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|  | **icenter** |
|  |  |
|  | On Premises setup |
|  |  |
|  | How to setup BackgroundSystem and Portal on premises |
|  |  |
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|  |  |
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**Modification management**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Version** | **Date** | **Name** | **Dept.** | **Modifications** | **State** |
| 0.1 | 30.01.15 | LEF | SW | Initial draft | Draft |
| 1.1 | 18.03.15 | EPT | SW | Added http proxy and medi configuration to chapter 4.3  Added chapter 5 | Draft |
| 1.2 | 20.03.15 | EPT | SW | Replaced partial medi.config and SystemXml examples with complete ones. | Draft |
| 1.3 | 20.04.15 | LEF | SW | Added “Common errors” chapter | Draft |
| 1.4 | 22.04.15 | REM | SW | Added section for popup blocking on BS crash | Draft |
| 1.5 | 16.09.2015 | EPT | SW | Added captions to example configurations  Added “ResourcesPath” configuration to chapter 4.3  Added “obsolete” part to chapter 6.2 | Draft |

**Review**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Version** | **Date** | **Name** | **Dept.** | **Remarks** |
| 0.1 | 30.01.15 | EPT | SW | Missing example xml and xsd descriptions in Chapter 4.2 and 4.3 |
|  |  |  |  |  |
| 1.1 | 19.03.15 | LEF | SW | Partial config examples are not good |
|  |  |  |  |  |
| 1.3 | 20.04.15 | EPT | SW | Ok, Updated version in header and footer to 1.3  Added .NET 4.5.1 prerequisite in chapter 2 |
| 1.4 | 29.06.2015 | EPT | SW | Fixed wrong command in chapter 6.3.2 |

**Release**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Version** | **Date** | **Name** | **Dept.** | **Remarks** |
| 1.0 | 30.01.15 | LEF | SW | First release |
|  |  |  |  |  |
| 2.0 | 18.09.15 | OCS | SW | 2.0 release |
|  |  |  |  |  |

# Introduction

This document provides a guide to setup an On-premises installation of the icenter.Portal and icenter.BackgroundSystem software.

## Remarks

The procedure described here refers to a standard installation in a typical environment. Things may change according to specific requirements (IT constraints, security restrictions etc.).

In case of doubts, please contact the appropriate department.

## Audience

The setup procedure requires some basic knowledge of Windows Server and Sql Server. This document is intended for technical audience and must not be considered a user manual.

# Prerequisites and components

This chapter describes the prerequisites of icenter server-side components (BackgroundSystem, Portal).

## Software (Gorba)

Software provided by Gorba:

* BackgroundSystem
* Portal
* SystemManager[[1]](#footnote-1)

## Software (external)

Required Operating System and database server:

* Windows Server 2012 R2
* Sql Server 2014[[2]](#footnote-2)

Required .NET framework to run BackgroundSystem:

* .NET framework 4.5.1

## Hardware

For hardware requirements, please check the following links:

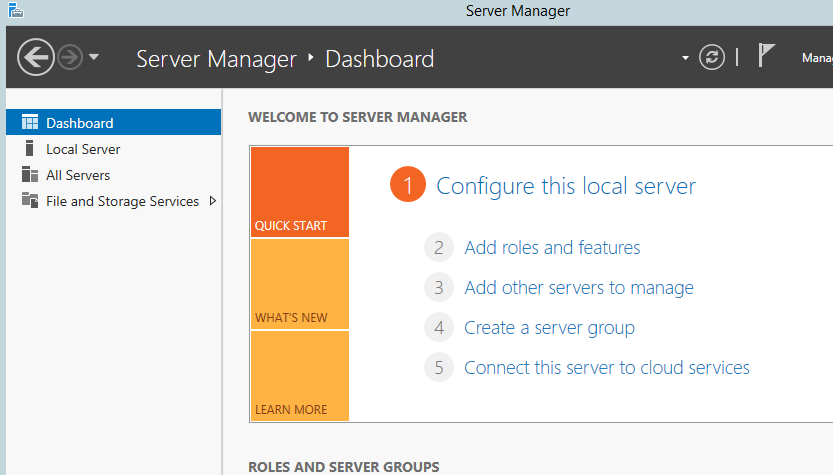
<https://technet.microsoft.com/en-us/library/dn303418.aspx>

