SITECORE

Sitecore Experience Commerce 10.2 Upgrade Guide for Sitecore XC 10.1

Instructions for upgrading a SXC 10.1 on-prem solution to SXC 10.2

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1. Introduction

This guide describes how to upgrade a Sitecore Experience Commerce™ (XC) 10.1 deployment to Sitecore Experience Commerce (XC) 10.2.

These instructions apply to on-prem solutions.

> **WARNING**
>
> Prior to performing the Sitecore XC upgrade, you must ensure to review the release notes and the listed breaking changes.

1.1. Overview of the Sitecore XC upgrade process

The instructions in this document comprise the upgrade steps for Sitecore Experience Commerce (XC).

Starting with Sitecore XC 10.2, Sitecore XC uses a new upgrade methodology that combines steps from the Sitecore XP and Sitecore XC upgrade processes.

The Sitecore XC 10.2 solution upgrade process is as follows:

- Review upgrade prerequisites

- Upgrade Sitecore XP and SXA

- Safeguard Sitecore XC databases

- Upgrade SXC databases

> **IMPORTANT**
>
> Do not connect to SQL databases at this point nor perform any post-upgrade steps.
>
> You connect databases and perform post-upgrade steps only *after* you have completed a new installation of Sitecore Experience Commerce.

- Install the new Sitecore Experience Commerce version

- Connect all databases

- Apply your XC customizations

- Complete post-upgrade steps

2. Prerequisites

These upgrade instructions assume you are upgrading from Sitecore XC 10.1 to Sitecore XC 10.2.

2.1. Release Notes

Review the release notes and breaking changes information for Sitecore XC 10.2 available on the Sitecore Downloads site.

2.2. Download Sitecore software

You must upgrade Sitecore Experience Platform (XP) and Sitecore Experience Accelerator (SXA) before you proceed with the Sitecore Experience Commerce (XC) upgrade.

Sitecore Experience Platform software and upgrade tools

Download the Sitecore XP upgrade guide for 10.2 and ensure to meet all documented Sitecore XP prerequisites for upgrading.

Download the `Sitecore.UpdateApp 1.2.0 for Sitecore 10.1.X rev XXXXXX.zip` package.

> **NOTE**
>
> This package is required when you upgrade Sitecore XP 10.1.x and your solution contains any modules, including Sitecore SXA and Sitecore PowerShell Extensions.

Sitecore Experience Accelerator (SXA) software

The Sitecore SXA upgrade occurs as part of the Sitecore XP upgrade process for modules, as documented in the Upgrade Guide for Sitecore XP.

To prepare for the SXA upgrade, download the SXA software package and upgrade guide for 10.2 .

2.3. Required Sitecore Experience Commerce XC software and documentation

In preparation for the upgrade, download the following Sitecore XC software and documentation resources on Sitecore XC Downloads page:

- Sitecore XC 10.2 Packages for On Premises WDP
- `Commerce Upgrade resources 1.0.x.zip` package
- Sitecore XC 10.2 Installation Guide for On-Prem Deployments

2.4. System requirements

Before you upgrade to the new version of Sitecore XC, you must ensure that your system meets the software and hardware requirements for this new version.

For more information about system and hardware requirements, refer to Sitecore XC 10.2 Installation Guide for On-Prem Solutions.

For software compatibility information, see the Sitecore XC compatibility matrix available on Sitecore Knowledge Base.

2.4.1. SQL Server

Before you upgrade the databases, you must ensure that your SQL Server installation is compatible with the new version of Sitecore XC.

If your current version of SQL Server is not compatible, you must upgrade to a compatible version of SQL Server before you upgrade or deploy.

2.4.2. Solr

Ensure that you have a compatible version of Solr. For more information, see the Sitecore compatibility table.

When you deploy the Sitecore XC 10.2.0 on a single server in a local development environment, the Solr server and all the required cores and configurations are installed.

If you use SolrCloud, you must add the authentication for SolrCloud to the appropriate connection strings.

3. Upgrade Sitecore XP and SXA

Proceed with the Sitecore XP 10.2 software upgrade by completing the instructions provided in the following sections of the *Upgrade Guide for Sitecore Experience Platform 10.2*, available on the Sitecore Experience Platform 10.2 download page.

- Prerequisites for upgrading Sitecore XP

  > **IMPORTANT**
  >
  > As part of Sitecore XP upgrade prerequisites, you must follow any instructions related to modules for upgrading Sitecore Experience Accelerator and Sitecore PowerShell Extensions modules to the latest version compatible with Sitecore XP 10.2.
  >
  > To upgrade Sitecore SXA, follow instructions provided in Sitecore Experience Accelerator 10.2 Upgrade Guide.

