

# Quick Installation Guide for a Developer Workstation

A quick guide to installing the Sitecore XP Single topology.

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Sitecore Experience Platform 9.2.0

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# 1. Choose a topology

Before you install Sitecore Experience Platform, you must choose the topology or the type of instance that you want to install.

Sitecore supports the following topologies for on-premise installations by default:

- XP Single (XP0)
- XP Scaled (XP1)
- XM Scaled (XM1)

This guide describes how to install the XP Single topology.

If you want to install one of the other topologies, [download](#) the installation guide for that topology.

You can configure the topology to match your business needs. There are several scalability options that you can use to achieve better performance, cope with greater website demand, and manage large amounts of website traffic. For more information about scaling, see [Scaling scenarios](#).

Azure Cloud supports additional deployment topologies. For more information, see the documentation about [Sitecore configurations and topology for Azure](#).

This chapter contains the following section:

- [On-premise topology options](#)

## 1.1. On-premise topology options

The following table describes the three topologies that are available:

Deployment topology	Description
XP Single (XP0)	<p>Use this topology for local development and testing.</p> <p>The Sitecore Experience Platform, runs as three single instances: Sitecore, xConnect, and Sitecore Identity server. The Experience Database (xDB) is partially included in the Sitecore and xConnect instances.</p> <div><b>NOTE</b> For security and scalability reasons, in production environments, it is best practice to use the XM Scaled (XM1) or XP Scaled (XP1) configuration.</div>

Deployment topology	Description
XM Scaled (XM1)	<p>Use this topology if you are not planning to use the analytics and marketing features in the Sitecore Experience Platform.</p> <p>The Sitecore Experience Management configuration (similar to CMS-only mode) runs the Content Delivery (CD), Content Management (CM) server roles and the Sitecore Identity server.</p> <div><b>NOTE</b> When you select this topology, xDB and xConnect are not available.</div>
XP Scaled (XP1)	<p>Use this topology if you are planning a fully featured Sitecore Experience Platform installation.</p> <p>The Sitecore Experience Platform configuration running the following separated server roles:</p> <ul style="list-style-type: none"><li>• Content Delivery</li><li>• Content Management</li><li>• Email Experience Dedicated Dispatch Server (optional)</li><li>• Sitecore Identity</li><li>• Processing</li><li>• Reporting</li><li>• xConnect Collection</li><li>• xConnect Collection Search</li><li>• xDB Reference Data</li><li>• xDB Automation Operations</li><li>• xDB Automation Reporting</li><li>• Sitecore Cortex™ Processing Engine</li><li>• Sitecore Cortex™ Reporting service</li></ul>

**NOTE**

In a scaled environment you must consider how to configure your session state provider. For more information, see the section [Configure Session State Providers](#).

**NOTE**

This document does not describe how to configure the Sitecore Email Experience Manager. For more information, see the [Sitecore Email Campaign Manager documentation](#).

## 2. Server requirements

Before you can install Sitecore Experience Platform 9.2.0, you must ensure that you have all of the requirements and prerequisites in place.

This chapter contains the following sections:

- [Install Solr](#)
- [Hardware requirements for a server running a single Sitecore installation](#)
- [IIS requirements](#)
- [Operating system requirements](#)
- [.NET requirements](#)
- [Microsoft Visual C++ 2015 redistributable requirements](#)
- [Database requirements](#)
- [Enable Contained Database Authentication](#)
- [Search indexing requirements](#)
- [Antivirus software considerations](#)
- [Prerequisites for using the Sitecore Install Framework](#)

### 2.1. Install Solr

The standard Sitecore Experience Platform configuration requires Solr 7.5.0. The Sitecore Experience Platform is secure by default, you must, therefore, enable SSL for Solr.

Before you run the Sitecore Installation Framework, you must:

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

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](#).

## 2.2. Hardware requirements for a server running a single Sitecore installation

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

- 4 core processor
- 16 GB 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.

## 2.3. IIS requirements

Sitecore Experience Platform 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 2.1.7 Windows Hosting module](#)

Sitecore Experience Platform 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.