<https://msdn.microsoft.com/en-us/library/ms143506(v=sql.120).aspx>

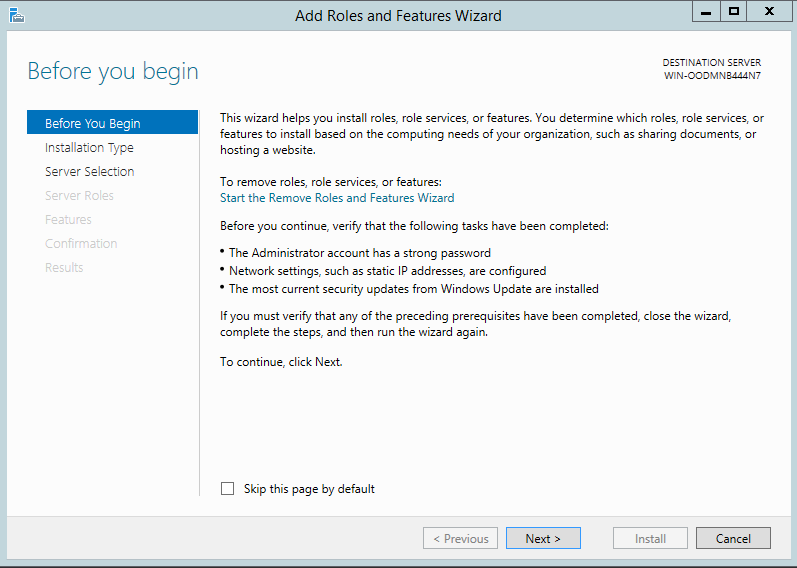
# Sql Server 2014 installation

## Prerequisites: .NET 3.5

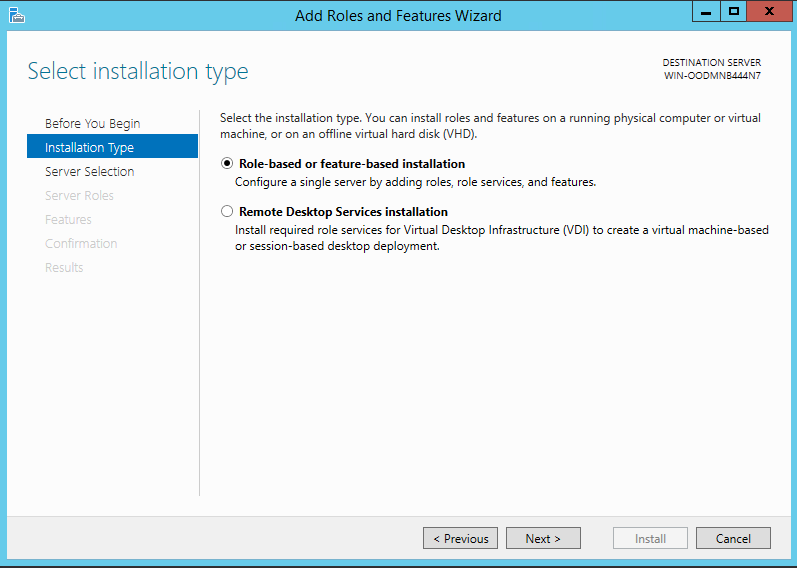
Open the **Server Manager**



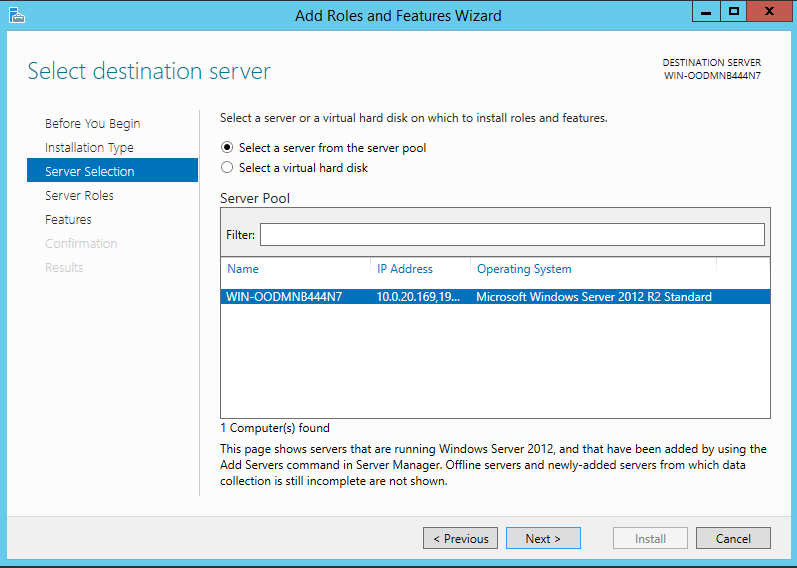
Select Next



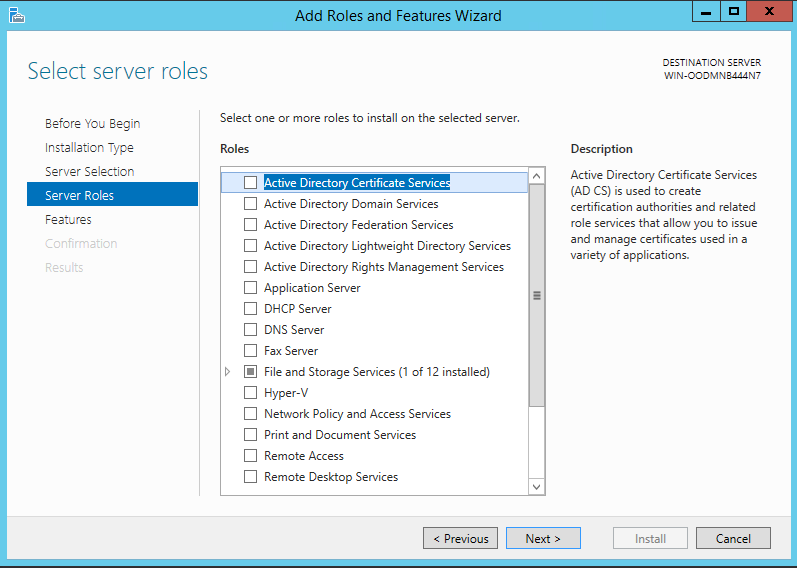
Select **Role-based or feature-based installation** and click *Next*



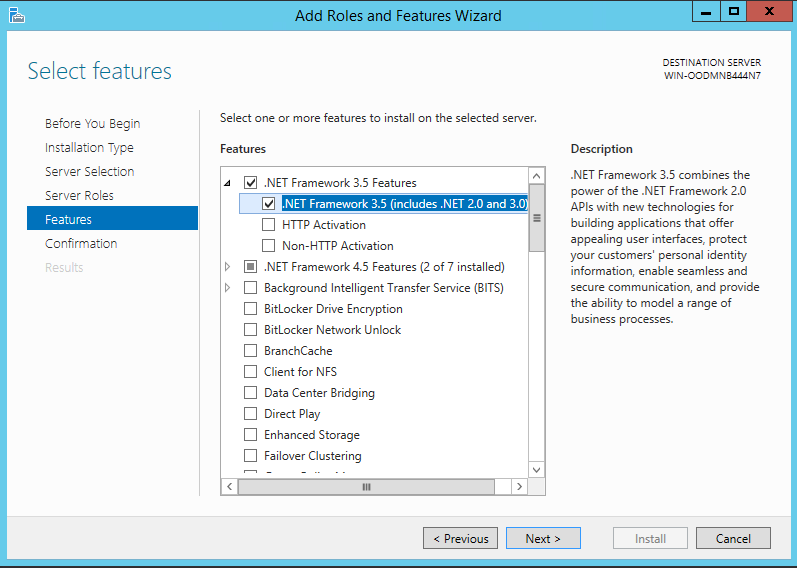
Use the **Select a server from the server pool** option and select your server. Then click *Next*.



