitecore Launchpad** (e.g., `https://<server>/sitecore`).
2. Click on **User Manager** and create the user accounts (with assigned roles) you need for your deployment, as described on the [Documentation Portal](#).

Note

Every Sitecore XC user who requires access to the Business Tools must have the *Commerce Business User* role assigned, at a minimum.

4.3 Update Sitecore credential information (optional)

If you are not using the default Sitecore credentials in your solution, you must update the Sitecore Connection Policy configuration file with the appropriate credentials.

When you change an environment file, you must bootstrap the Commerce Engine to make sure the changes are propagated to the global database.

4.3.1 Update the Sitecore Connection Policy configuration file

To update the Sitecore Connection Policy configuration file:

1. Navigate to the `\wwwroot\data\Environments` folder and open the `Plugin.Content.PolicySet-1.0.0.json` file.
2. Enter the correct values for the following highlighted parameters:

```
"$type": "Sitecore.Commerce.Plugin.Management.SitecoreConnectionPolicy,  
Sitecore.Commerce.Plugin.Management",  
"Host": "sxa.storefront.com",  
"SitecoreDatabase": "master",  
"UserName": "admin",  
"Domain": "sitecore",  
"Password": "b",  
"ConnectionLeaseTimeout": 60000,  
"AuthRequestUrl": "sitecore/api/ssc/auth/login"
```

3. Save the file.

4.3.2 Bootstrap the Sitecore XC engine

You must run the Sitecore XC bootstrap operation to ensure the changes to the `Plugin.Content.PolicySet-1.0.0.json` file (and other files in the *Environments* folder) are written to the database.

The Sitecore XC SDK includes code samples for DevOps operations, so that you can access the Sitecore XC API directly. The following instructions assume that you are using Postman to exercise the Sitecore XC API.

Note

When you place a call to the Commerce Engine API from outside the Commerce Business Tools (for example, using Postman), you must disable the antiforgery protection setting in the `wwwroot\config.json` file.

To run the bootstrap operation:

1. Install [Postman](#) and launch the application.
2. Navigate to the *Sitecore Commerce SDK* folder and open the *Postman* folder.
3. Import the Adventure Works and Habitat environments into Postman.

Note

Make any necessary changes to the global variables in the environment you are using (such as `ServiceHost`) under the **Settings, Manage Environments** menu in Postman.

4. In the **Collections** pane in Postman, navigate to the *Authentication* folder.
5. Open the *Sitecore* folder and execute the *GetToken* call.
When Postman displays an access token in the **Body** pane, authentication is successful.
6. In the **Collections** pane, navigate to the *SitecoreCommerce_DevOps* folder.
7. Open the *1 Environment Bootstrap* folder, and execute the *Bootstrap Sitecore Commerce* call.

4.4 Update the Storefront theme (optional)

By default, the Sitecore XC deployment script installs the SXA Storefront site with the *Storefront Mock-up* theme.

You can assign a new Storefront-branded theme following the instructions on doc.sitecore.net.

You must re-publish the Storefront site for your changes to take effect.