## 2.4. Operating system requirements

Sitecore Experience Platform 9.2.0 is only compatible with the client and server operating systems that support .NET Framework 4.7.2.

Sitecore Experience Platform can be hosted on the following Microsoft operating systems:

- Windows Server 2019
- Windows Server 2016
- Windows 10 (64-bit)

### **IMPORTANT**

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

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

### **IMPORTANT**

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

## **2.5. .NET requirements**

Sitecore Experience Platform 9.2.0 requires .NET Framework 4.7.2.

Sitecore Identity server requires .NET Core 2.1.7 Windows Hosting Module.

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

## **2.6. Microsoft Visual C++ 2015 redistributable requirements**

Sitecore Experience Platform 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 Experience Platform 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.*

## **2.7. Database requirements**

Sitecore Experience Platform 9.2.0 supports the following database servers:

- Microsoft SQL Server 2016 SP2 and 2017.  
This is required for every configuration - supports the XM databases and is required for the Experience Database (xDB).

- MongoDB Server 4.0.5

This is required if you are going to use MongoDB for the Experience Database (xDB) or as a Session State Provider.

#### NOTE

Sitecore Experience Platform 9.2.0 does not support the MongoDB MMAPv1 storage engine because it does not support retryable writes.

### 2.7.1. Microsoft SQL Server drivers and utilities

The following SQL utilities are required by the Sitecore Install Framework and are installed automatically during the automatic prerequisite installation process. For more information, see the section [Install the prerequisites](#).

If you decide to install the prerequisites manually, you must also install them on the xConnect application server before running the Sitecore Install Framework installation template for xConnect or the Single Developer workstation.

You must install:

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

### 2.7.2. Database collation

All of the databases in Sitecore Experience Platform 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.

## 2.8. 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 Microsoft 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](#).



## 2.9. Search indexing requirements

Sitecore Experience Platform 9.2.0 supports Solr, Lucene, and Azure Search as search providers:

- Solr 7.5.0 - <http://archive.apache.org/dist/lucene/solr/7.5.0>  
Solr is the default search provider and supports both content search and analytics search. Solr is required to use the Sitecore Install Framework (SIF).
- Azure Search  
The Azure Search provider is supported and recommended for Azure Cloud PaaS deployments only. Azure search supports both content search and analytics search.  
In PaaS solutions, you can use Azure Search, Solr, or SolrCloud in Azure. In On-premise solutions, the Sitecore Install Framework requires Solr to deploy. After the deployment you can switch the indexing to use Azure Search. See [Configure Azure Search](#) for information on how to configure Azure Search.
- Lucene  
Lucene is not recommended. Support for Lucene is deprecated in Sitecore Experience Platform 9.2.0 and will be completely removed in a later release.

### 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.

As of version 9.2, Sitecore Content Search includes new functionality for extracting text from media files including PDFs and Microsoft Office documents without requiring additional tools. This functionality replaces the Adobe IFilter implementation used by default in previous versions.

## 2.10. Antivirus software considerations

Some antivirus software can have a detrimental effect on the performance of ASP.NET applications including Sitecore. It's recommended 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 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.

#### **NOTE**

Active file scans from antivirus tools can significantly impact performance of search indexing software. This can lead to poor user experience or slow system performance. Consider turning off any antivirus tools or modifying antivirus settings on the search index server to exclude the application data folders from scans. For more information about your search indexing software, consult the related documentation.

## **2.11. Prerequisites for using the Sitecore Install Framework**

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

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

## 3. Sitecore Install Framework

Before you can install Sitecore Experience Platform, you must set up Sitecore Install Framework (SIF).

This chapter contains the following sections:

- [Set up Sitecore Install Framework](#)

### 3.1. Set up Sitecore Install Framework

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

You *must* use SIF to install Sitecore Experience Platform.

SIF deploys Web Deploy Packages (WDP) by passing parameters to SIF configuration files through a Microsoft® PowerShell module and is fully extensible.

Because the Sitecore Experience Platform is designed to be secure-by-default, for developer environments all the required self-signed certificates are created automatically if you do not provide any.