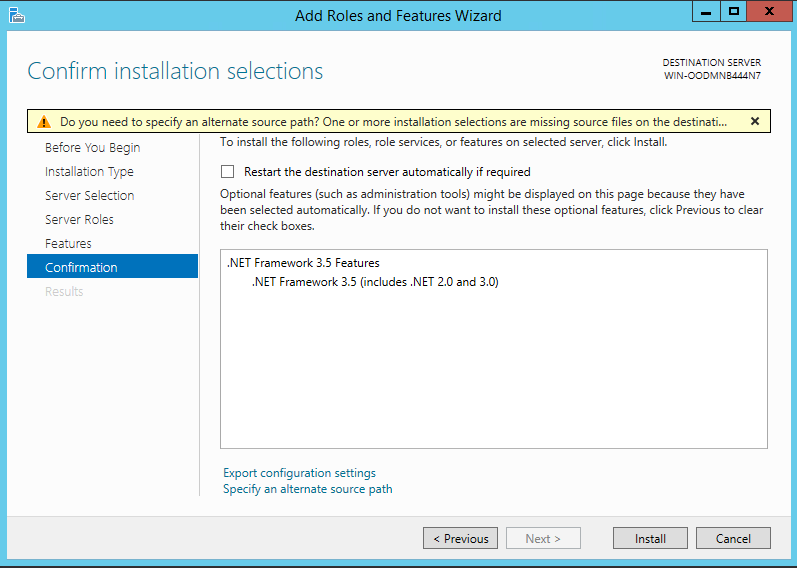
Click *Next* (nothing to change for Server Roles)



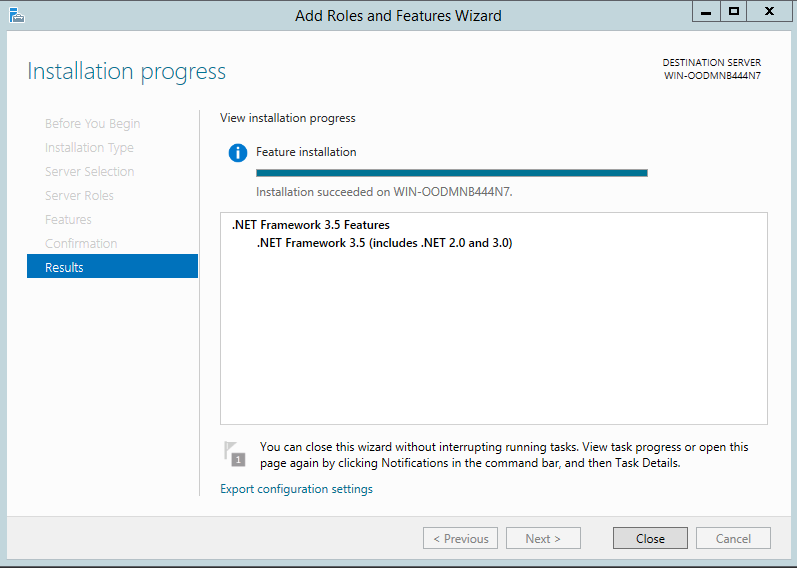
In features, select **.NET Framework 3.5 […]**, as shown in the screenshot and click *Next*



Verify the features selected and click *Install*



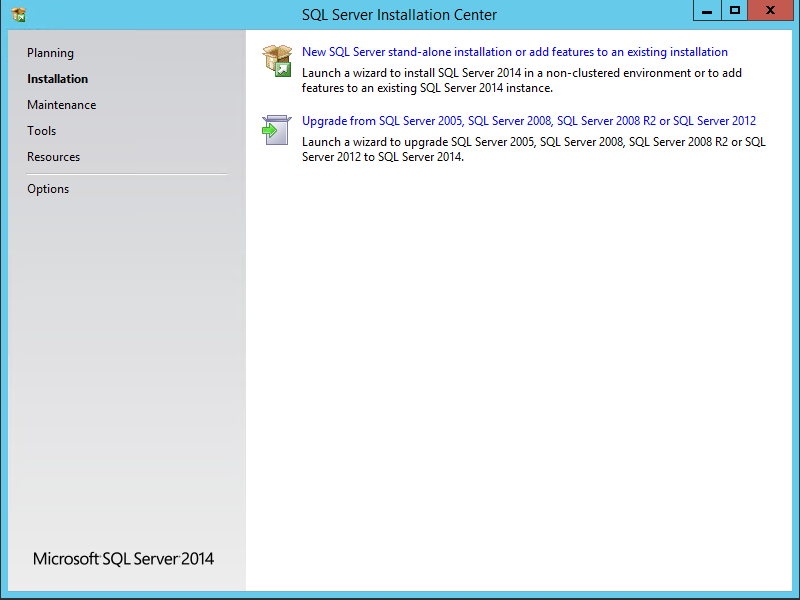
Wait the completion of the installation and click *Close*



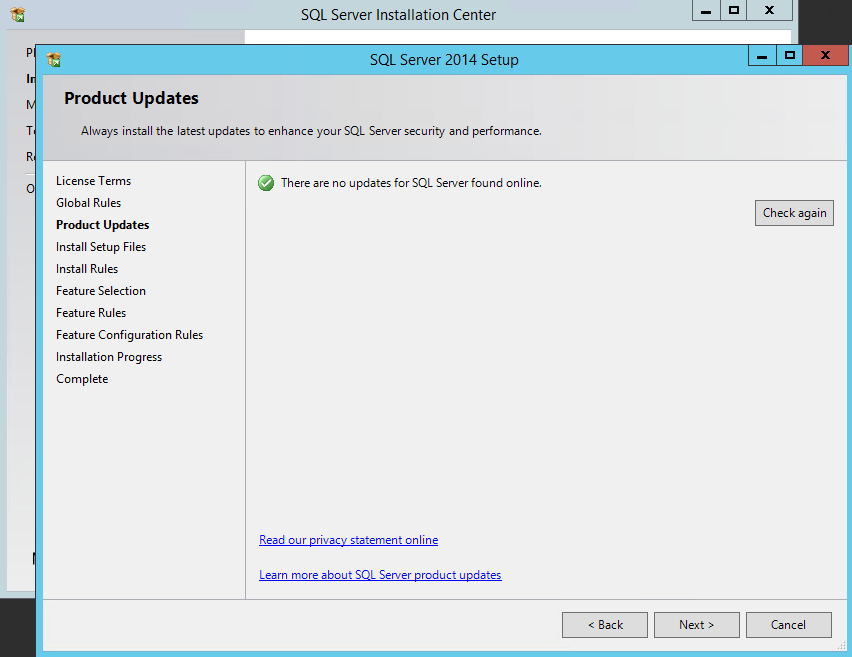
## Sql Server

Download the installer and run it.