- Prepare xDB
- Safeguard the databases

  > **IMPORTANT**
  >
  > When safeguarding the databases, also follow these steps to safeguard the Sitecore XC databases.

- In the chapter *Upgrade Sitecore XP*, complete the steps documented in the following sections:

  - Upgrade the databases

    > **IMPORTANT**
    >
    > Do not connect to SQL databases at this point nor perform any post-upgrade steps.
    >
    > You connect databases and perform post-upgrade steps only *after* you have completed a new installation of Sitecore Experience Commerce.

  - Install a instance of Sitecore XP 10.2

4. Safeguard Sitecore XC databases

The upgrade process involves executing some SQL scripts to upgrade the Sitecore XC databases. However, if you execute the scripts against databases that are in use, it can make the system unstable. To avoid this situation, you must safeguard the databases by ensuring that they are not being used when you run the SQL scripts.

To safeguard the databases:

- Use the backup tools to make a copy of the databases.

- Disable the environment.

- Stop all Sitecore web applications and services.

- Stop all XC web applications and services, including the XC Business Tools and Engine IIS services.

5. Upgrade SXC databases

Perform the following steps to upgrade the databases and connect your deployment to your SQL databases.

> **NOTE**
>
> Starting with Sitecore XC 10.2, you can also use the new Sitecore XC upgrade container to upgrade XC databases on your on-prem Sitecore XC solution as an alternative to performing the instructions in this section. For information about using the SXC upgrade container, refer to the Sitecore XC Upgrade Container Deployment Guide.

5.1. Clean up the content databases

Database clean-up is a one-time operation that you must perform when you upgrade from a previous version of Sitecore XC to Sitecore XC 10.2. Starting with Sitecore XC 10.2, default Commerce items were moved into resource files. As a result, you must remove these items from your existing databases before deploying the items from the resource files.

The `Sitecore.UpdateApp` tool removes items that have not been modified from the *Core*, *Master*, and *Web* databases. The tool does not remove modified items in these databases. The tool adds a list of modified items to its log file. Review the log file to decide which modifications to reapply. We recommend that you delete all modified items from the SQL database. When you have deleted the items, your Sitecore solution uses the new versions of these items that are in the resource files.

The `Sitecore.UpdateApp` is a standalone console tool.

To clean up the content databases:

1. Locate the `Sitecore.UpdateApp 1.2.0 for Sitecore 10.1.x rev. XXXXXX(XP).zip` file that you downloaded earlier (or the package for the Sitecore XP version you are upgrading from), and extract its contents to a folder, for example, `C:\Sitecore.UpdateApp`.

2. Copy the license file to the Data folder of the tool, for example, `C:\Sitecore.UpdateApp\Data\license.xml`.

3. In the `C:\Sitecore.UpdateApp\App_Config\ConnectionStrings.config` file, update the connections to your databases.
   If you do not have a *security* database, use the connection to the core database.

4. Locate the `Commerce Upgrade resources 1.0.x.zip` package that you downloaded earlier, and extract its contents for the 10.1 version in the `C:\Sitecore.UpdateApp\Data` folder.

5. Open a Command Prompt in the tool folder and run the following command:
   `Sitecore.UpdateApp.exe clean`
   The Command Prompt window displays the number of items that are removed from each database.

Detailed information about any modified items that are skipped is written to the log files in the tool folder – `\Data\logs`.

> **NOTE**
>
> If you have more than one *Web* database, you must run steps 3 and 4 for every Web database.
>
> You must update the connection string to each *Web* database as you run the tool, and not change the connection strings to the other databases.

5.2. Upgrade the Sitecore XC database schema

This release of Sitecore Experience Commerce contains changes to SQL database schema and stored procedures.

> **NOTE**
> The upgrade scripts use default global and shared environment database names.
> Before you run the scripts, you must modify them to match the names of databases in
> your deployment.

To upgrade Sitecore XC SQL database schema with the changes contained in this release:

1. Open the SQL Server Management application.

2. Navigate to the unzipped upgrade package and locate the database schema update script.

3. Run the following script and execute against *SitecoreCommerce_Global* database only:

   `SitecoreCommerce10.2.0_CleanBeforeBoostrapchemaUpgrade.sql`

4. Run the following script and execute against the `SitecoreCommerce_Global`, `SitecoreCommerce_SharedEnvironments`, and `SitecoreCommerce_ArchiveSharedEnvironments` databases:

   `SitecoreCommerce10.2.0_SchemaUpgrade.sql`

6. Install the new Sitecore Experience Commerce version

The new upgrade process requires that you install a new version of Sitecore Experience Commerce on top of the new Sitecore XP and SXA module installed in previous steps.

