

Quick Installation Guide for a Developer Workstation

A quick guide to installing the Sitecore XP Single topology.

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1. Requirements and prerequisites

Before you can install Sitecore XP 9.1.0 on a single computer, you must ensure that you have all of the following requirements and prerequisites in place.

1.1. IIS requirements

Sitecore XP can be hosted on the following IIS versions:

- IIS 10.0

You must use the version of IIS that your operating system supports. For more information about IIS and operating systems, see Microsoft's documentation.

For Sitecore Identity server, you must install:

- .NET Core 2.1.3 [Windows Hosting module](#) or later.

Sitecore XP does not officially support any other ASP.NET web servers such as IIS Express, or Mono Web Server, and it neither supports nor allows multiple IIS website definitions to point to the same Sitecore web root.

1.2. Operating system requirements

Sitecore XP 9.1.0 is only compatible with the client and server operating systems that support .NET Framework 4.7.1 or later.

Sitecore XP can be hosted on the following Microsoft operating systems:

- Windows Server 2016
- Windows 10 (32/64-bit)

IMPORTANT

You must enable the Transport Layer Security (TLS) protocol version 1.2 on all of your Sitecore XP CM and Dedicated Dispatch servers (DDS).

For more information about enabling TLS 1.2, see [Microsoft's documentation](#).

IMPORTANT

Important Run Windows Update and install all the appropriate service packs and security updates.

1.3. .NET requirements

Sitecore XP 9.1.0 requires .NET Framework 4.7.1.

Sitecore Identity server requires .NET Core 2.1.3 Windows Hosting Module or later.

You must apply any available updates to the .NET Framework on every Sitecore installation.

1.4. Microsoft Visual C++ 2015 redistributable requirements

Sitecore XP 9.0 Update-1 introduced a new prerequisite for the Microsoft Visual C++ 2015 Redistributable. For more information, see [Microsoft's documentation](#).

NOTE

This redistributable may already be installed with Microsoft Windows. Without it, Sitecore XP will fail to start up with the message:

Could not load file or assembly 'ChilkatDotNet46.dll' or one of its dependencies. The specified module could not be found.

1.5. Visual Studio requirements for custom solutions

Sitecore XP 9.1.0 requires Microsoft Visual Studio 2015 or later.

1.6. Database requirements

Sitecore 9.1.0 supports the following database servers:

- Microsoft SQL Server 2017, 2016 SP2
Supports the XM databases and is the required for the Experience Database (xDB).
- Microsoft SQL Server 2014 SP2
Only supports XM databases and does not support the Experience Database (xDB).
- MongoDB Server 3.6.6
This is required if you are going to use MongoDB for the *Collection* database or as a Session State Provider.

NOTE

Sitecore XP 9.1.0 does not support the MMAPv1 storage engine because it does not support retryable writes.

IMPORTANT

Sitecore XP 9.1.0 does not currently support Oracle databases for the Experience Database (xDB). Support will be added in future versions of Sitecore.

1.6.1. Microsoft SQL Server drivers and utilities

You must also install:

- [Microsoft ODBC Driver 13 for SQL Server](#)
- [Microsoft Command Line Utilities 13 for SQL Server](#)

1.6.2. SQL Server Contained Database Authentication

To enable the *Contained Database Authentication* server configuration option on SQL Server, run the following script:

```
sp_configure 'contained database authentication', 1;  
GO
```

```
RECONFIGURE ;  
GO
```

1.6.3. Database collation

All of the databases in Sitecore XP use the *SQL_Latin1_General_CP1_CI_AS* collation except the *Reference Data* database that uses the case sensitive *Latin1_General_CS_AS* collation.

This is because comparisons within the *Reference Data* database are case sensitive and they are not case sensitive in the other databases.

1.7. Search indexing requirements

Sitecore XP 9.1.0 supports Solr, Lucene, and Azure Search as search providers:

- Solr 7.2.1 - <http://archive.apache.org/dist/lucene/solr/7.2.1>
Solr is the default search provider and supports both content search and analytics search.
- Azure Search
The Azure Search provider is supported and recommended for Azure Cloud PaaS deployments only. It supports both content search and analytics search.
In Paas solutions, you can use Azure Search, Solr, or SolrCloud in Azure.
- Lucene

NOTE

Lucene only supports content search and does not support xConnect.

For more information about installing or managing these index providers in a Sitecore context, see the [Sitecore documentation](#).

