Team Foundation Server 2017 Installation Guide

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Contents

Chapter 1: Install Windows Server 2016

Introduction

The first step for installing Team Foundation Server 2017 (TFS2017) is to install Windows Server. In this guide, I'm going to be using Windows Server 2016. I'm also assuming that you'll be installing TFS2017 in a single server configuration – aka. the TFS Application Tier and SQL Server will be installed on a single machine.

Install Windows Server 2016

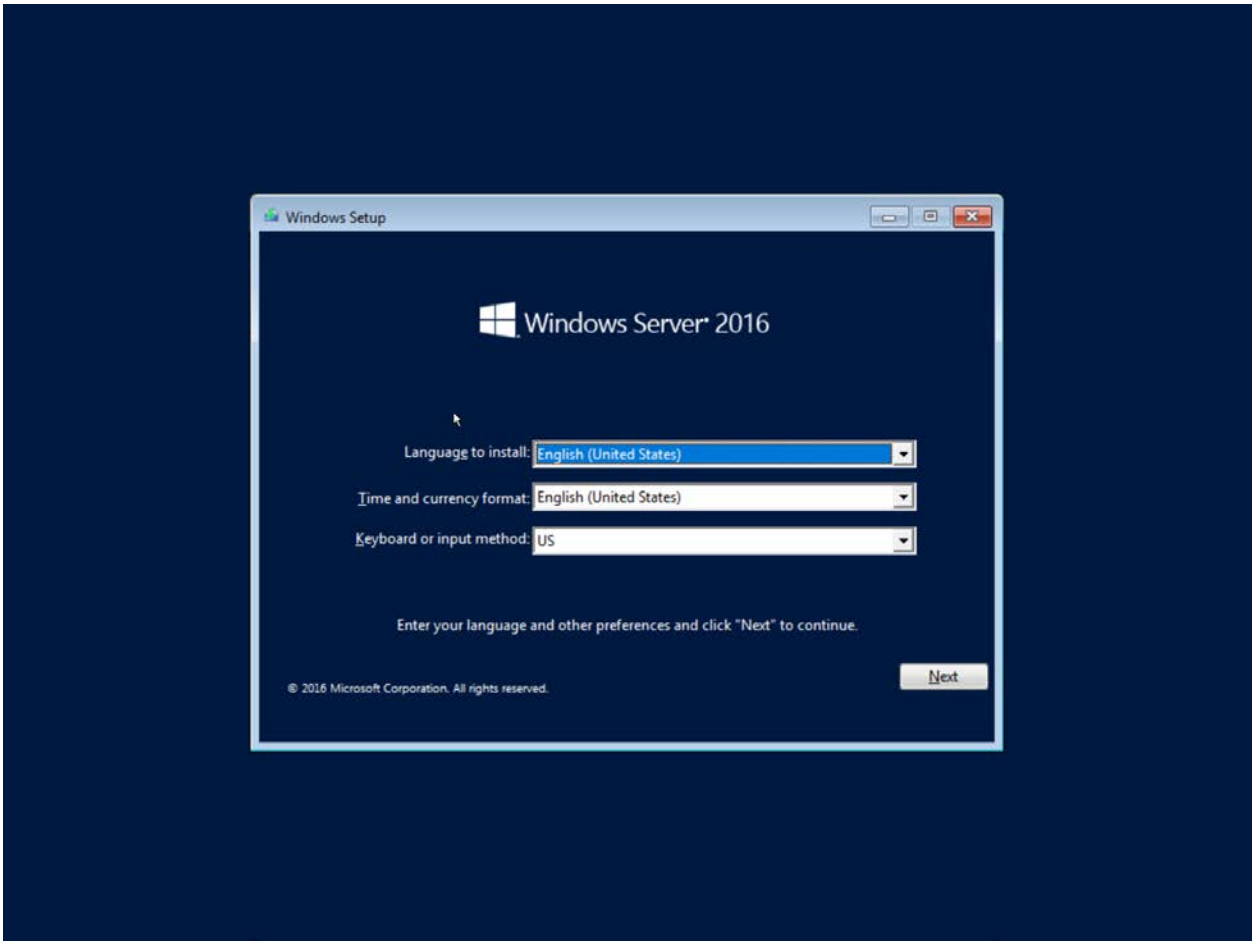
I'm assuming that you've got an Active Directory Domain already set up and configured and that we'll eventually be joining this new server to that domain.

- Either insert your **Windows Server 2016 DVD** into the DVD drive or mount the **Windows Server 2016 ISO image** into the DVD drive for your virtual machine.
- Start the machine

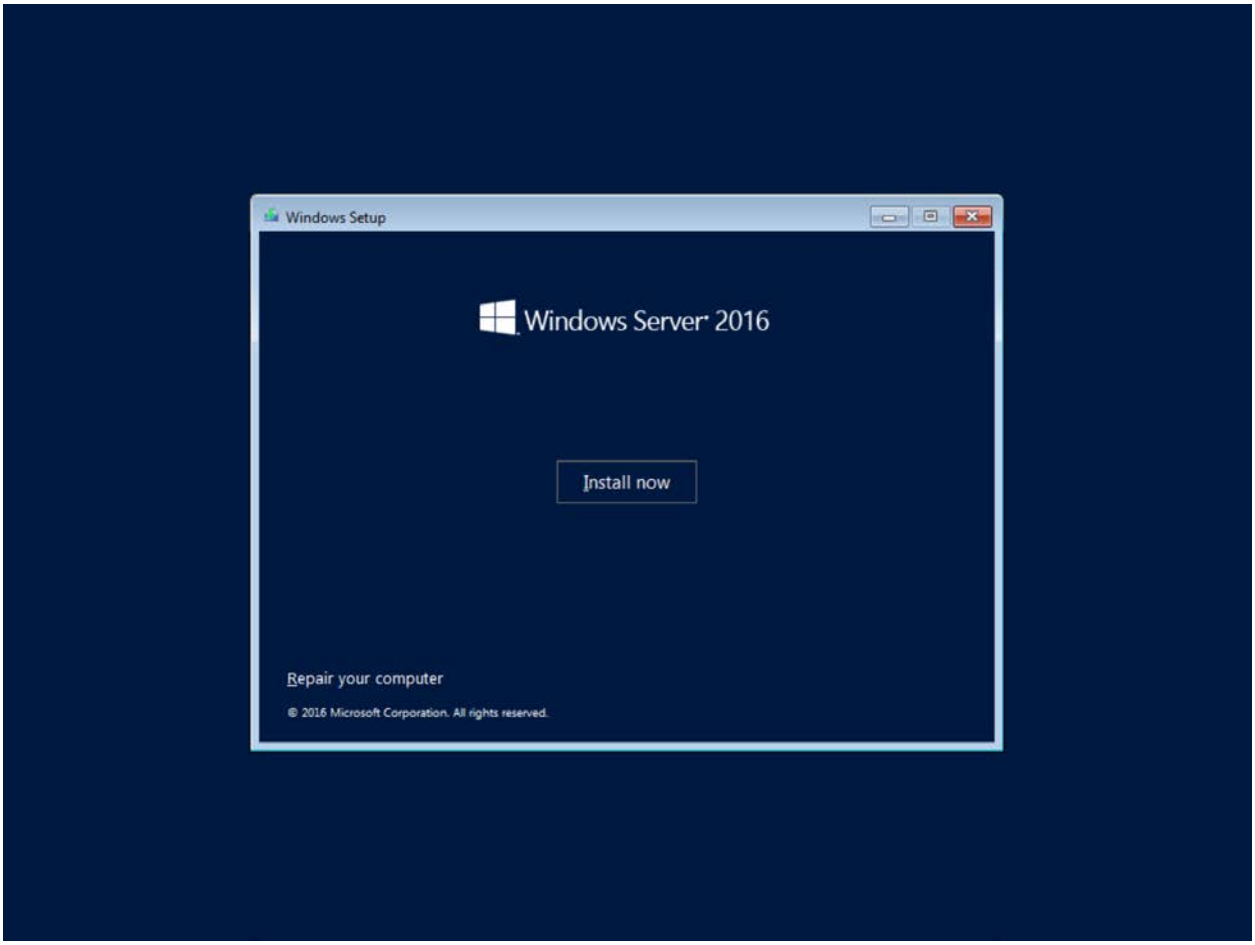
You will see the **Press any key to boot from CD or DVD....** message appear.

- Press any key to boot from the DVD drive

You should see the Windows Setup welcome screen.