Select **New SQL Server stand-alone installation or add features** to an existing installation



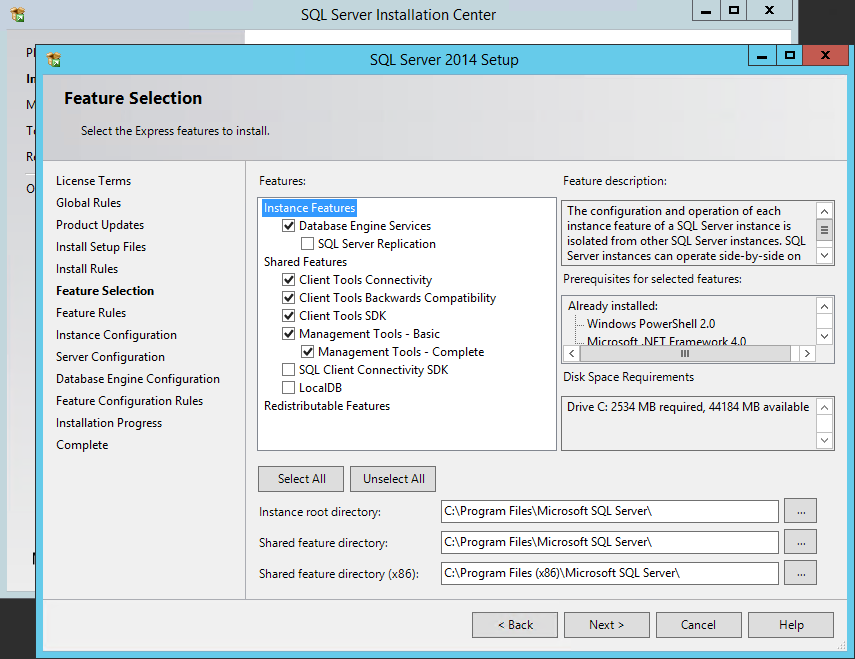
Apply the updates, if necessary, and click *Next*



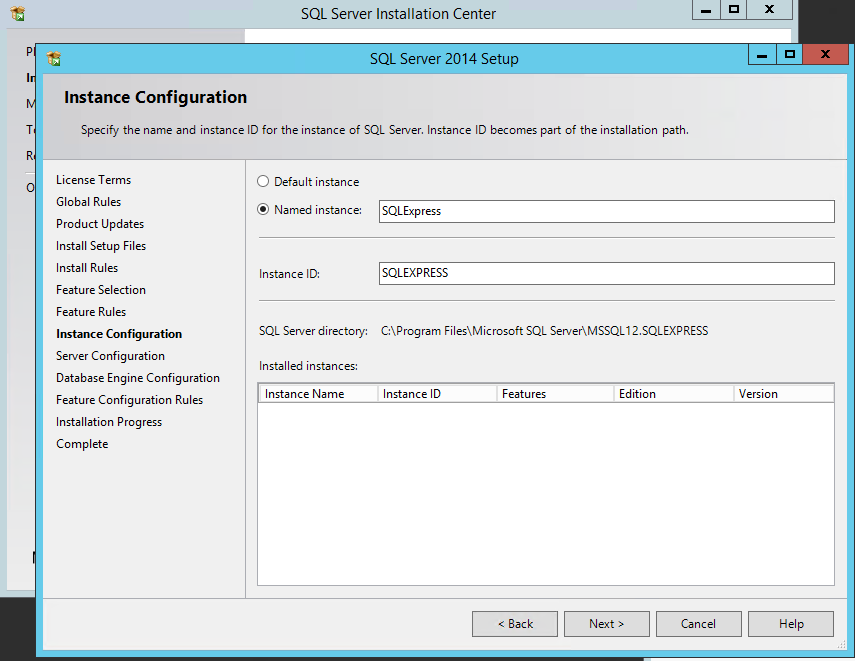
Select the following features:

* **Database Engine services**
* **Client tools connectivity**
* **Client tools SDK**
* **Management Tools – Basic**
  + **Management Tools – Complete**

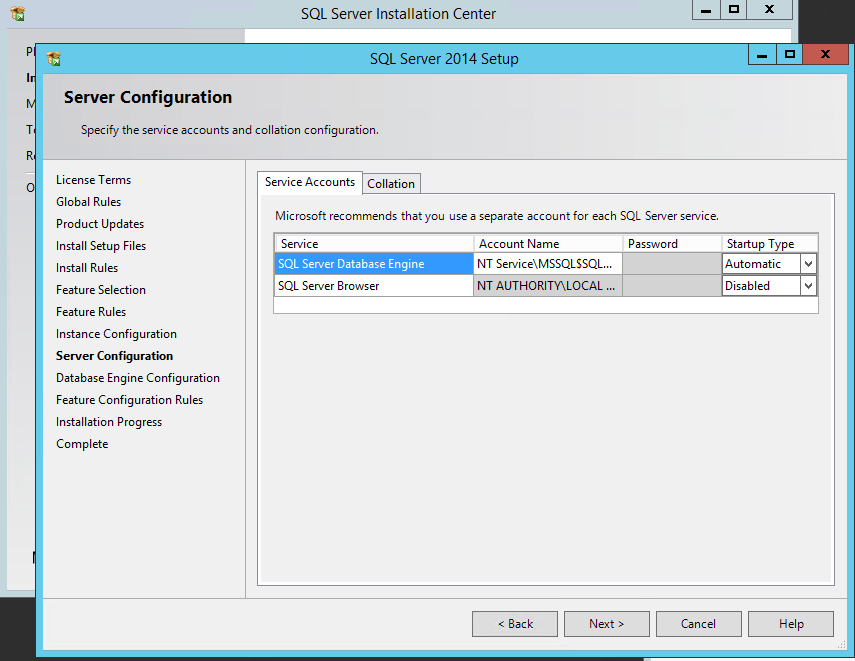
Click *Next*



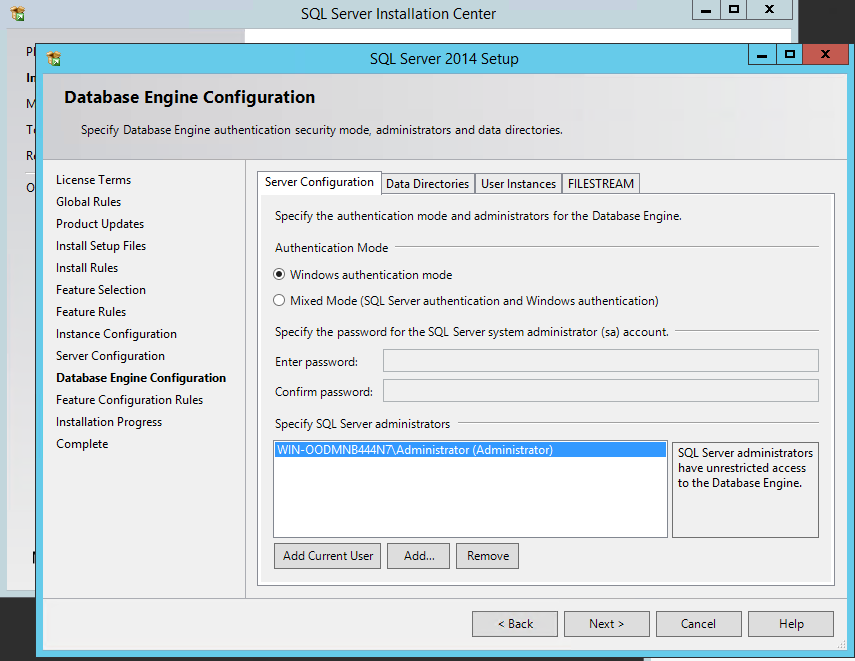
Select the name of the instance (default values are typically ok). Select *Next*.



