Sitecore Experience Commerce Installation Guide for On-Premise Solutions

Sitecore Experience Commerce 9.0 Update-3

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Table of Contents

1. Getting started

This guide describes how to install Sitecore Experience Commerce™ (XC) solution in a single-server configuration (local environment).

> **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.

This chapter contains the following sections:

- Sitecore Experience Commerce solution
- Overview of the installation process
- System requirements

1.1. Sitecore Experience Commerce solution

Sitecore Experience Commerce (Sitecore 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 for building a customized storefront.

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 software (using the XP Single configuration). For detailed instructions, see the *Sitecore Experience Platform 9.0 Installation Guide*, available for download from the Sitecore Experience Platform Downloads page.

3. Download the release package for the Sitecore XC solution 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, Public Key and Private Key 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-2
	Sitecore Experience Accelerator 1.8 (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.

2. Preparing for a Sitecore XC installation

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

This chapter contains the following sections:

- Verify your Sitecore XP 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 setup

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

These instructions also 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 Update-2 (XP Single deployment)

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 dep0loyment scripts for the `StopAppPool` and `StartAppPool` parameters in the `SXAStorefront.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 Update-3 release package:

1. Open a browser and go to the Sitecore Experience Commerce Download page.

2. Download the Sitecore Experience Commerce release package (`Packages for On-Premises 2018.11-x.x.xxx`).

3. Extract the contents of the zip file to the location from which you are deploying Sitecore XC (for example, `c:\deploy`).
   The extraction process results in multiple .zip files.

4. Go to the folder where you extracted the release package files and unzip the following packages:

   - `SIF.Sitecore.Commerce.x.x.xxxx.zip`

   - `Sitecore.Commerce.Engine.SDK.x.x.xxxx.zip`

   > **NOTE**
   > Note the location of the `Sitecore.Commerce.Engine.DB.dacpac` file in the Sitecore Commerce Engine SDK package. You must specify this path in the Sitecore XC deployment script.

   - `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 a folder in your local deployment folder (for example, `c:\deploy\assets\`):

   - Sitecore PowerShell Extensions 4.7.2 (available from the Sitecore Marketplace)

   - Sitecore Experience Accelerator 1.8 - [name package] (available from the Sitecore Experience Accelerator Download page)

   - MSBuild Microsoft Visual Studio Web targets (available from Nuget)

   > **NOTE**
   > 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.

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.

   > **NOTE**
   > Do not stop the xConnect site at this point in the installation. The initial Sitecore XC 9.0 installation instructions included a step to stop xConnect. As of Sitecore XC 9.0 Update-2, xConnect must not be stopped at this point.

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

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 that you unzipped earlier (for example, *c:\deploy \SIF.Sitecore.Commerce.x.x.xxx*).

2. Open the Deploy-Sitecore-Commerce.ps1 script file 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
Path	The path to the Master_SingleServer.json file provided in the SIF.Sitecore.Commerce package.
SiteName	Name of your Sitecore site.
SiteHostHeaderName	Host header for your Sitecore site.
InstallDir	Location of the Sitecore site.
XConnectInstallDir	Location of the xConnect site.
CertificateName	Name of the Sitecore certificate.
CommerceServicesDbServer	Location of the database server where you want to deploy the Commerce databases.
CommerceServicesDbName	Name of the database for the Commerce Services shared database.
CommerceServicesGlobalDbName	Name of the database for the Commerce Services global database.
SitecoreDbServer	Location of the database server hosting the Sitecore databases (same value used for $SqlServer during Sitecore XP installation).

Parameter	Description
SitecoreCoreDbName	Name of the Sitecore core database. Replace the $SqlDbPrefix string in this parameter value with the Sitecore DB prefix value you used for the Sitecore XP installation (for example, "xp0").
SitecoreUsername	Name of the Sitecore user account.
SitecoreUserPassword	Password for the Sitecore user account.
CommerceSearchProvider	The type of Search provider you are using for your deployment (Solr or Azure).
SolrUrl	URL for the Solr service (same value used for the Sitecore XP installation), if the Search provider is Solr.
SolrRoot	Path to Solr installation (same value used for the Sitecore XP installation), if the Search provider is Solr.
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.
CommercexProfilesModuleFullPath	Path to Sitecore Commerce Connect Core.zip file.
CommercexProfilesModuleFullPath	Path to the Sitecore XC xProfiles Reporting module.
CommercexAnalyticsModuleFullPath	Path to the Sitecore XC xAnalytics Reporting module.
CommerceMAModuleFullPath	Path to the Sitecore XC Marketing Automation Core module.

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

5. If you want to install the Sitecore XC solution in a Commerce-Engine only deployment (that is, without installing the SXA Storefront), you can specify that the script omit the SXA modules in the Install-SitecoreConfiguration command, after the parameters block:

```
Install-SitecoreConfiguration @params –Skip InstallPowershellExtensions,
InstallSXAFrameworkModule, InstallSXAStorefrontModule,
CreateDefaultTenantAndSite
```

> **NOTE**
> Add the `-Skip` provision to the installation command that is appropriate for your search provider (that is, Solr or Azure).

6. When you have made your changes to the 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
```

4. Post-installation steps

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

- Configure user accounts

- Update the Storefront theme (optional)

4.1. Configure user accounts

After you have deployed your Sitecore XC solution, you must create user accounts and assign the appropriate roles.

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

You create users and assign roles using the **User Manager** tool on the **Sitecore Launchpad**.

Refer to the User roles and permissions topic for information on the the pre-defined roles and associated permissions for the Sitecore XC Business Tools.

4.2. 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, as described in the Assign a theme topic on the Sitecore Documentation site.

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