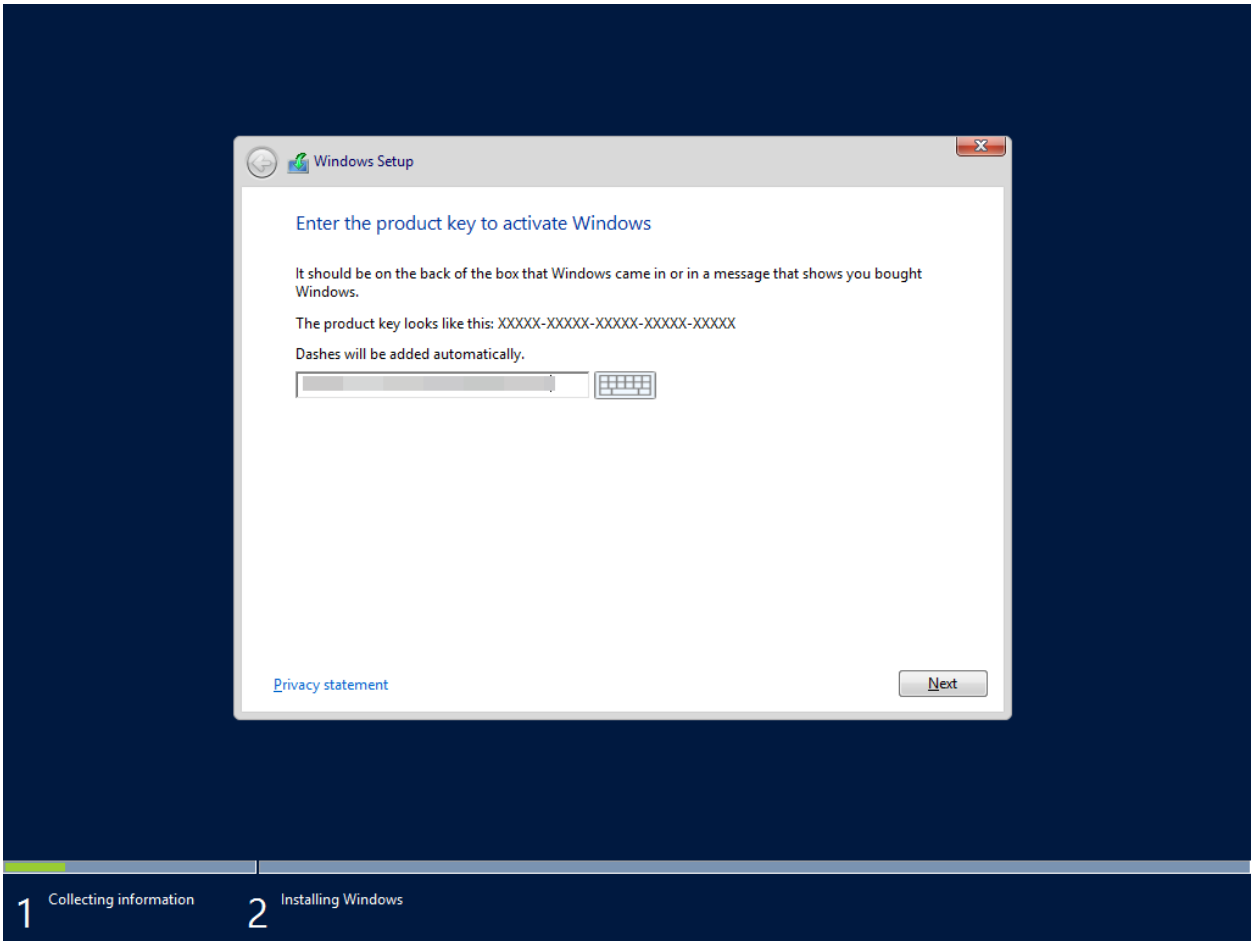
- Click **Next**



- Click the **Install now** button

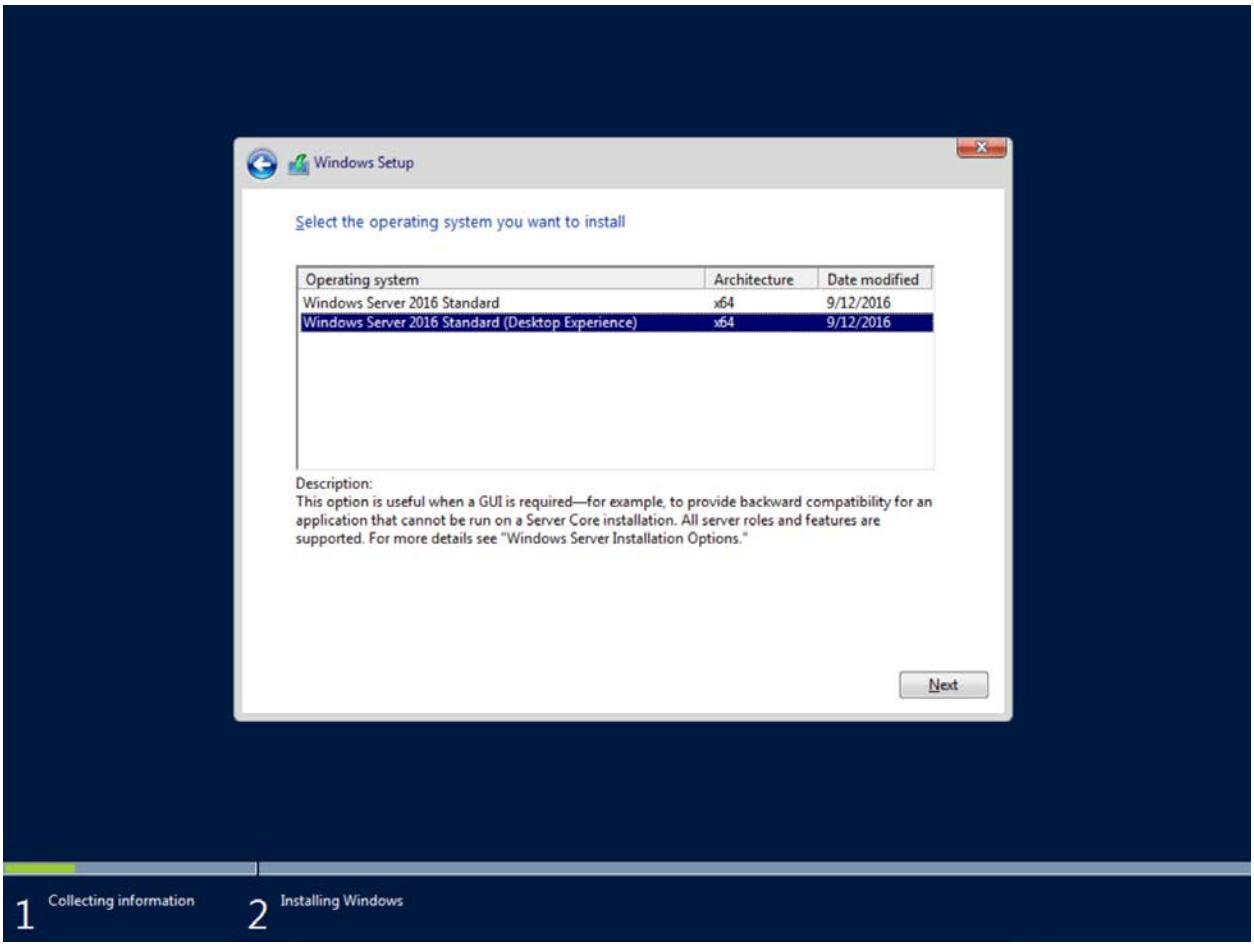
You should see a screen saying that setup is starting.

You'll be prompted for a license key.



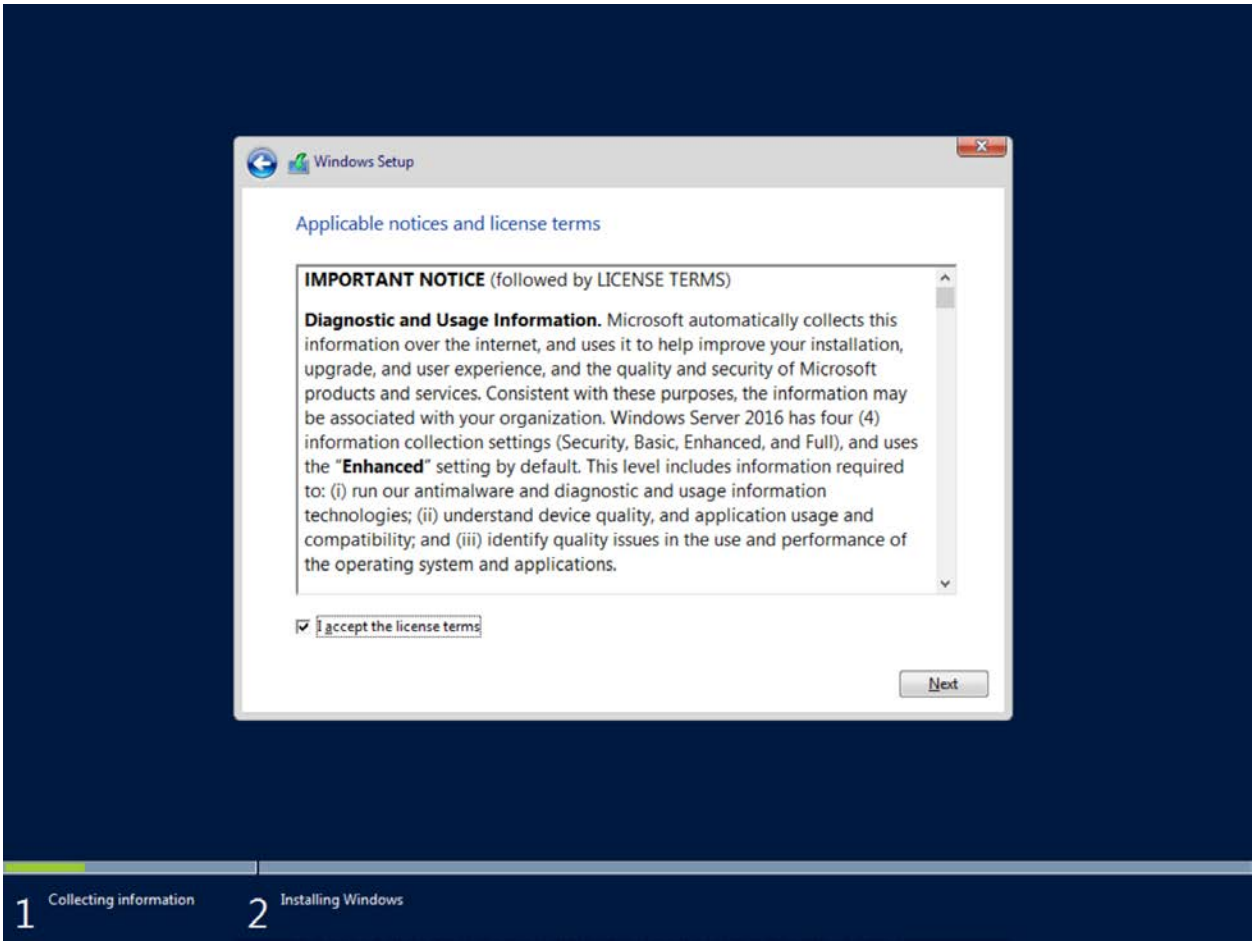
- Enter your license key
- Click the **Next** button

You'll be prompted to choose what version of Windows Server 2016 that you'd like to install. This guide assumes that you'll be installing Windows Server 2016 Standard and that you'll be installing the graphical user interface (GUI).