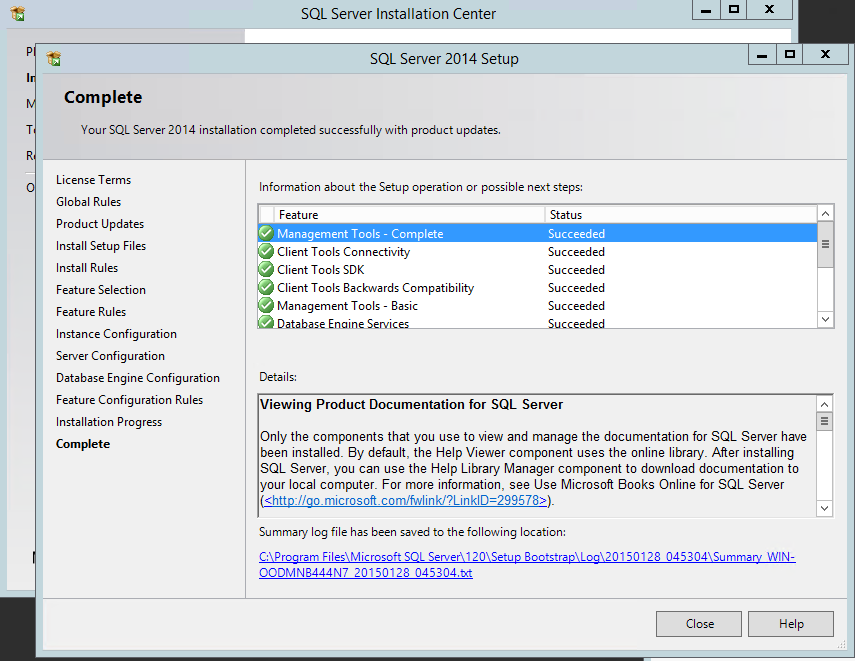
Ensure that **SQL Server Database Engine** is configured to automatically start (**Startup Type: Automatic**) and click *Next*



Add the desired administrators click *Next*



Wait the installation (it may require some minutes) and click *Close*



# Deploying the software

Copy the provided applications on a directory of choice and edit the configuration files according to the environment.

## SystemManager

It’s important to configure the Medi port in the medi.config file to a value different than 1596, which is the one used by BackgroundSystem for ChangeTracking.

SystemManager must be configured to start Portal first and BackgroundSystem then (a delay between them is suggested since BackgroundSystem uses the Portal).

For specific SystemManager configuration, please check the documentation about the released software.

To allow an automated restart if the BackgroundSystem crashes it is necessary to prevent Windows from showing a crash dialog, which needs to be closed manually. Enable the PreventPopups feature of the SystemManager to automatically close popups by adding to the System element:

Figure 1 - Popup part of SystemManager.xml

<System>

<PreventPopups Enabled="true" CheckInterval="PT10S">

     <Popup WindowName="Center BackgroundSystem ConsoleHost" />

    </PreventPopups>

</System>

If this element is already present just add the Popup element containing the background system window title.

## Portal

Configure the Port in CenterPortal.exe.config file.

It might be required to open the corresponding external port on a firewall.

Configure the WebSite/BackgroundSystemConfiguration.xml according to the environment.

@XmlDoc(xsd=..\..\Common\Source\ServiceModel\BackgroundSystemConfiguration.xsd; xml=..\..\Portal\Source\HostConsole\WebSite\BackgroundSystemConfiguration.xml)

The Portal options are app setting entries.

Figure 2 - Example CenterPortal.exe.config configuration file

<?xml version="1.0" encoding="utf-8"?>

<configuration>

  <appSettings>

    <add key="RootDirectory" value="WebSite"/>

    <add key="HttpPort" value="8080" />

    <add key="HttpsPort" value="8443" />

    <add key="Portal.EnableHttps" value="True" />

  </appSettings>

    <startup>

        <supportedRuntime version="v4.0" sku=".NETFramework,Version=v4.5.1" />

    </startup>

  <runtime>

    <assemblyBinding xmlns="urn:schemas-microsoft-com:asm.v1">

      <dependentAssembly>

        <assemblyIdentity name="System.Spatial" publicKeyToken="31bf3856ad364e35" culture="neutral" />

        <bindingRedirect oldVersion="0.0.0.0-5.6.0.0" newVersion="5.6.0.0" />

      </dependentAssembly>

    </assemblyBinding>

  </runtime>

</configuration>

## BackgroundSystem

In BackgroundSystemConsoleHost.exe.config configure the database connection string, the path to the resources and the address relative to the portal.

The connection string entry needs to have the CenterDataContext key. A typical example of connection string value with a default installation of SqlExpress:

Data Source=.\SqlExpress;Initial Catalog=Gorba.Center.BackgroundSystem;Integrated Security=True

The portal address can be configured with the BackgroundSystemPortal app setting.

The path for the resources can be configured with the ResourcesPath app setting. If this path is not set, all resources will be stored in “{Path of BackgroundSystemConsoleHost.exe}\Resources”

<appSettings>

    <!--<add key="BackgroundSystemPortal" value="{public URL}" />-->

    <!--<add key="ResourcesPath" value="C:\Center\Resources" />-->

  </appSettings>

  <connectionStrings>

    <add connectionString="Data Source=.;Initial Catalog=Gorba.Center.BackgroundSystem;Integrated Security=True" name="CenterDataContext" providerName="System.Data.SqlClient" />

  </connectionStrings>

Figure 3 - AppSettings and ConnectionString in BackgroundSystemConsoleHost.exe.config

If the server uses an http proxy, the BackgroundSystem must be configured to disable the proxy. To do that, add the following child node to the <Configuration> node:

<system.net>

    <defaultProxy>

        <proxy usesystemdefault=”false” />

    </defaultProxy>

</system.net>

Figure 4 - Disable http proxy in BackgroundSystemConsoleHost.exe.config

If the BackgroundSystem is managed by SystemManager the medi.config file must be changed to be a client configuration and the RemotePort must be same as the one defined in SystemManager medi.config.