To install Sitecore Experiences Commerce, follow the instructions provided in the Sitecore Experience Commerce Installation Guide available on the Sitecore Downloads page.

7. Connect the databases

Connect the Sitecore XP databases and make sure that the Sitecore XC connection strings are up-to-date.

7.1. Connect Sitecore XP to SQL databases

To connect Sitecore XP to SQL databases, follow the instructions provided in the Upgrade Guide for Sitecore XP 10.2, in the section *Install and configure Sitecore XP 10.2.0*.

7.2. Verify database connection strings for Sitecore XC

To ensure Sitecore XC connection strings are updated for the Commerce Engine:

- Open the `wwwroot\bootstrap\Global.json` file, and make sure the database connection string in the `Sitecore.Commece.Plugin.SQL.EntityStoreSQLPolicy` policy specifies the correct value.

- Open the `wwwroot\data\environments\Plugin.SQL.PolicySet-1.0.0.json` file, and make sure the database connection string in the `Sitecore.Commerce.Plugin.SQL.EntityStoreSQLPolicy` policy specifies the correct value.

8. Apply your XC customizations

After you completed the upgrade, apply your customizations to the new version of the Sitecore XC.

> **NOTE**
> Before you apply XC customizations, make sure to address and deploy any
> customizations within Sitecore XP, as per the Sitecore XP Upgrade guide.

The following are typical steps you perform to apply your customizations after you've upgraded Sitecore XC to a new version:

> **NOTE**
> Some of these steps might not be required based on your specific implementation of
> Sitecore XC.

- If you have Commerce Engine Connect customization, make sure to apply them to your Sitecore XP configuration.

- Make sure to apply the following changes to your Commerce Engine SDK:

    - Merge all policy/environment changes, taking into account any custom policies.

    - Update all connection strings to SQL, Solr and Redis services.

    - Compile against the new Sitecore XC Engine 10.2 versions of the plugins and address all breaking changes.

    - Deploy the new version for each Commerce Engine service.

- If a custom BizFx SDK solution exists, ensure to merge any code changes from the new BizFx SDK, rebuild and then deploy.

9. Perform post-upgrade steps

After you have upgrade to a new version of Sitecore XP, SXA, and Sitecore XC, perform post-upgrade steps.

9.1. Post-upgrade steps for Sitecore XP and SXA

Follow Sitecore XP and SXA post-upgrade steps as documented in the Upgrade Guide for Sitecore Experience Platform 10.2, and the Upgrade Guide for Sitecore Experience Accelerator 10.2, respectively.

9.2. Post-upgrade steps for Sitecore XC

After you completed Sitecore XP and SXA post-upgrade steps, perform the following Sitecore XC post-upgrade steps:

- Disable antiforgery protection (temporary)
- Bootstrap the Commerce Engine
- Flush the Redis cache
- Synchronize Control Panel content items
- Update the data templates
- Update the storefront domain configuration
- Rebuild Commerce indexes
- Republish and rebuild the search indexes
- Verify the current version number the storefront

9.3. Disable antiforgery protection (temporary)

You must disable antiforgery setting for the Business Tools in the Authoring service configuration file.

> **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 disable the antiforgery protection:

1. Locate the the anti-forgery setting and change the value to false:

   ```
   "AntiForgeryEnabled": false,
   ```

9.4. Bootstrap the Commerce Engine

You must bootstrap the Commerce Engine to propagate the changes you made to the environment configuration files into the global 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 and that you have imported the Adventure Works and Habitat environments into Postman.

To run the bootstrap operation:

1. Launch the Postman application.

2. In the **Collections** pane in Postman, navigate to the *Authentication* folder.

3. Open the `Sitecore` folder and execute the `GetToken` request.
   When Postman displays an access token in the **Body** pane, authentication is successful.

4. In the **Collections** pane, navigate to the *SitecoreCommerce_DevOps* folder.

5. Open the *1 Environment Bootstrap* folder, and execute the `Bootstrap Sitecore Commerce` request.

6. Launch Internet Information Services (IIS) Manager and perform an IIS reset.

9.5. Flush the Redis cache

After you have completed all of the steps required to upgrade the Commerce Engine, you must flush the Redis cache as described in the Redis documentation to remove any content that may have been added to the cache during the upgrade process.

9.6. Synchronize Control Panel content items

As part of the upgrade process, you must synchronize content items in the Control Panel to the Commerce Engine.

If you previously synchronized Sitecore Control Panel content items to the Commerce Engine, you must re-synchronize the content.

If this is the first time Sitecore Control Panel content items are synchronized to the Commerce Engine, use this procedure instead.