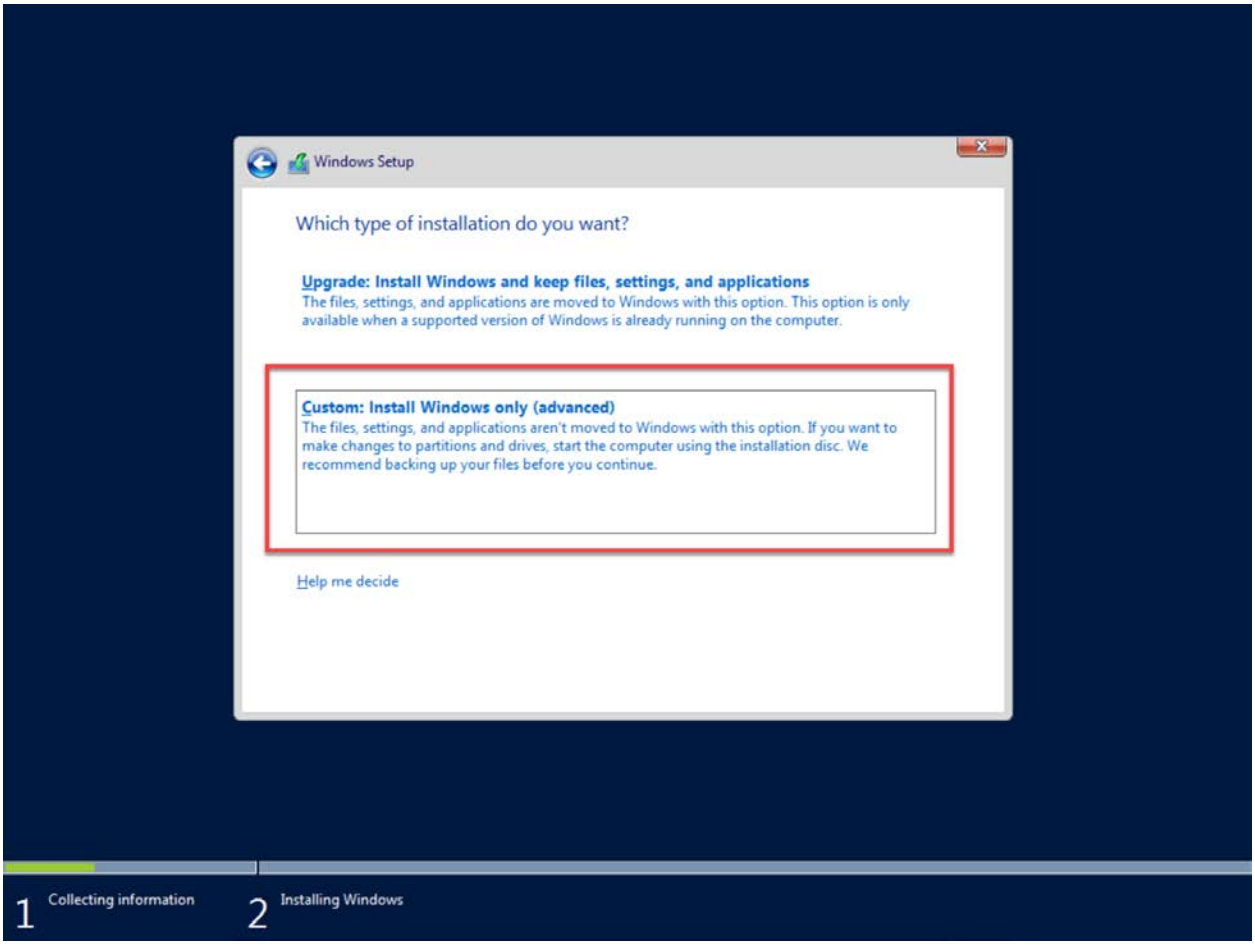
- Choose **Windows Server 2016 Standard (Desktop Experience)**
- Click the **Next** button

You'll be shown the license terms.



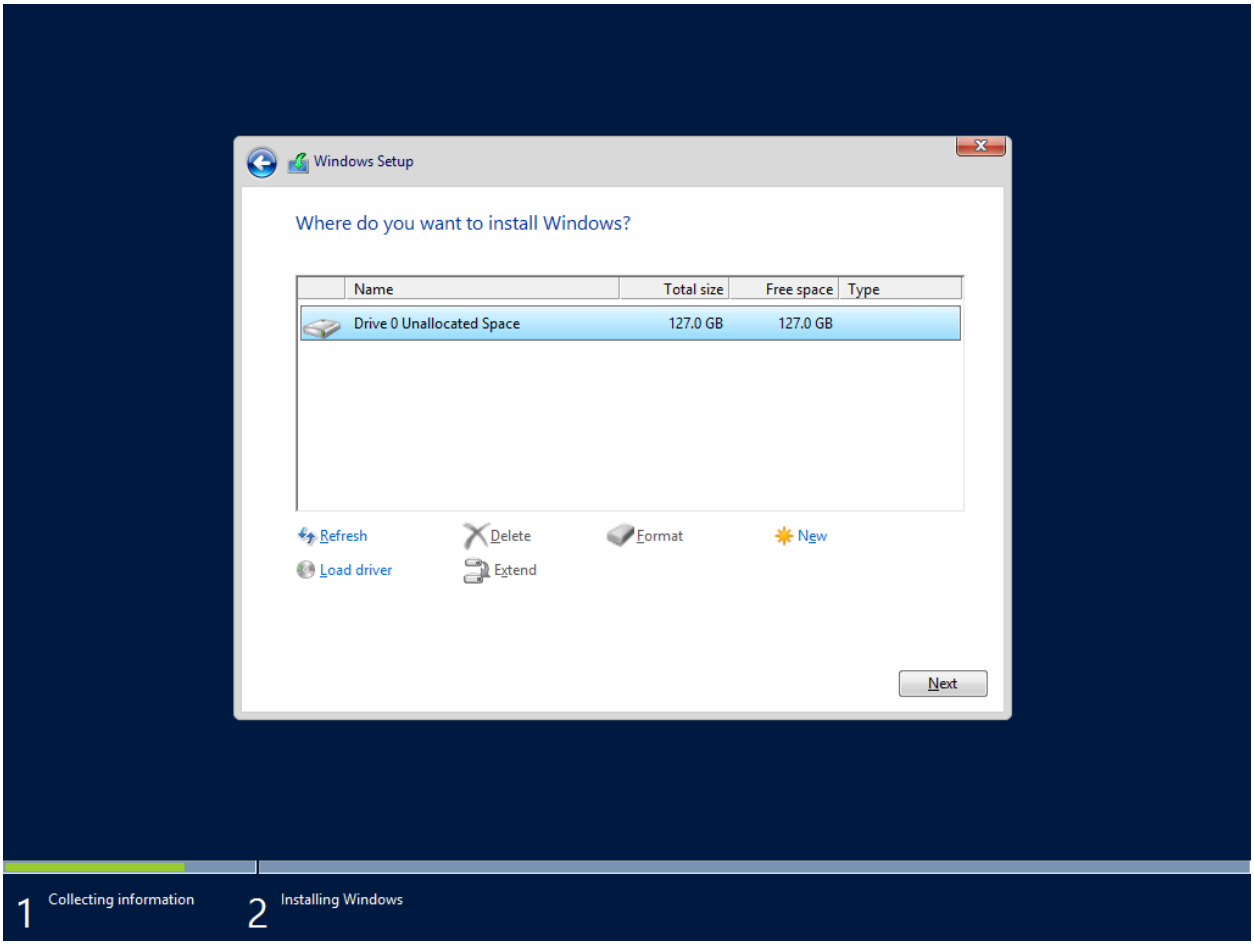
- Read the license terms in painstaking detail
- Check the **I accept the license terms** box
- Click the **Next** button

We'll be doing a new installation rather than an upgrade.