<?xml version="1.0" encoding="utf-8"?>

<MediConfig xmlns:xsi=<http://www.w3.org/2001/XMLSchema-instance>

        xmlns:xsd="http://www.w3.org/2001/XMLSchema">

  <Peers>

    <PeerConfig xsi:type=”ClientPeerConfig”>

        <Codec xsi:type=”BecCodecConfig” />

        <Transport xsi:type=”TcpTransportClientConfig”>

            <RemoteHost>127.0.0.1</RemoteHost>

            <RemotePort>1597</RemotePort>

        </Transport>

        <BlockBroadcast>false</BlockBroadcast>

    </PeerConfig>

  </Peers>

</MediConfig>

Figure 5 - Example medi.config of the BackgroundSystem application

## Environment

Setup the environment so that SystemManager is launched at startup.

# Common errors

## Server time is not in Sync

Assuming that all clients are in sync with the official NIST time (<http://www.time.gov>), the server time must be in sync too.

The max tolerance is set to 5 minutes, meaning that communication between client applications and the server will fail (you will not be able to connect) if the difference between the clocks is higher than 5 minutes.

Please note that the difference doesn’t depend on the time zones for either client or server.

## SQL permissions for BackgroundSystem

The BackgroundSystem application must be able to access the SQL server. If the process runs as Administrator, there won’t be any problem. For other scenarios, please contact the Software department.

## Portal permissions to listen to Http requests

The Portal hosts a simple Http listener to be able to serve requests.

This requires permissions that are available as Administrator (so, running the process as Administrator would solve the issue) or can be manually granted (check first paragraph of the Software team wiki page <https://tfsgorba.gorba.com/sites/teamsoftware/Wiki/WCF.aspx>).

# Appendix

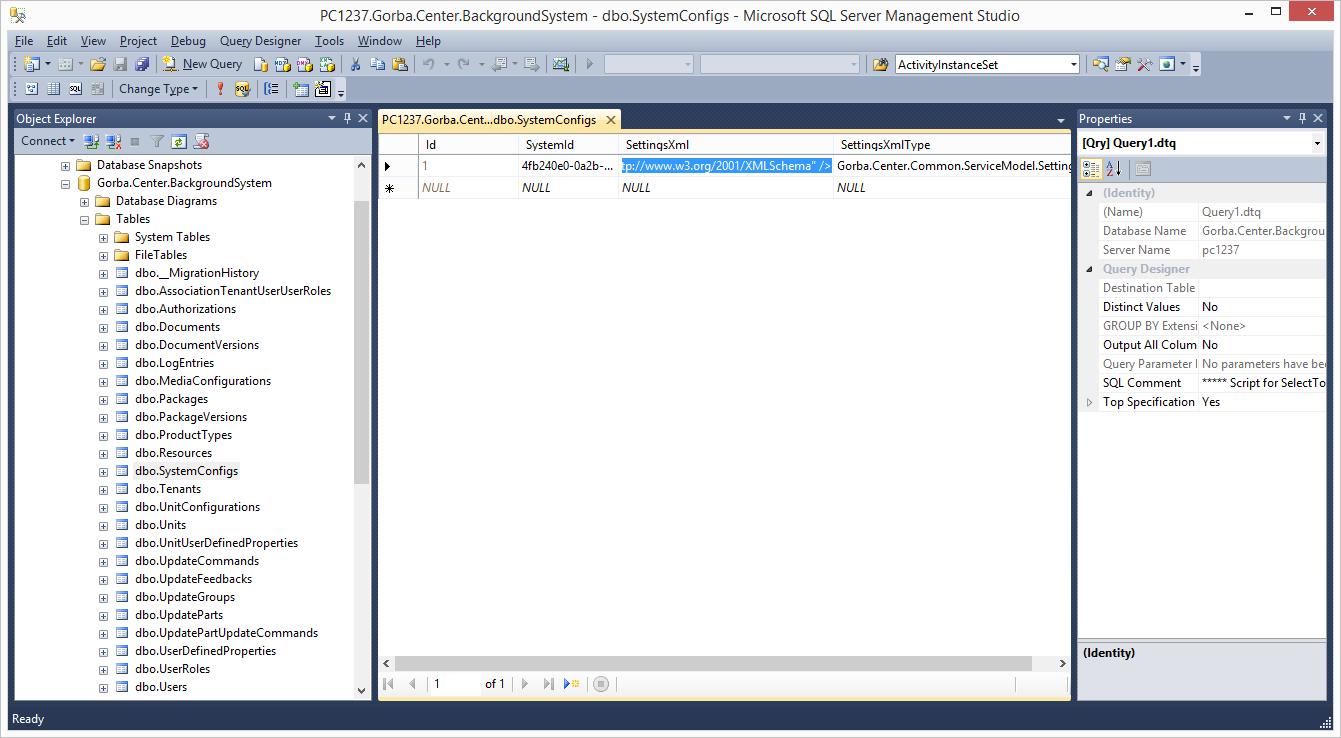
## Adding TFT software packages and Product Types

* Copy the provided Setup directory on a directory of choice. This directory includes all software packages and product types needed to create UnitConfigurations with Admin.
* Start SystemManager
* Run the Setup.ps1 script and enter the password for the admin user.

## Add an FTP server configuration

This chapter is obsolete if the version of the BackgroundSystem is 2.2.x.x or above and the application icenter.admin version 2.6.x or above is used to administrate.

* Open SQL-Server Management Studio
* Edit table SystemConfigs
* Copy the content of the column SettingsXml and paste it into an editor



* Add the FtpUpdateProvider child node. Complete example SettingsXml entry:

<?xml version="1.0" encoding="utf-16"?>

<BackgroundSystemSettings xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"

    xmlns:xsd="http://www.w3.org/2001/XMLSchema">

    <FtpUpdateProvider>

        <Host>{Server IP}</Host>

        <Username>{FTP username}</Username>

        <Password>{FTP password}</Password>

        <PollInterval>PT10s</PollInterval>

        <RepositoryBasePath>

            {relative path where the repository.xml is stored}

        </RepositoryBasePath>

    </FtpUpdateProvider>

</BackgroundSystemSettings>

* Paste the new content back into the column SettingsXml

## Configure Https

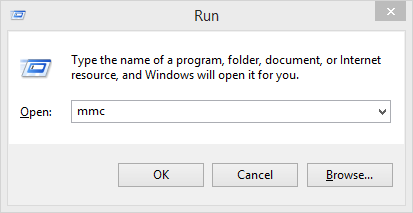
If the Https protocol is enabled, Windows must be configure to allow Https for the console application hosting the portal.

