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Sitecore 9 Installation Guide

# Pre-requisite Software

* Powershell
* Java JRE. Add JAVA\_HOME environment variable to point to the respective Java JRE folder.
* WebAdministration module (Comes with IIS)
* WebDeploy 3.6 for Hosting Servers
* URL Rewrite 2.1
* Microsoft SQL Server Data-Tier Application Framework (DacFx)

# Sitecore 9 Prerequisite Software Installation Steps

## Install Java JRE

Also set JAVA\_HOME system environment variable to point to your installed JAVA JRE folder

## Install Powershell version 5.1 or later

Comes along with Windows 10

## Install Web Platform Installer 5.0

Download Source: <https://www.microsoft.com/web/downloads/platform.aspx>

## Enable Contained Database Authentication

Run the following command in SQL Server Management Studio:

sp\_configure 'contained database authentication', 1;

GO

RECONFIGURE;

GO

## Install SIF Prerequisites

Install through Web Platform Installer:

* Web Deploy 3.6 for Hosting Servers
* URL Rewrite 2.1

Microsoft SQL Server Data-Tier Application Framework (DacFx) version 2016  
Download source: <https://www.microsoft.com/en-us/download/details.aspx?id=53013>

## Install SIF (Sitecore Installation Framework)

1. Register Powershell NuGet repository  
   Register-PSRepository -Name SitecoreGallery -SourceLocation <https://sitecore.myget.org/F/sc-powershell/api/v2>
2. Register repository as ‘trusted’  
   Set-PSRepository -Name SitecoreGallery -InstallationPolicy Trusted
3. Install ‘Sitecore Install Framework’ module  
   Install-Module -Name SitecoreInstallFramework -Repository SitecoreGallery
4. Update ‘Sitecore Install Framework’ module  
   Update-Module SitecoreInstallFramework

## Install Solr

Download Source: <http://archive.apache.org/dist/lucene/solr/6.6.1/solr-6.6.1.zip>

Check compatibility table before downloading. <https://kb.sitecore.net/articles/227897>   
As of writing, Solr 6.6.1 is officially supported.

Unpack the zip file into a specific location from where your Solr will be running from.

Start Solr by running the following command: bin\solr.cmd start

Access Solr by the following URL in browser: <http://localhost:8983/solr/>  
If the Solr admin page loads, this will verify it was installed properly.

## Generate Keystore

Download the following script: <https://kamsar.net/index.php/2017/10/Quickly-add-SSL-to-Solr/>  
It is a powershell script that will automatically generate a self-signed cert for you to install to Solr.  
  
Script can be found saved as: solr-ssl.ps1  
  
Command to run: ./solr-ssl.ps1 -KeystoreFile C:\solr\solr-6.6.2\server\etc\solr-ssl.keystore.jks   
Replace the last parameter with your respective Solr installation directory path and preferred keystore name. Point to ‘etc’ subfolder inside this directory.

If your Powershell is not setup to run scripts, this error will appear:

cannot be loaded because running scripts is disabled on this

system

Run Set-ExecutionPolicy RemoteSigned to enable this.

keytool.exe not on path. Enter path to keytool (found in JRE bin folder):

Enter fullpath to access Directory\keytool.exe

Once finished running, verify that the solr-ssl.keystore.jks or your preferred keystore name will appear in your specified folder.

## Generate Certificate

To generate the .p12 certificate from the generated keystore.

Enter the following command:  
“C:\Program Files (x86)\Java\jre1.8.0\_144\bin\keytool.exe" -importkeystore -srckeystore solr-ssl.keystore.jks -destkeystore solr-ssl.keystore.p12 -srcstoretype jks -deststoretype pkcs12

Source/Destination keystore password should be the one specified under your script’s $KeystorePassword variable.

A .p12 file should be generated as a result.

## Add generated certificate to Trusted Root CA list for local

Also add it to the Trusted Root Certification Authorities store for your local computer after successful generation of the .jks and .p12.