If you want to use a search provider that works in both analytics and content search, we recommend that you use either Solr or Azure Search.

The Sitecore Content Search API uses the native Microsoft Windows IFilter interface to extract text from media files so that Sitecore Content Search can index it.

However, to enable the Sitecore Content Search API crawlers to properly index the content in Adobe PDF files, you must install Adobe PDF IFilter on every content management and content delivery server.

Currently, the only supported version of Adobe PDF IFilter is version 9.

You can install Adobe PDF IFilter as a standalone IFilter or as part of Adobe Acrobat Reader. You can download Adobe PDF IFilter version 9 from: <ftp://ftp.adobe.com/pub/adobe/acrobat/win/9.x/>

NOTE

Adobe has published a known issue about running Adobe PDF IFilter version 9 on Microsoft Windows 8. For more information see [Adobe's documentation](#).

1.8. Antivirus software considerations

Some antivirus software can have a detrimental effect on the performance of ASP.NET applications including Sitecore. We therefore recommend that you use only antivirus scanners that are certified for the operating system that you use.

For more information about the certified products, see the [Windows Server Catalog](#) website.

For optimal performance, ensure that the following folders are *not* scanned by your antivirus software:

- The site root folder.
- The data folder that is defined in the `web.config` file.
- The folder that contains the actual Sitecore database files.
- The `C:\Windows\Temp` or `{app_pool user profile}\Temp` folder.

1.9. Hardware requirements for a server running a single Sitecore installation

To run a single Sitecore installation, the minimum configuration requirements are:

- 4 core processor
- 16GB of RAM

NOTE

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

1.10. Prerequisites for using the Sitecore Install Framework

To use the Sitecore Install Framework to install Sitecore XP in an on-premises environment, you must download and install:

- [Microsoft PowerShell® version 5.1 or later](#)

1.11. Enable Contained Database Authentication

When you use Web Deploy Packages, you must ensure that the target SQL Server is configured correctly.

To configure the target SQL Server to allow users and logins to be contained at the database level:

1. Launch MS SQL Server Management Studio and log in as an administrator.
2. Run the following new query:

```
EXEC sp_configure 'contained', 1;  
RECONFIGURE;
```

NOTE

For more information about the [contained database authentication option](#), see Microsoft's documentation.

1.12. Install Solr

Before you run the Sitecore Installation Framework, you must:

- [Enable and set up SSL](#).
- [Install Solr](#) and configure it to run as a Windows service.

The Sitecore Experience Platform is secure by default, you must therefore enable SSL for Solr.

For local testing and development, you can set up a self-signed certificate. The Apache Solr Reference guide has more information about [creating a self-signed certificate](#).

1.12.1. Install the Solr Certificate

You must install the Solr certificate on the server where Sitecore and xConnect are installed.

2. Sitecore Install Framework

The Sitecore Installation Framework (SIF) is a Microsoft® PowerShell module that supports local and remote installations of Sitecore. SIF is fully extensible.

Because the Sitecore Experience Platform is designed to be secure-by-default, for developer environments there is a Sitecore Fundamentals module that sets up all the required self-signed certificates for you.

Sitecore Fundamentals is a PowerShell module that is used to configure security certificates and transport level security for Sitecore websites. Sitecore Fundamentals is automatically installed when you install SIF.

In a production environment, you can provide your own certificates. In a non-production environment, you can choose to have the module generate the certificates for you.

You must set up SIF before you can install Sitecore XP.

2.1. Install the SIF Module using MyGet

The Sitecore Gallery is a public MyGet feed that is used to download and install PowerShell modules created by Sitecore. SIF is available through the Sitecore Gallery.

To set up SIF:

1. In Windows, launch PowerShell as an administrator.
2. To register the repository, in a PowerShell command line, run the following cmdlet:

```
Register-PSRepository -Name SitecoreGallery  
-SourceLocation https://sitecore.myget.org/F/sc-powershell/api/v2
```

3. Install the PowerShell module by running the following cmdlet:

```
Install-Module SitecoreInstallFramework
```

4. When prompted to install, press **Y**, and then press **Enter**.

2.1.1. Update the Sitecore Installation Framework Module

When a newer version of the SIF module is available, you can update to the latest version by running a PowerShell cmdlet.

- To update the Sitecore Installation Framework module, in a PowerShell command line, run the following cmdlet:

```
Update-Module SitecoreInstallFramework
```

2.2. Validate the installation

After you install SIF, you can validate the installation to confirm that it is available for use.