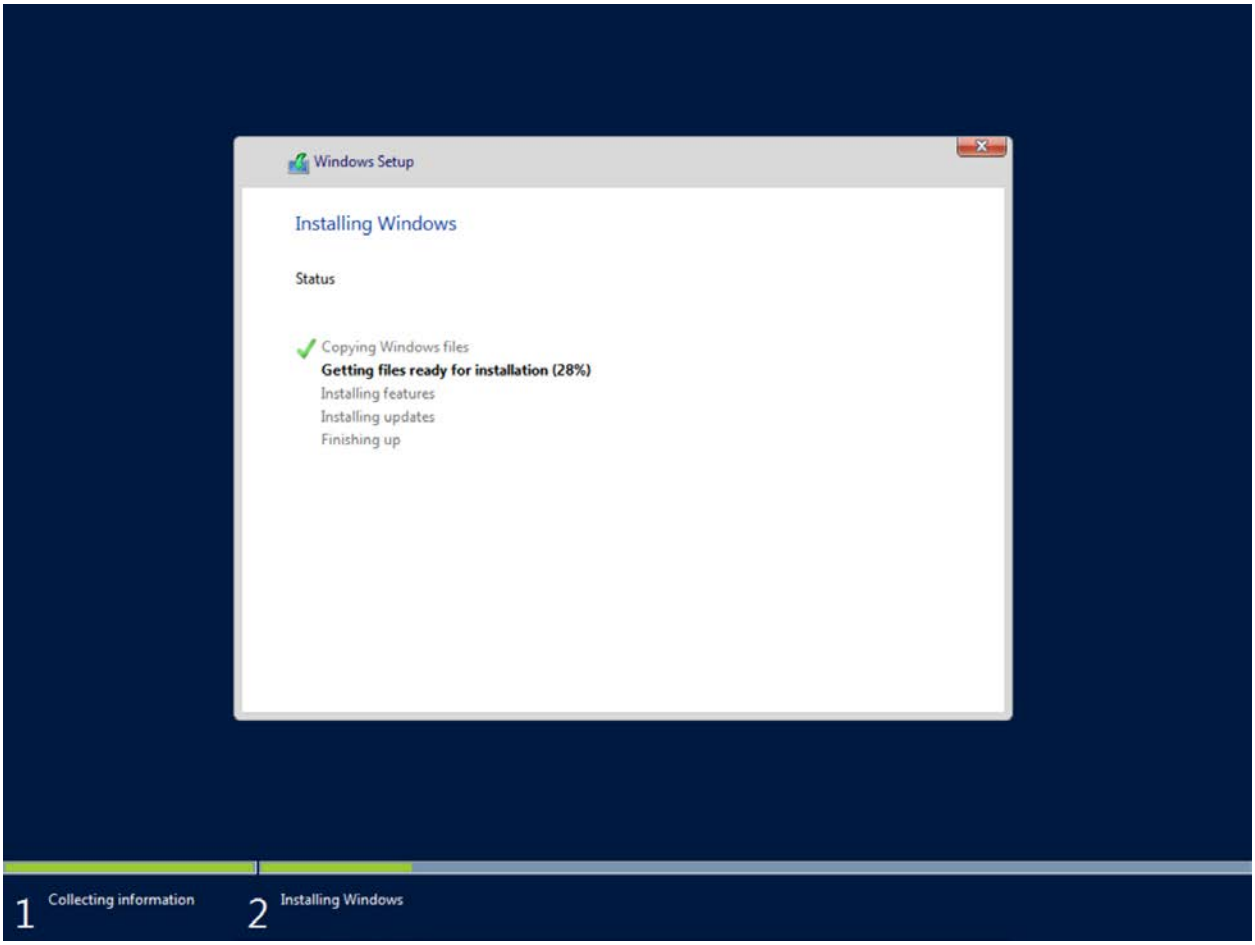
- Click **Custom: Install Windows only (advanced)**

You should now see a dialog that lets you choose where you'd like to install windows. I'm assuming that we'll be installing on a new computer without any existing partitions on the disk.

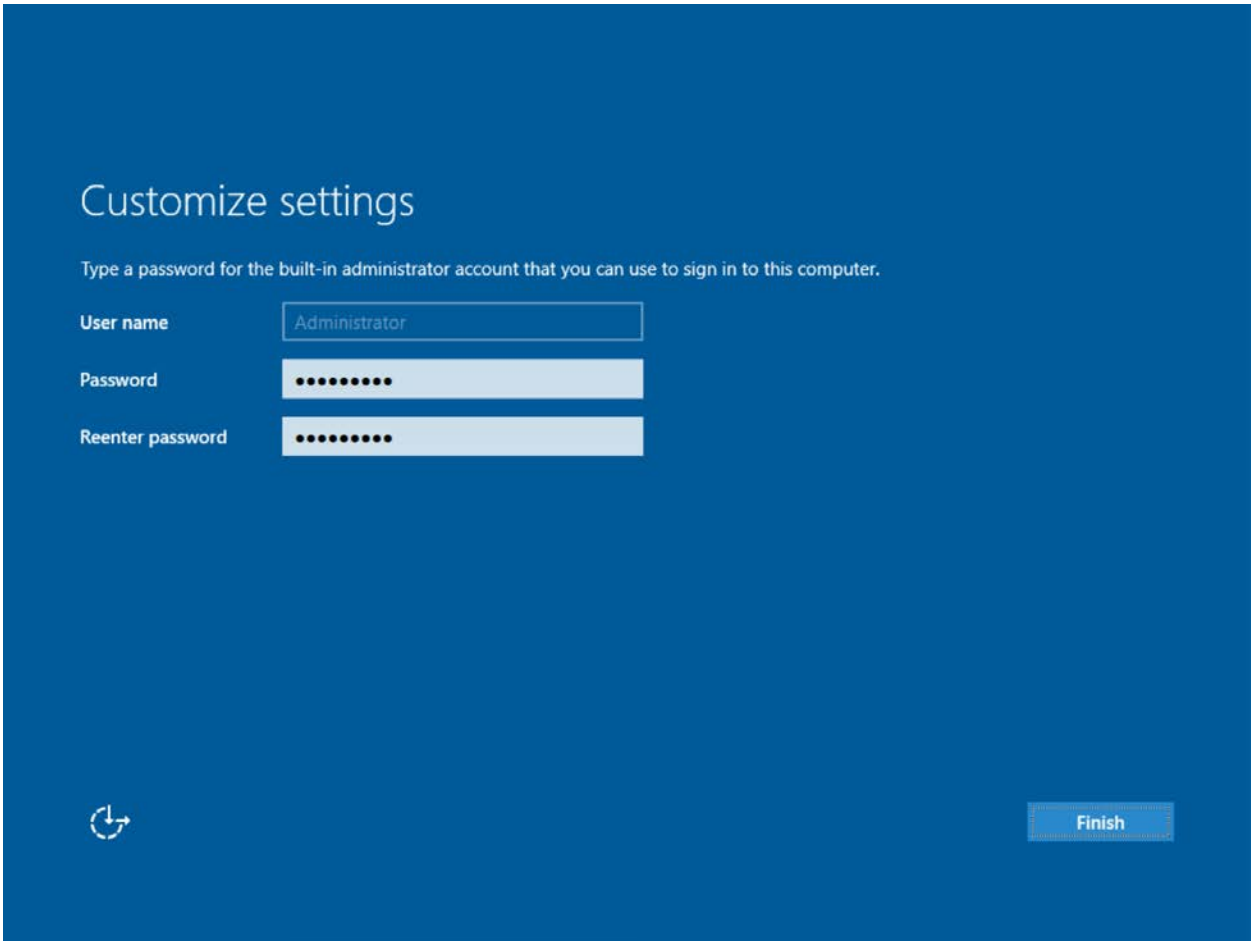


- Choose **Drive 0 Unallocated Space** or another appropriate partition or unallocated disk space
- Click **Next**

The installation should now be running.



Your server will automatically reboot when the installation is complete and you'll be prompted to create an administrator password.

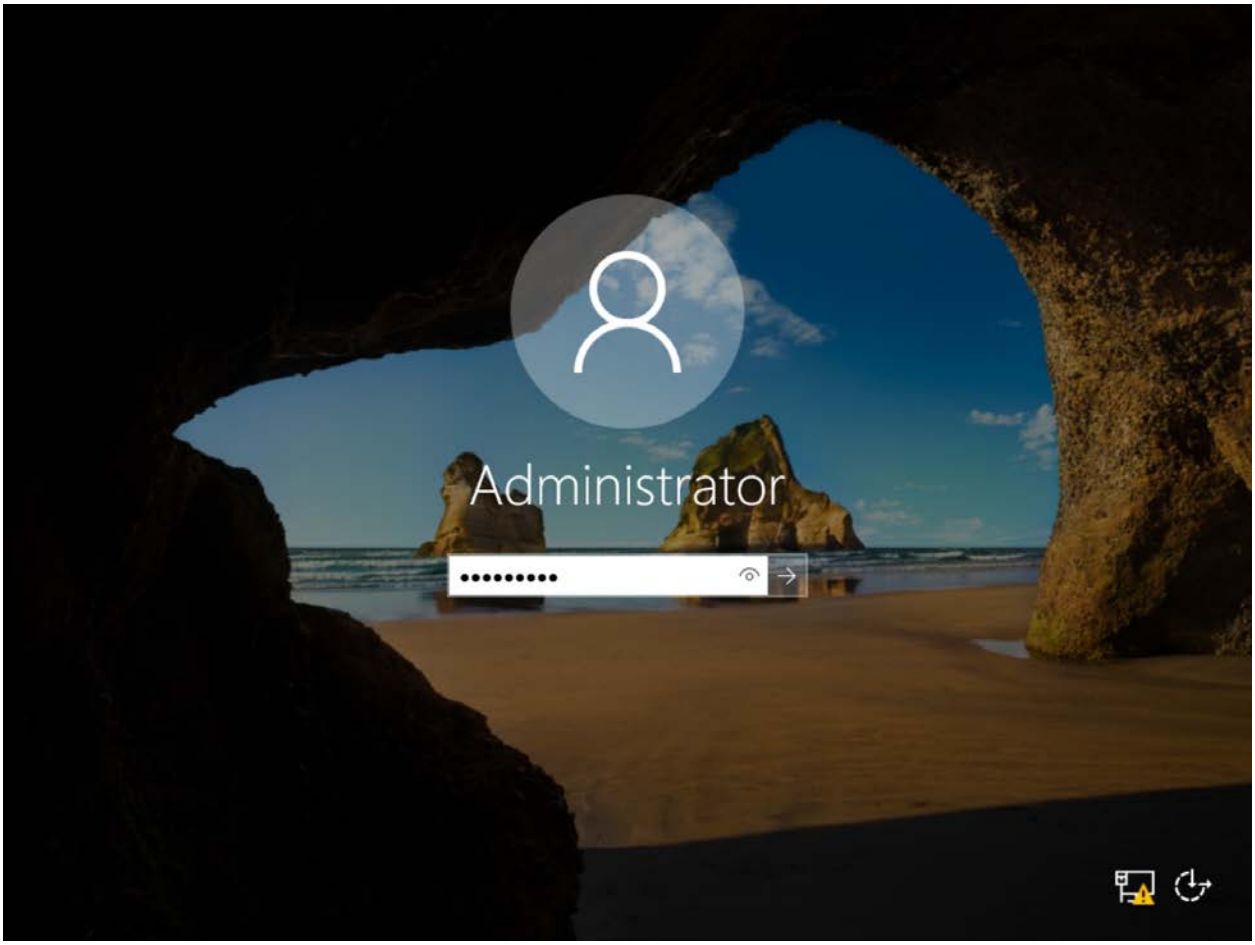


- Enter your password in the **Password** box
- Enter your password in the **Reenter password** box
- Click the **Finish** button

You should now see the lock screen for your new server.