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 Experience Platform.

#### 3.1.1. 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, open 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. When prompted to install, press **Y**, and then press **Enter**.
4. Install the PowerShell module by running the following cmdlet:

```
Install-Module SitecoreInstallFramework
```

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

## 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
```

### 3.1.2. 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
```

### 3.1.3. Running multiple versions of SIF

Sitecore Experience Platform 9.2.0 or later requires SIF 2.1.0.

If you want to install a previous version of Sitecore Experience Platform on the same computer, you must also have the required SIF version installed. See the table below for the appropriate SIF version. PowerShell uses the latest available version of a module in a session by default and you must import the specific version of SIF required for the version of Sitecore that you want to install.

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 Experience Platform 9.X:

Sitecore Experience Platform Version	SIF Version
9.0.x	1.2.1
9.1.0	2.0.0
9.1.1	2.1.0
9.2.0	2.1.0

### 3.1.4. 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.

## 4. Install Sitecore Experience Platform on a single computer

This chapter describes how to install Sitecore Experience Platform on a single computer.

This chapter contains the following sections:

- [XP Single topology](#)
- [Download and organize the prerequisite and installation files](#)
- [Install the prerequisites](#)
- [Run the Installation script for the XP Single Topology](#)

The Sitecore installation is a combination of `.json` configuration files and Web Deploy Packages (WDPs).

You can download the relevant SIF configuration files and the 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.

### 4.1. XP Single topology

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.

## 4.2. Download and organize the prerequisite and installation files

The installation files must be located in a single folder. It is recommended that you create a folder named `c:\resourcefiles`.

To download installation files:

1. From the [Sitecore Experience Platform download site](#), download Sitecore 9.2.0 rev. 002893 (WDP XP0 packages).zip. This file is noted as **Packages for XP Single** in the **Download options for On Premises deployment** section.
2. Move this file to the `C:\resourcefiles` folder.
3. Unpack the ZIP file. Four files unpacked include:
  - Sitecore 9.2.0 rev. 002893 (OnPrem)\_single.scwdp.zip
  - Sitecore 9.2.0 rev. 002893 (OnPrem)\_xp0xconnect.scwdp.zip
  - Sitecore.IdentityServer 3.0.0 rev. 00211 (OnPrem)\_identityserver.scwdp.zip
  - XP0 Configuration files 9.2.0 rev. 002893.zip
4. Copy the four ZIP files to the `C:\resourcefiles` folder.
5. Unpack the XP0 Configuration files 9.2.0 rev. 002893.zip file.
6. Copy the following unpacked files to the `C:\resourcefiles` folder:
  - createcert.json
  - IdentityServer.json
  - Prerequisites.json
  - sitecore-solr.json
  - sitecore-XP0.json
  - xconnect-solr.json
  - xconnect-xp0.json
  - XP0-SingleDeveloper.json
  - XP0-SingleDeveloper.ps1

## 4.3. 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. Open PowerShell as an administrator and navigate to the `c:\resourcefiles` command line.
2. Run the following cmdlet:

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

When the installation is complete, you might be informed that a server reboot is required.

## 4.4. Run the Installation script for the XP Single Topology

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

To edit and run the installation script:

1. Save your Sitecore license file in the `c:\resourcefiles` folder as `license.xml`.
2. 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.

3. Open PowerShell as an administrator, navigate to the `c:\resourcefiles` command line, and run the following cmdlet:

```
.\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.

It is recommended that you keep these scripts. You can use them to uninstall this topology.



## 5. Uninstall the Sitecore XP Single topology

You can also use SIF to uninstall SIF configuration files and the Sitecore XP Single topology.

This chapter contains the following sections:

- [Uninstall a SIF configuration file](#)
- [Uninstall the XP Single topology](#)

### 5.1. 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 uninstall 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](#).

## 5.2. 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 XP0-SingleDeveloper.log
```

to

```
Uninstall-SitecoreConfiguration @XP1Parameters *>&1 | Tee-Object XP0-SingleDeveloper-Uninstall.log
```

Run the script and the topology is removed.