NOTE

This validation only works if you have installed SIF to the *All users* (global) path.

To validate the installation:

- In a PowerShell command line, run the following cmdlet:

```
Get-Module SitecoreInstallFramework -ListAvailable
```

2.3. Running multiple versions of SIF

If you want to install a 9.0.x version of Sitecore XP on the same computer as a Sitecore XP 9.1.0 installation, you must also have SIF 1.2.x installed. PowerShell uses the latest available version of a module in a session by default.

To install a specific version of SIF, run the following command:

```
Install-Module -Name SitecoreInstallFramework -RequiredVersion x.x.x
```

Enter the appropriate value in the `RequiredVersion` parameter.

The following table lists the versions of SIF that are compatible with Sitecore XP 9.X:

Sitecore XP Version	SIF Version
9.0.x	1.2.1
9.1.0	2.0.0

2.4. Running a specific version of SIF

To run a specific version of SIF, launch a new Powershell session and run the following command:

```
Import-Module -Name SitecoreInstallFramework -Force -RequiredVersion x.x.x
```

You will use the specified version for the remainder of the session.

The next time you start a PowerShell session it automatically uses the latest available version.

3. Set up a local environment

3.1. Install the prerequisites

If you have manually installed all the prerequisites, skip this section.

To automatically install the prerequisites for any of the topologies on a single server:

1. Download the XP0 Configuration files 9.1.0 rev. 001564.zip file from the [Sitecore Downloads page](#).
2. Unzip the package and find the following file:

```
Prerequisites.json
```
3. To install the prerequisites, enter the following command:

```
Install-SitecoreConfiguration -Path .\Prerequisites.json
```

When the installation is complete, you are informed if a server reboot is required.

3.2. Download the Sitecore XP Single configuration files

The Sitecore installation is a combination of .json configuration files, WDP packages, and databases.

You can download the relevant SIF configuration files and the Web Deploy Packages (WDPs) for each of the topologies from the [Sitecore Downloads page](#).

SIF uses the .json configuration files to configure the environment and uses the WDP packages to install the application and databases.

The predefined XP Single topology configures:

- A Sitecore stand-alone website that handles content management, content delivery, reporting, and processing.
- The xConnect and xDB web services.
- The Sitecore Identity server - a stand-alone website that acts as an OpenID Connect compliant security token service (STS).
- Search indexes on the Solr search engine.
- A Windows service that runs the Marketing Automation engine.
- A Windows service that runs the xConnect indexer.
- A Windows service that runs the Sitecore Cortex™ Processing Engine.
- The Sitecore Cortex™ Reporting service.
- The Sitecore content and xDB databases.
- A self-signed client certificate for secure communication between Sitecore and xConnect.

- A self-signed server certificate for running HTTPS on the *xConnect* and *xDB* web services.
- A self-signed server certificate for running HTTPS on the Sitecore Identity server.

To configure the XP Single topology, install the SIF configuration files in the following order:

- `createcert.json`
Creates the self-signed certificate for the Sitecore Identity server. You must add the appropriate parameters.
- `IdentityServer.json`
Sets-up the stand-alone .Net Core website for the Sitecore Identity server and contains the connection strings to the *Core* database that is installed by `sitecore-XP0.json`.
This configuration uses the following WDP package:
 - `Sitecore.IdentityServer.2.0.0-r00157.scwdp.zip`
- `createcert.json`
Creates the self-signed client certificate which is passed to the `xconnect-xp0.json` and `sitecore-XP0.json` SIF configuration files. You must add the appropriate parameters.
- `xconnect-solr.json`
Creates the Solr indexes that are used by xConnect.
- `xconnect-xp0.json`
Sets-up the xDB and xConnect web services on IIS, the xDB databases on SQL Server, and secures them with the provided certificates.
This configuration uses the following WDP package:
 - `Sitecore 9.1 rev. 001564 (OnPrem)_xp0xconnect.scwdp.zip`
- `sitecore-solr.json`
Creates the Solr indexes that are used by Sitecore.
- `sitecore-XP0.json`
Sets-up a stand-alone Sitecore website on IIS and the content databases on SQL Server.
This configuration uses the following WDP package:
 - `Sitecore 9.1 rev. 001564 (OnPrem)_single.scwdp.zip`

Each of these SIF configuration files requires a separate set of parameters that must be passed to them during the installation process. For more information, open the files in a text editor and examine the Parameters section.