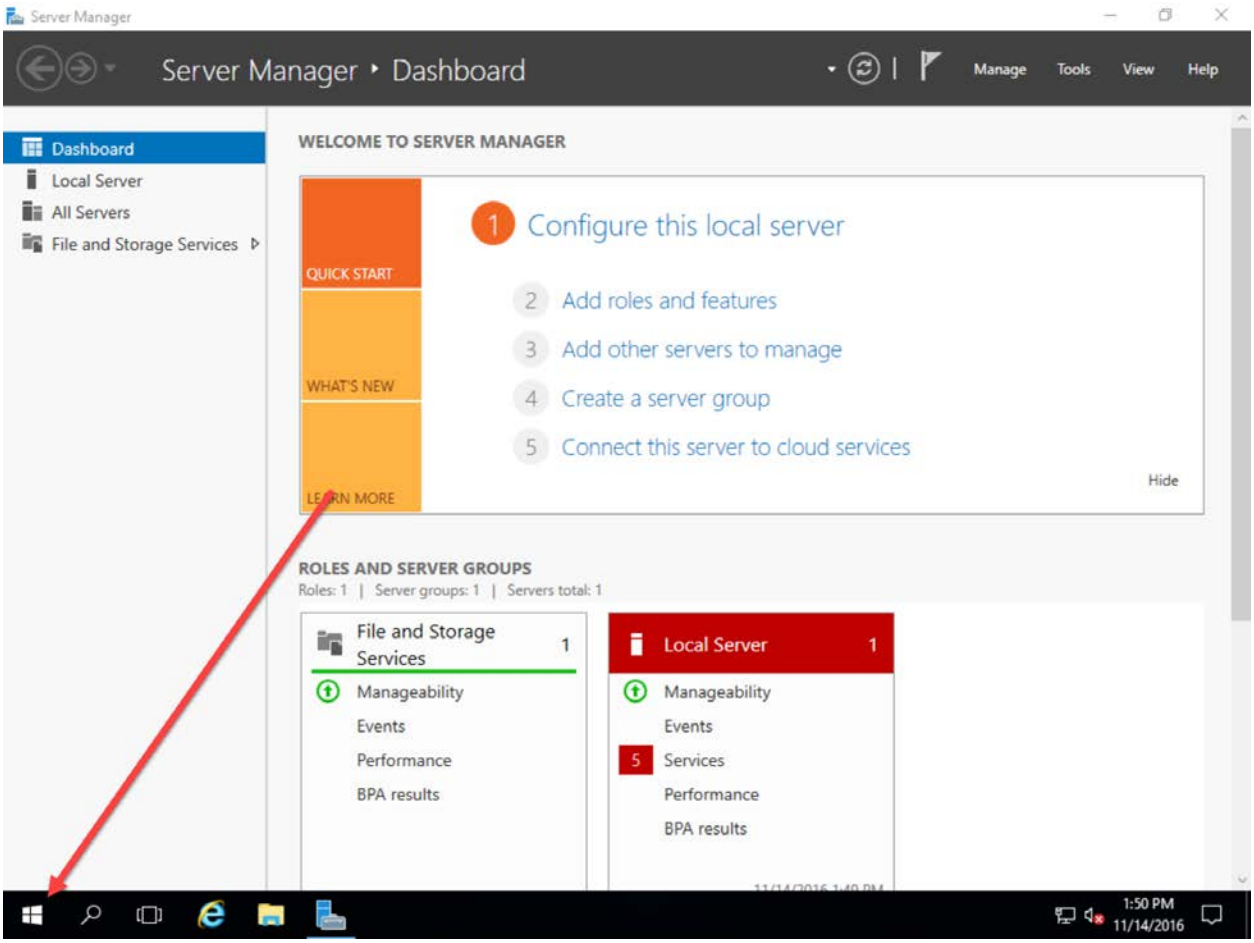
- Type **CTRL-ALT-DEL** to open a login prompt

You should see the login prompt.



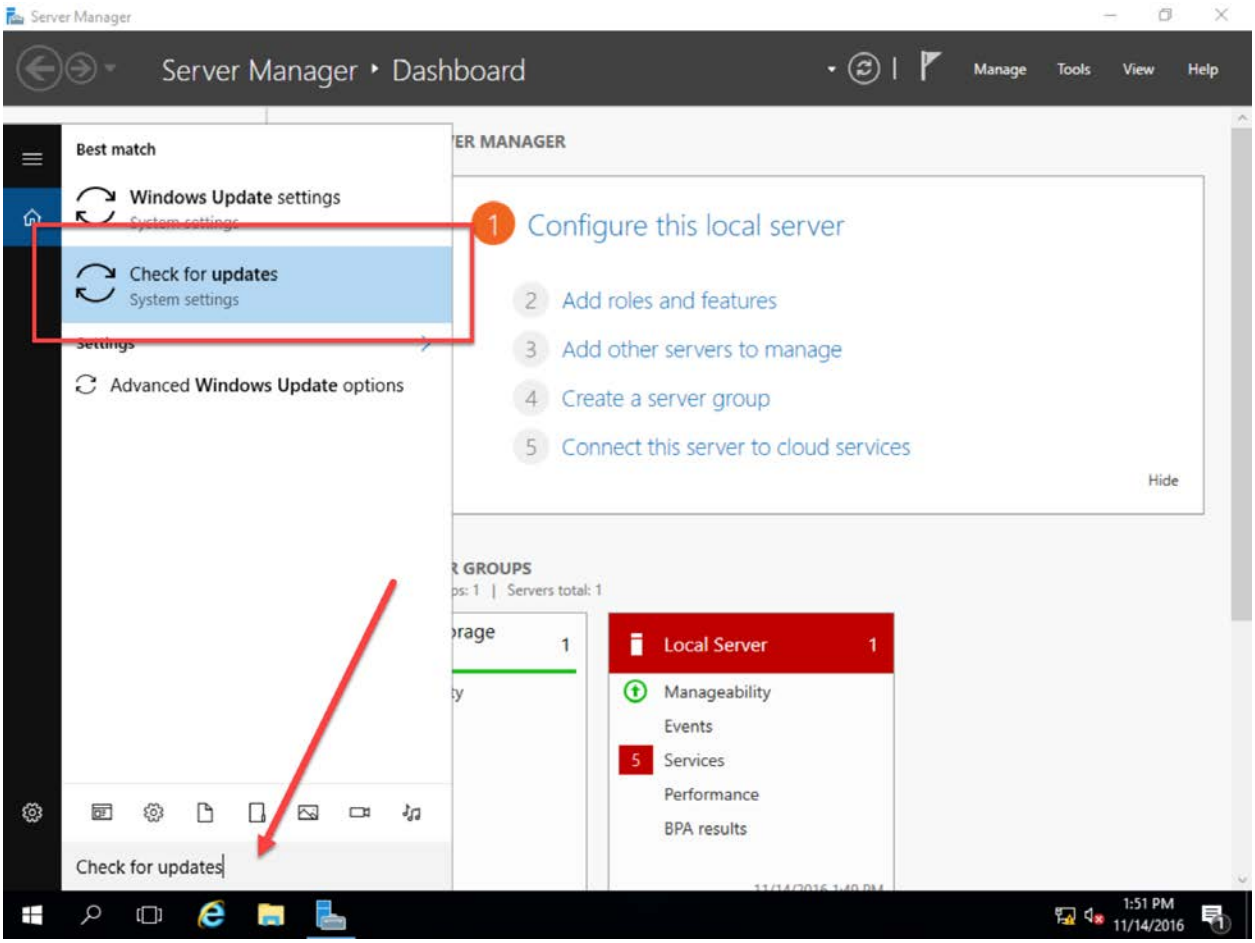
- Enter your **password** followed by **<ENTER>**

You should now be logged in and you should see the server manager dashboard. The next step is to run Windows Update to patch this server.