To add certificates to the Trusted Root Certification Authorities store for a local computer

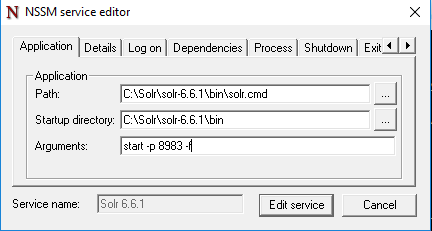
1. Click Start, click Start Search, type mmc, and then press ENTER.
2. On the File menu, click Add/Remove Snap-in.
3. Under Available snap-ins, click Certificates,and then click Add.
4. Under This snap-in will always manage certificates for, click Computer account, and then click Next.
5. Click Local computer, and click Finish.
6. If you have no more snap-ins to add to the console, click OK.
7. In the console tree, double-click Certificates.
8. Right-click the Trusted Root Certification Authorities store.
9. Click Import to import the certificates and follow the steps in the Certificate Import Wizard.

This entry will be found after successful adding of the generated cert to the Trusted Root CA list:

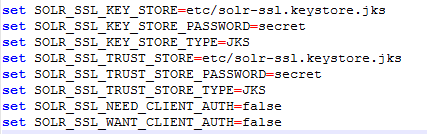


## Install SSL as a Windows Service

Download ‘NSSM’ to and point to Solr install path to configure Solr as a Windows Service.  
Download source: <https://nssm.cc/download>

To install Solr as a service, run the command ‘nssm install {service name}’  
\*\*Note: Add -f parameter to the arguments else will fail eventually with SolrCore error when running the Powershell script.  
  


Open ‘bin/solr.in.cmd’ file and uncomment the following config lines to point to the respective keystore file. (Remove the REM)



Start the service and access it through <https://localhost:8983/solr> to ensure it is working.

# Sitecore 9 Installation

## Sitecore 9 Installation Files

Following files are to setup on premise development machine. Other machine types might required different files.

URL for Sitecore 9 Update 1 files:   
<https://dev.sitecore.net/Downloads/Sitecore_Experience_Platform/90/Sitecore_Experience_Platform_90_Update1.aspx>

Files to download

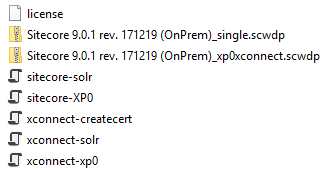
* Packages for XP Single under ‘Download options for On Premises deployment’ sub section

Files Required

Unpack the ‘Sitecore 9.0.1 rev. 171219 (WDP XP0 packages)’ zip file that is the downloaded file above to get another 3 zip files.

* Sitecore 9.0.1 rev. 171219 (OnPrem)\_single.scwdp
* Sitecore 9.0.1 rev. 171219 (OnPrem)\_xp0xconnect.scwdp
* XP0 Configuration files 9.0.1 rev. 171219.zip (Unzip this file)

Place all these files along with License.xml in a folder. Folder should look like this before installation starts.



## Configuration Variables

All config values are stored in sitecore-XP0.json, xconnect-xp0.json files.   
Config variables include SQL connection details, site physical path, SOLR instance URL and more.

## Sitecore 9 Installation Process

Save the following Powershell script that we will be using for Sitecore Installation.   
(Script can be copied directly from the official Sitecore 9 Installation PDF as well)

#define parameters

$prefix = "prefixforyourwebsite"

$PSScriptRoot = "Full path to the folder created above"

$XConnectCollectionService = "$prefix.xconnect"

$sitecoreSiteName = "$prefix.local"

$SolrUrl = "https://localhost:8983/solr"

$SolrRoot = "C:\solr-6.6.1"

$SolrService = "solr6.6.1\_ssl"

$SqlServer = “sqlservername"

$SqlAdminUser = "sqlserveradminacct"

$SqlAdminPassword = "sqlserverpassword"