Re-synchronize Control Panel content items

To re-synchronized Control Panel content item paths:

1. Launch the Postman application.

2. Navigate to the *ContentAPISamples* folder in the **Collections** pane.

3. Open the *DoActions* folder and execute the `Sync Content Path` sample for each environment that has a different data store (that is, uses a distinct dataset and configuration, identified by a different `ArtifactStoreId`).
    You can use the `Check Long Running Command Status` sample to ensure that the synchronization operation completes, as the operation may take several minutes.

    > **NOTE**
    > You may need to obtain the `EntityView` value to use as input for the Sync Content Path sample if you receive an error related the entity version.

4. Launch Internet Information Service (IIS) Manager and perform an IIS restart.

Synchronize Control Panel content items for the first time

If you have not synchronized Control Panel content items before, perform the following steps:

1. Launch the Postman application.

2. Navigate to the *SitecoreCommerce_DevOps* folder in the **Collections** pane.

3. Open the *3 Environment Initialize* folder, and run the `Ensure\Sync default content paths` sample request for each environment that has a different data store (that is, for each environment that use a different `ArtifactStoreId`).

    > **NOTE**
    > The operation might take several minutes to complete. You can run the `Check Long Running Command Status` sample in Postman to ensure that the synchronization operation completes.

4. Launch Internet Information Service (IIS) Manager and perform an IIS restart.

9.7. Update the data templates

To update the data templates:

1. Log in to Sitecore Launchpad (`https://<host>/sitecore`) and click **Content Editor**.

2. Click the **Commerce** tab.

3. Click **Delete Data Templates**.

4. Click **Update Data Templates**.

9.8. Re-enable the anti-forgery setting

Re-enable the anti-forgery setting for the Business Tools in the Authoring service configuration file.

To enable the anti-forgery setting:

- Locate the the anti-forgery setting and change the value to true:

```
"AntiForgeryEnabled": true,
```

9.9. Update the storefront domain configuration

If there is an existing storefront site in your current Sitecore XC deployment, update the configuration in the new `domain.config` file with your own storefront domain configuration. The location of this configuration is different for containerized deployment.

9.9.1. Update the storefront domain in a non-containerized deployment

To update the storefront domain configuration in a non-containerized deployment:

- Open the new `\inetpub\wwwroot\<sitename>\app_config\security\domains.config` file, and update the configuration to reflect the domain name of your storefront site.

9.9.2. Update the storefront domain in a containerized deployment

In a container deployment, the `domains.config` is stored in a shared volume.

To update the storefront domain configuration for your site in containers:

- In Docker, open the `C:\containers\<cd or cm>\domains-shared\domains.config` file, and update the domain information as required.

9.10. Rebuild Commerce indexes

The schema update to Solr 8.8.2 and the introduction of new indexes require a complete rebuild of search indexes.

To rebuild the Sitecore XC indexes:

> **NOTE**
> Before you rebuild the Sitecore indexes, make sure that previous indexes were deleted.

1. Launch the Postman application

2. In the **Collections** pane, navigate to the *SitecoreCommerce_DevOps* folder.

3. Expand the *Minions* folder and execute the following requests:

   > **NOTE**
   > When you execute the indexing minion requests, make sure that they point to the URL of the Commerce Engine instance that is running the Minions service.

   - `Run FullIndex Minion - Orders`
   - `Run FullIndex Minion - Customers`
   - `Run FullIndex Minion - PriceCards`
   - `Run FullIndex Minion - Promotions`
   - `Run FullIndex Minion - Catalog Items`

9.11. Republish and rebuild the search indexes

To republish the site and re-index the core, master and web indexes:

1. Log in to Sitecore Launchpad (`https://<host>/sitecore`) and click on **Content Editor**.

2. Click the **Publish** tab.

3. Click **Publish** and select **Publish site** from the drop-down menu.

4. In the **Publish Site** window, select **Republish – publish everything** and click **Publish**.

5. Return to the Sitecore Launchpad and click on **Control Panel**.

6. Click on **Indexing manager**.

7. Select the following indexes from the Local Indexes list and click **Rebuild**:

    - `sitecore_core_index`

    - `sitecore_master_index`

    - `sitecore_web_index`

9.12. Verify the current version number the storefront

If you installed the SXA storefront as part of the upgrade, verify that the deployment uses the correct version of the Storefront.

To verify the version number of the storefront:

1. Log in to Sitecore Launchpad and click **Content Editor.**

2. In the left pane, navigate to */sitecore/system/Settings/Foundation/Commerce Experience Accelerator/Upgrade/Current*.

3. Verify that the value in the **Version** field is *7000*.