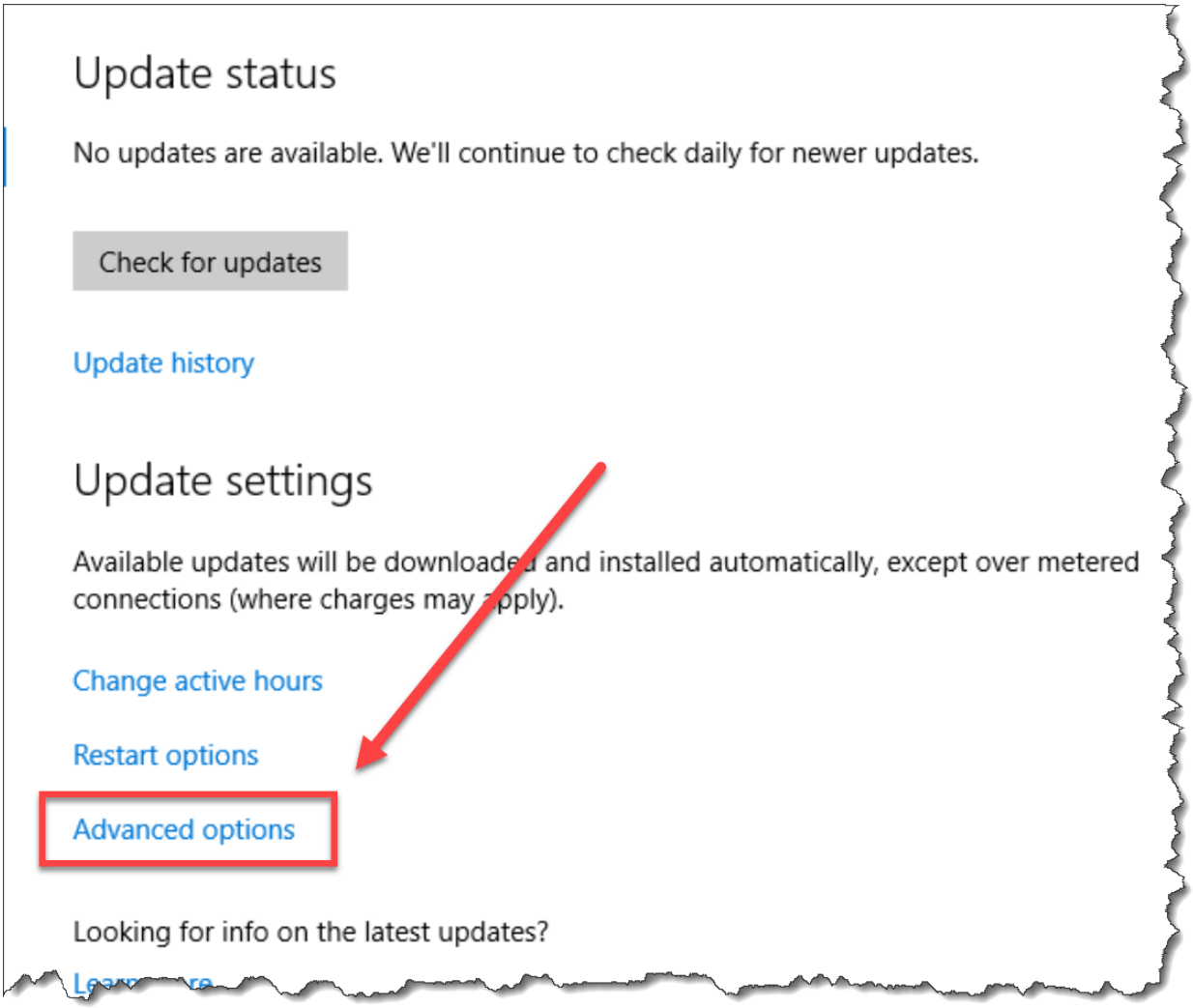
- Click the **Windows button** in the bottom left of the screen to navigate to the Start screen

You should now be at the Start menu.



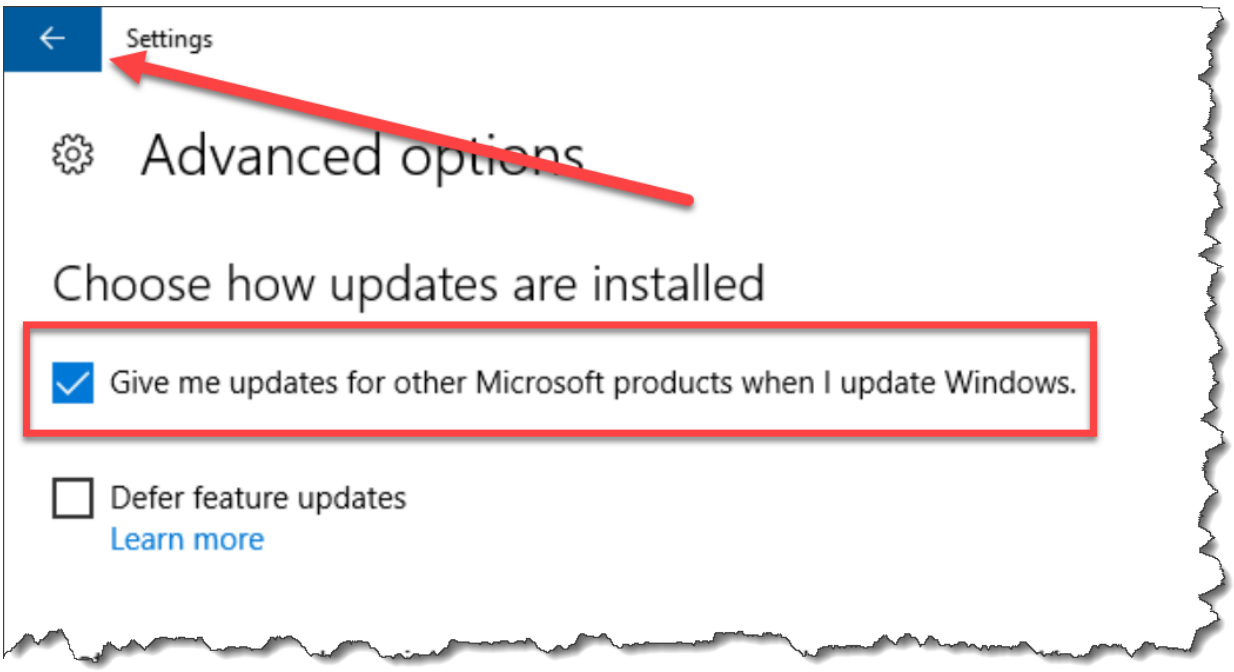
- In the search box, type **Check for updates**
- Click **Check for updates** in the search results

You should now see the Settings window. By default, Windows Update only gets patches for Windows itself but we want to enable patches for other products as well.



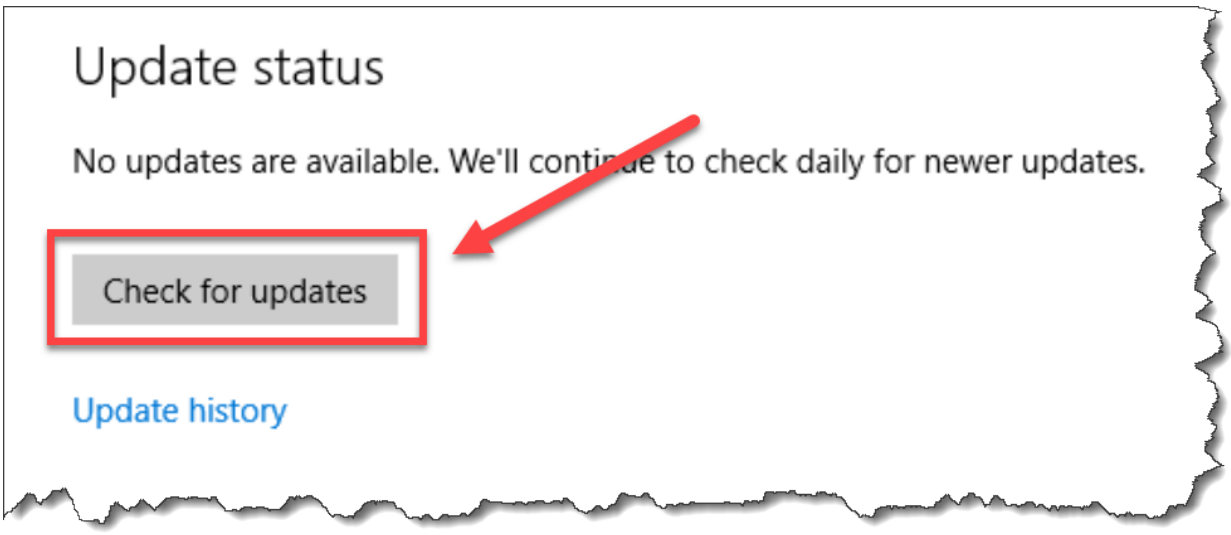
- Click the **Advanced options** link

You should be on a screen with the title **Advanced options**.