#install client certificate for xconnect

$certParams =

@{

Path = "$PSScriptRoot\xconnect-createcert.json"

CertificateName = "$prefix.xconnect\_client"

}

Install-SitecoreConfiguration @certParams -Verbose

#install solr cores for xdb

$solrParams =

@{

Path = "$PSScriptRoot\xconnect-solr.json"

SolrUrl = $SolrUrl

SolrRoot = $SolrRoot

SolrService = $SolrService

CorePrefix = $prefix

}

Install-SitecoreConfiguration @solrParams -Verbose

#deploy xconnect instance

$xconnectParams =

@{

Path = "$PSScriptRoot\xconnect-xp0.json"

Package = "$PSScriptRoot\Sitecore 9.0.1 rev. 171219 (OnPrem)\_xp0xconnect.scwdp.zip"

LicenseFile = "$PSScriptRoot\license.xml"

Sitename = $XConnectCollectionService

XConnectCert = $certParams.CertificateName

SqlDbPrefix = $prefix

SqlServer = $SqlServer

SqlAdminUser = $SqlAdminUser

SqlAdminPassword = $SqlAdminPassword

SolrCorePrefix = $prefix

SolrURL = $SolrUrl

}

Install-SitecoreConfiguration @xconnectParams -Verbose

#install solr cores for sitecore

$solrParams =

@{

Path = "$PSScriptRoot\sitecore-solr.json"

SolrUrl = $SolrUrl

SolrRoot = $SolrRoot

SolrService = $SolrService

CorePrefix = $prefix

}

Install-SitecoreConfiguration @solrParams -Verbose

#install sitecore instance

$sitecoreParams =

@{

Path = "$PSScriptRoot\sitecore-XP0.json"

Package = "$PSScriptRoot\Sitecore 9.0.1 rev. 171219 (OnPrem)\_single.scwdp.zip"

LicenseFile = "$PSScriptRoot\license.xml"

SqlDbPrefix = $prefix

SqlServer = $SqlServer

SqlAdminUser = $SqlAdminUser

SqlAdminPassword = $SqlAdminPassword

SolrCorePrefix = $prefix

SolrUrl = $SolrUrl

XConnectCert = $certParams.CertificateName

Sitename = $sitecoreSiteName

XConnectCollectionService = "https://$XConnectCollectionService"

}

Install-SitecoreConfiguration @sitecoreParams -Verbose

1. Edit the ‘#define parameters’ section to match your local environment values.
2. Run the above powershell script to start installation process.
3. Once Powershell output window says ‘transcript stopped’, Sitecore should be up and running.

On successful installation, there should be 2 instances on your IIS. Example:



## Potential Errors and Solutions

**“Unable to connect to master or target server 'xp0\_Processing.Pools'. You must have a user with the same password in master or target server 'xp0\_Processing.Pools'.”**

Ensure that your SQL Server has mixed authentication enabled, to allow for SQL Server Authentication connections. Also ensure that login user has Login enabled.

**“There are errors” in Experience Analytics**

Ensure that any certificate-related connection string under ConnectionStrings.config has the correct certificate thumbprint value for ‘FindValue’ attribute.

To get the correct certificate thumbprint value, go to IIS. Click on ‘Server Certificates’.

Choose the respective client certificate (would probably be named as ‘prefix’.xconnect\_client), choose ‘Details’ tab. Check the value of the ‘Thumbprint’ attribute. This should match the ‘FindValue’ attributes above.

If already matches, also ensure that ‘XConnect’ instance & XConnect App Pool is running.

# References

<https://medium.com/redhotminute-australia/setting-up-solr-with-ssl-for-sitecore-9-acdf009edd93>

<https://blogs.perficient.com/sitecore/2017/10/26/setup-and-basic-preparation-for-sitecore-9-installation/>

<http://blog.baslijten.com/gotchas-while-installing-sitecore-9-using-the-sitecore-installation-framework/>