NOTE

If you want to provide a signed certificate, you must install it on the local server and the name can then be passed as a parameter to the `xconnect-xp0.json` and `sitecore-XP0.json` SIF configuration files. You can then ignore the `createcert.json` SIF configuration file.

3.3. Create, Edit, and Run the Installation Script for the XP Single Topology

To simplify your installation, you can use a PowerShell script to install the XP Single (XP0) topology.

To edit and run the installation script:

1. Create a folder called `c:\resourcefiles`.
2. Download and save the following WDP packages and SIF resource files in this folder:
 - `sitecore 9.1 rev. 001564 (OnPrem)_single.scwdp.zip`
 - `sitecore 9.1 rev. 001564 (OnPrem)_xp0xconnect.scwdp.zip`
 - `Sitecore.IdentityServer.2.0.0-r00157.scwdp.zip`
 - `IdentityServer.json`
 - `createcert.json`
 - `sitecore-solr.json`
 - `xconnect-solr.json`
 - `sitecore-XP0.json`
 - `xconnect-xp0.json`
 - `XP0-SingleDeveloper.json`
 - `XP0-SingleDeveloper.ps1`
3. Save your Sitecore license file in the `c:\resourcefiles` folder as `license.xml`.
4. In the `c:\resourcefiles` folder, edit the `XP0-SingleDeveloper.ps1` script and update each line with the settings that are appropriate for your environment.
One of the settings that you must edit is `SitecoreAdminPassword`.
If you do not specify the Sitecore administrator password in the script and leave the example value "SIF-Default" unchanged, a random password is generated for you. This password is written to the `XP0-SingleDeveloper.log` file – search for *Sitecore Admin Password* – and displayed when the `sitecore-xp0.json` file has been processed.

IMPORTANT

The default Sitecore administrator password is not valid when you use this script to install Sitecore XP.

5. In a PowerShell command line, navigate to the `c:\resourcefiles` folder and run the following command:

```
.\XP0-SingleDeveloper.ps1
```

All the passwords for DB users and other secrets such as the Identity Server client secret and the TelerikEncryptionKey are not displayed on the screen; they are automatically generated and inserted into the appropriate configuration files.

If you add a DDS server, you must pass the generated passwords for the CM server to the DDS SIF installation parameters. The generated passwords can be found in the installation logs and in the `App_Config/connectionStrings.config` file on the CM server.

If the `SqlCollectionUser` parameter is not set to a custom value during the installation, the prefix that is specified in the installation script is added to it.

We recommend that you keep these scripts. You can use them to uninstall this topology.

4. Uninstall Sitecore XP

4.1. Uninstall a SIF configuration file

You can use SIF to uninstall a SIF configuration file on a local server.

To install a SIF configuration file on a local instance:

1. Launch PowerShell as an administrator.
2. Run the `Uninstall-SitecoreConfiguration` cmdlet, and specify the path to your SIF configuration file.

For example, using the `sitecore-XP0.json` file:

```
Uninstall-SitecoreConfiguration -Path <configurationpath>\sitecore-XP0.json
```

Alternatively, you can pass in the parameters declared in the SIF configuration files by prefixing their name with a dash “-” in the command line.

For example:

```
Uninstall-SitecoreConfiguration -Path <configurationpath>\sitecore-XP0.json -SqlDbPrefix SC.
```

In a PowerShell command line, you can pass additional parameters to control the installation process.

For example, running the `Verbose` cmdlet increases the amount of information that is logged, and the `-Skip <taskname>` cmdlet skips one or more tasks.

To correctly uninstall a SIF configuration, you must pass the same parameters that were used during the installation.

The uninstallation is performed by a separate list of tasks within the configuration file. For more information, see the [SIF documentation](#).

4.2. Uninstall the XP Single topology

To uninstall any of the Sitecore XP topologies, change the `Install-SitecoreConfiguration` cmdlet to `Uninstall-SitecoreConfiguration`. For example:

Change

```
Install-SitecoreConfiguration @XP1Parameters *>&1 | Tee-Object XP1-SingleDeveloper.log
```

to

```
Uninstall-SitecoreConfiguration @XP1Parameters *>&1 | Tee-Object XP1-SingleDeveloper-Uninstall.log
```

Run the script and the topology is removed.