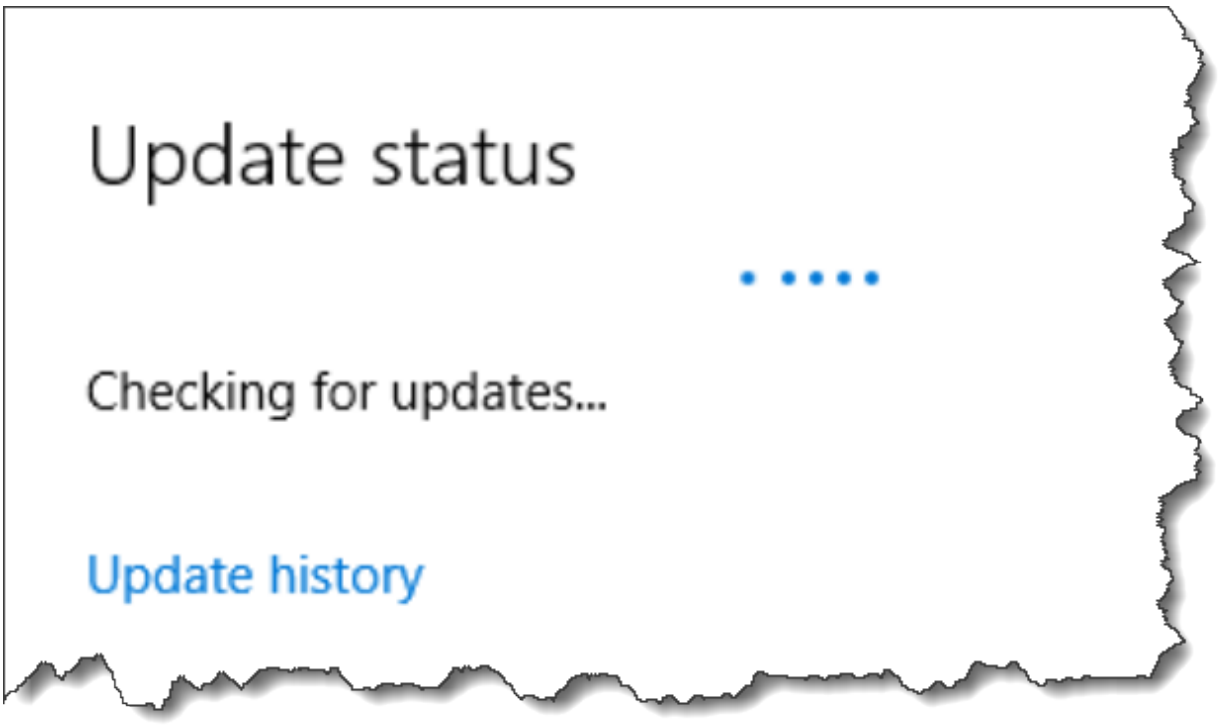
- Check **Give me updates for other Microsoft products when I update Windows**
- In the upper left corner of the screen, click the back arrow button

You should be back on the **Update status** screen.



- Click the **Check for updates** button

Windows Update should now be checking for updates.



Windows Update will probably find a ton of available updates. Let them all run and reboot your server as needed.

When the patches are all finished applying, make sure you're logged in as Administrator and continue on to the next page where I'll walk you through the optional setp of disabling a useless and annoying anti-feature in Windows called IE Enhanced Security.

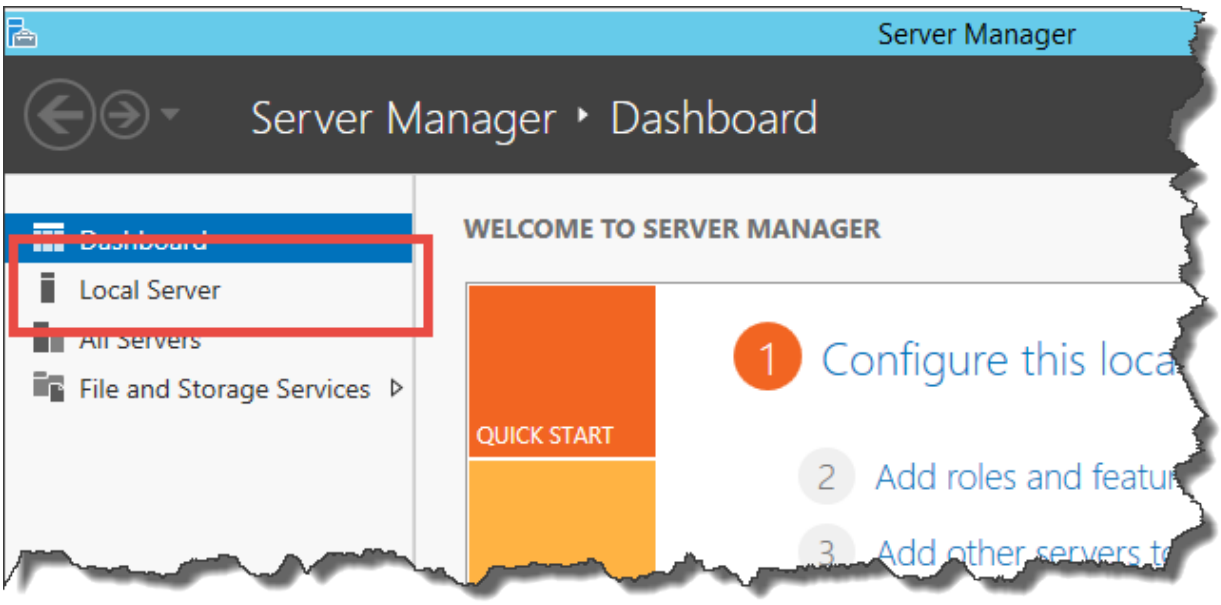
(Optional) Turn off IE Enhanced Security Configuration

Ok. So if you're paranoid about the internet and making sure that your server doesn't accidentally get infected by a virus that comes in because of someone's hapless browsing habits, you'll probably want to skip this section.

If you don't wear a tinfoil hat every day to keep the illuminati's evil space rays from controlling your mind, then you're probably like me and find IE Enhanced Security to be a royal pain in the behind. At some point, you're going to want to use the Internet Explorer web browser on this server and it'll be painful if IE Enhanced Security is turned on.

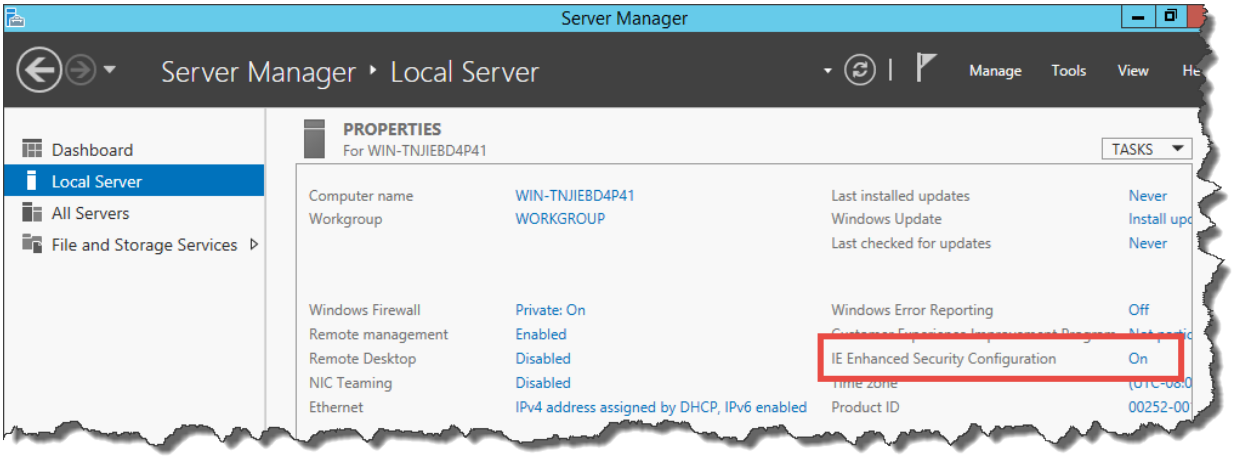
Let's turn it off.

You'll start this process by using **Server Manager**.



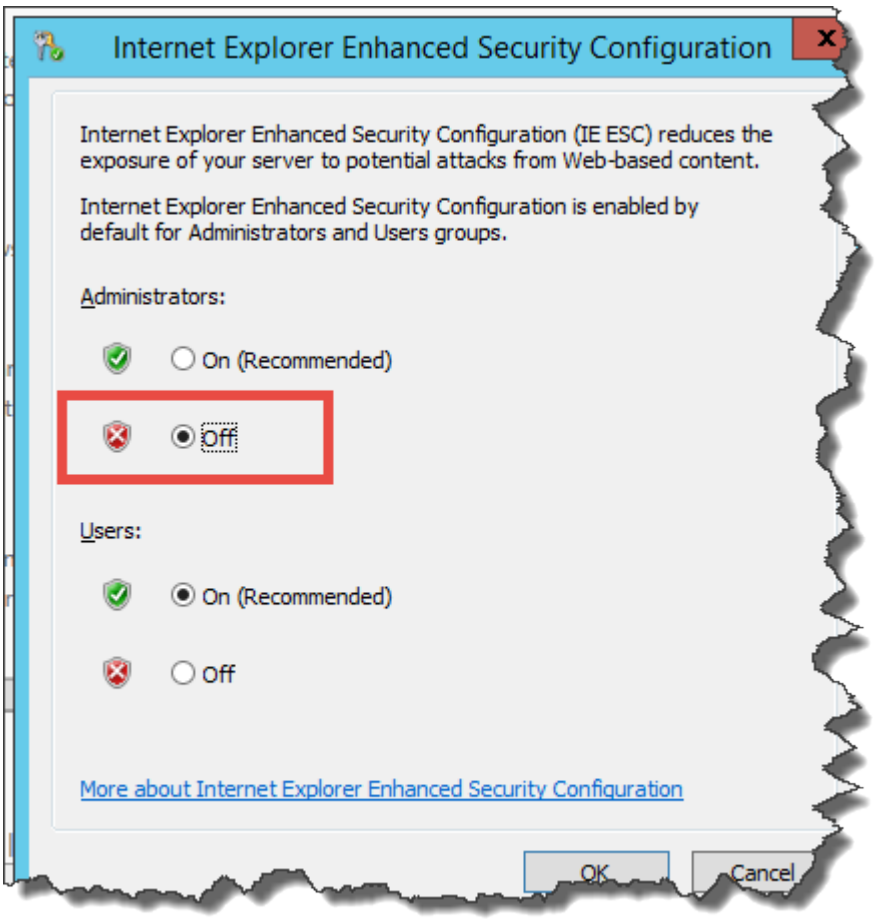
- In the left column of Server Manager, click **Local Server**

Towards the right side of the Server Manager window, you'll see an item that says **IE Enhanced Security Configuration**. It'll be set to **On**.