*This procedure is not needed if you decide to use only simple Http*.

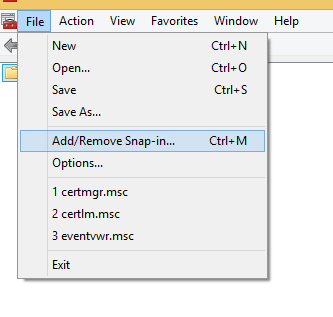
### Install the certificate

First, you’ll need to install the certificate. It must be installed under the LocalMachine\Personal store.

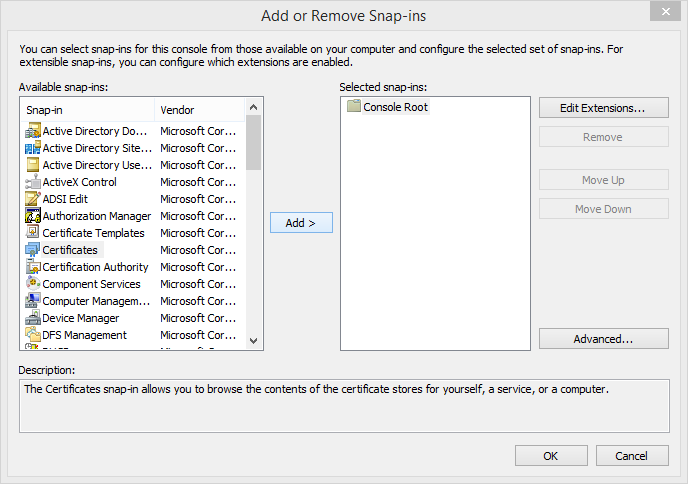
Open the run dialog (Win+R), type the following command (mmc) and then Enter:



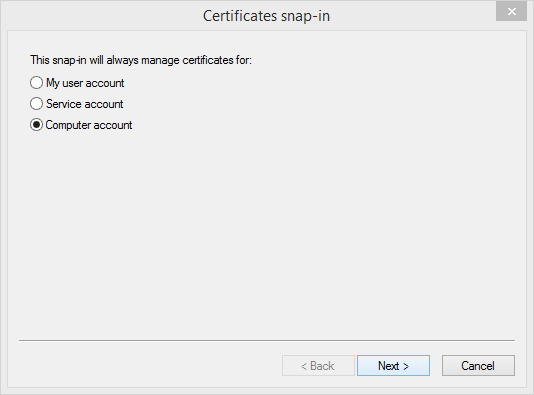
Select File -> Add/Remove SnapIn…



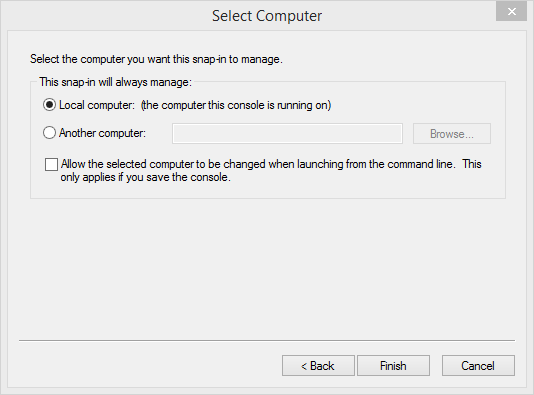
Select the Certificates SnapIn and click add



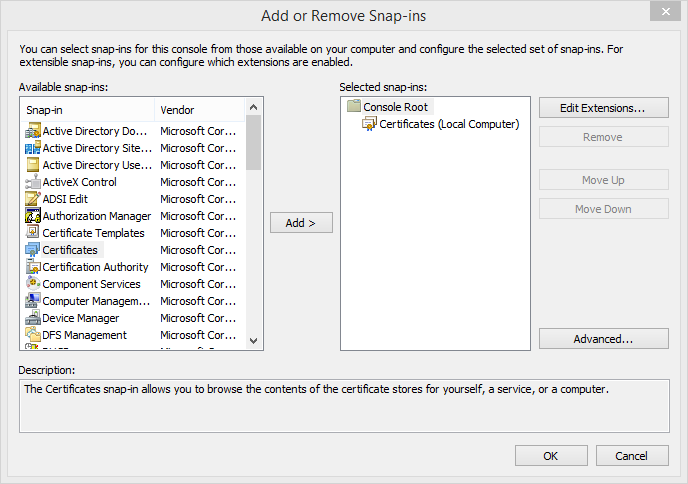
In the opened wizard, select Computer account



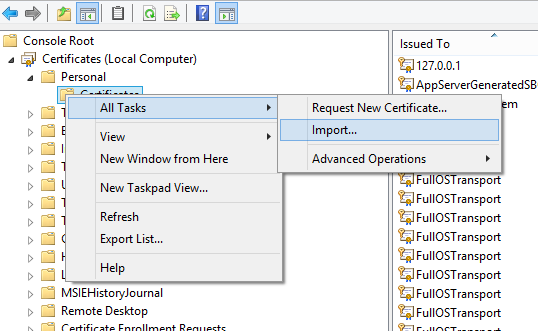
In the following screen select Finish



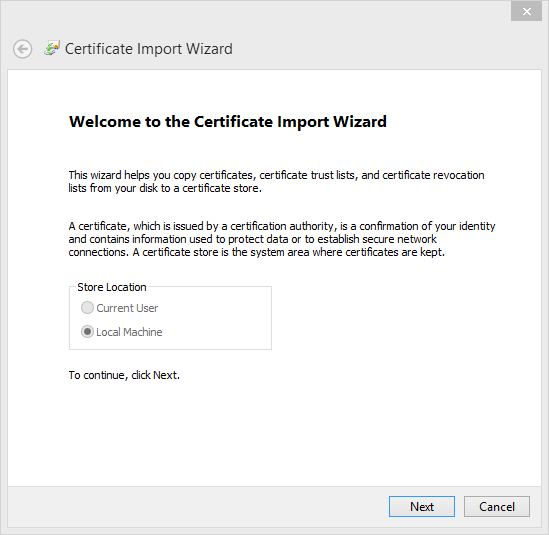
The Certificates (Local Computer) SnapIn should be added to the selected ones (right pane). Type Ok



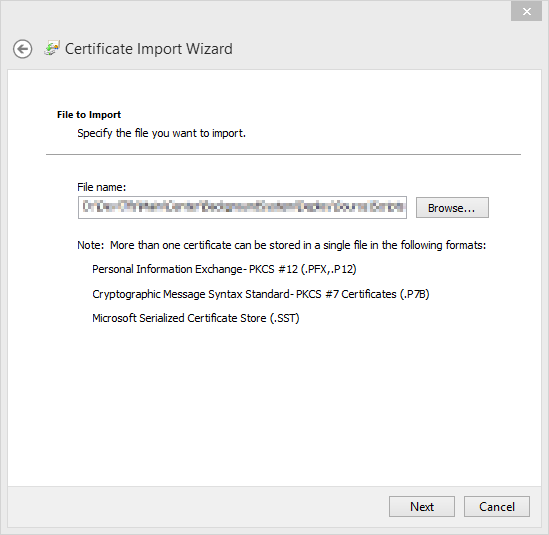
Right click on Certifcates (Local Computer)/Personal/Certificates and select All Tasks/Import...



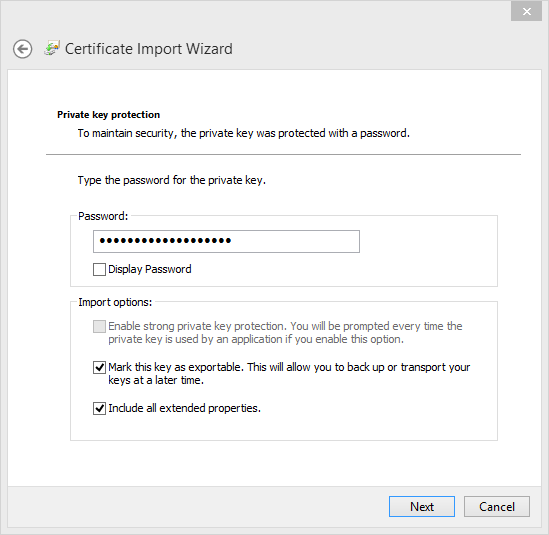
Select next in the welcome page of the Wizard (Local Machine should be selected as Store Location)



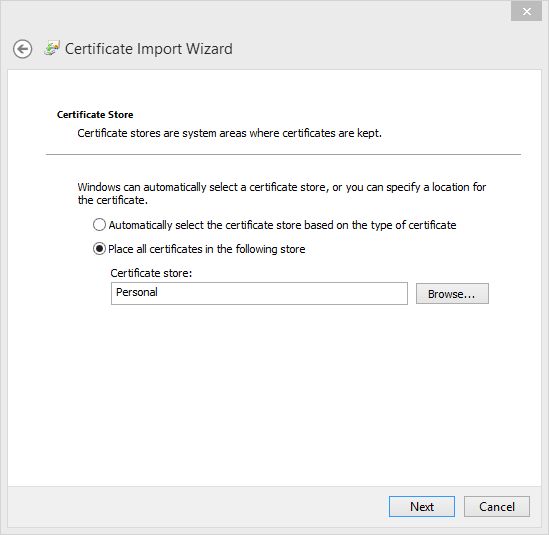
Browse and select the certificate, then click Next



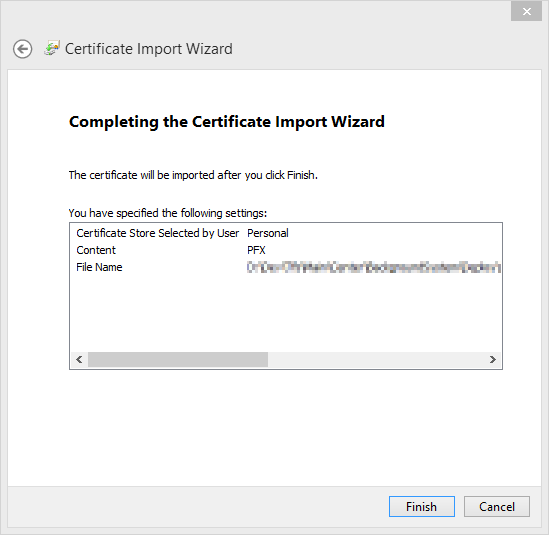
Enter the password and click Next



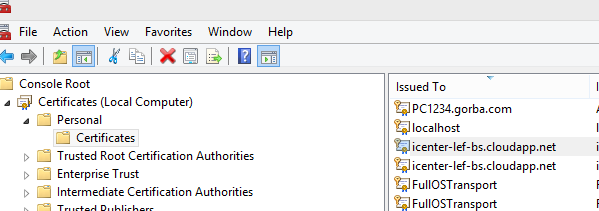
Select Personal as Certificate Store and click Next



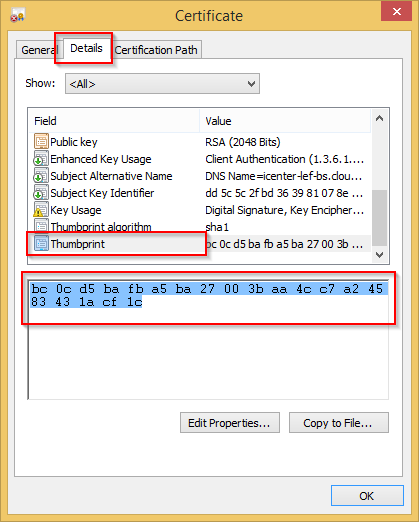
Click Finish



In the list of certificates, find the one you added and double-click it



Go to the Details tab and find the Thumbprint field. This value (without spaces) will be needed in the next step



### Add the SslCert entry

Open an elevated command prompt and type the following command:

**Netsh http add sslcert ipport=0.0.0.0:{{port}} certhash={{hash}} appid={4e6ddf06-33e3-4c21-99bc-fd097241bad0}**

Where:

*{{port}}* is the port number as configured for the application (HttpsPort entry)

*{{hash}}* is the certificate Thumbprints as mentioned in the chapter 3.1.

1. SystemManager is optional, but highly suggested to monitor the execution of Portal and BackgroundSystem. [↑](#footnote-ref-1)
2. <http://download.microsoft.com/download/E/A/E/EAE6F7FC-767A-4038-A954-49B8B05D04EB/ExpressAdv%2064BIT/SQLEXPRADV_x64_ENU.exe> [↑](#footnote-ref-2)