- Click the link that says **On**

You should now see the **Internet Explorer Enhanced Security Configuration** dialog.

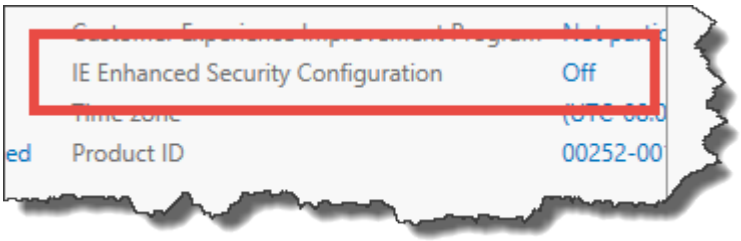


- Under Administrators, select the **Off** radio button
- (Optional) Under Users, select the **Off** radio button
- Click the **OK** button

You should now be back at the main page of the Server Manager.

- Click the **Refresh** button

IE Enhanced Security Configuration should now be set to Off.



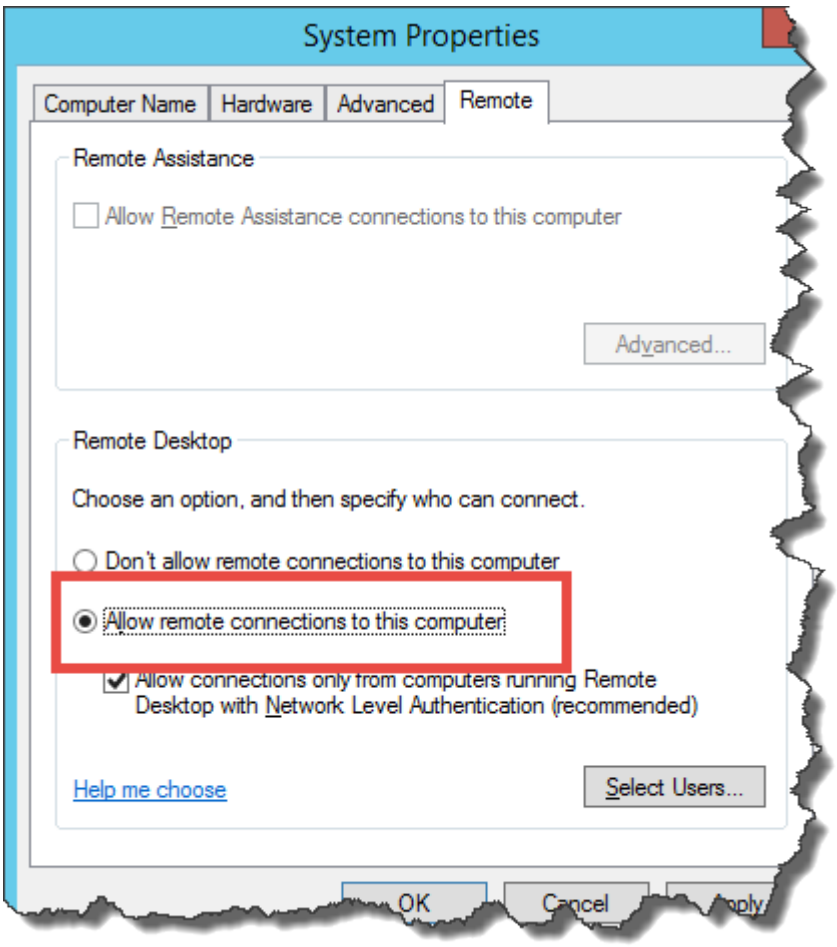
(Optional) Enable Remote Desktop

Are you lazy or maybe lazy-ish? Do you like convenience? Yah. Me, too. So that means that you'll probably want to enabled Remote Desktop. If you're a member of the Tinfoil Hat Patrol, you'll probably want to skip this section.

- Find **Remote Desktop** in Server Manager

- Click the **Disabled** link to the right of Remote Desktop

You should now see the **System Properties** dialog.



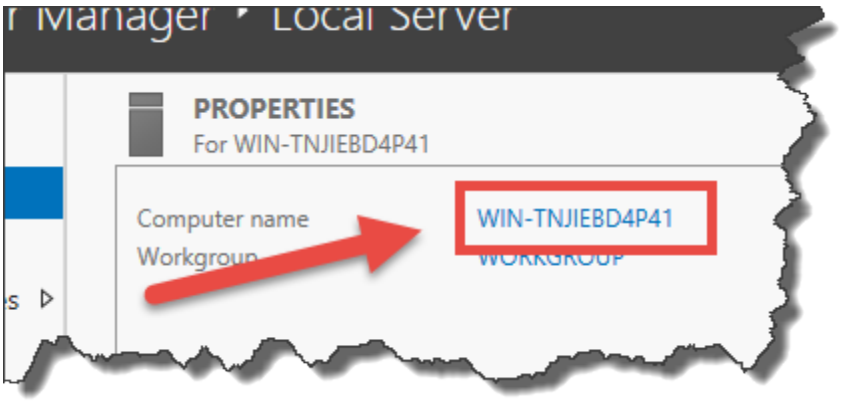
- In the Remote Desktop group, choose **Allow remote connections to this computer**
- Click the **OK** button

Remote Desktop is enabled.

Join this Server to the Active Directory Domain

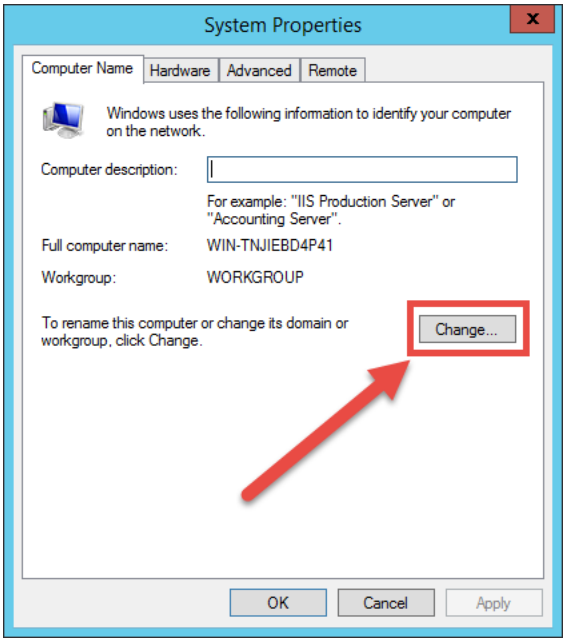
At the moment, you've got a stand-alone server with a wacky name that's not attached to anything. Workgroups? That's like the networking equivalent of having a stand-alone MP3 player that only syncs over USB. Who does that? What year is this?! 2005?! Not very useful. You'll now rename this computer and join it to your Active Directory domain so that it plays nicely with others.

In Server Manager, you'll see **Computer name** and **Workgroup**.



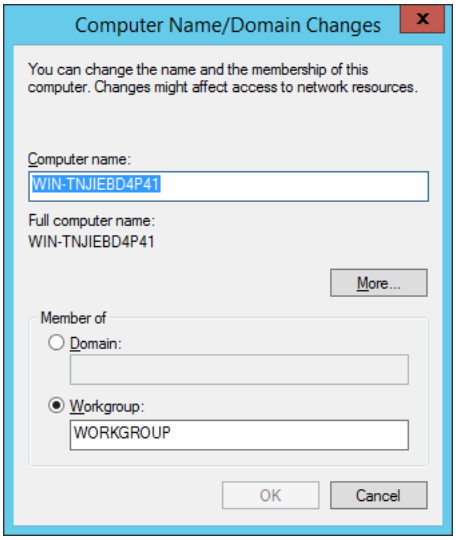
- Click on the computer name link

You should now see the **System Properties** dialog.

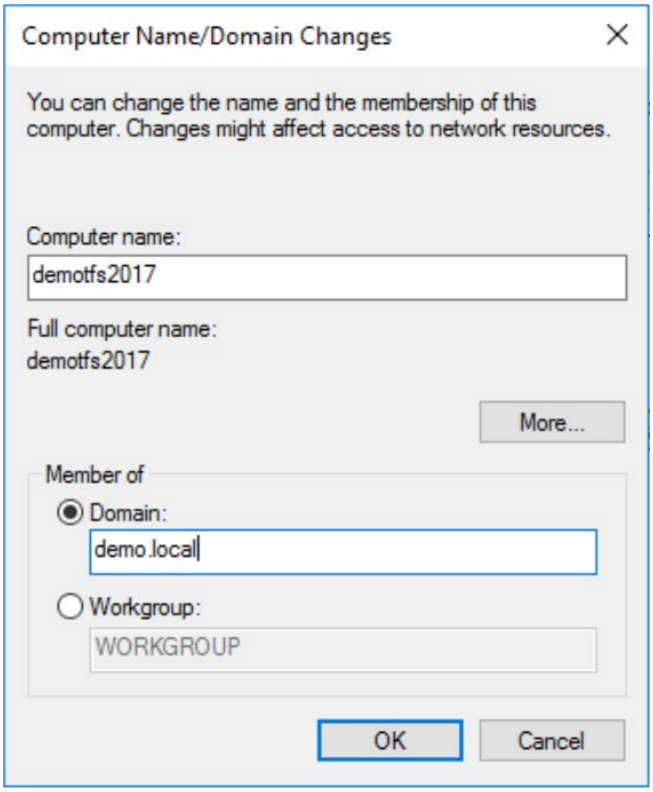


- Click the **Change...** button

You should now be on the **Computer Name/Domain Changes** dialog. The dialog should be showing you the current name of the computer and the workgroup membership.

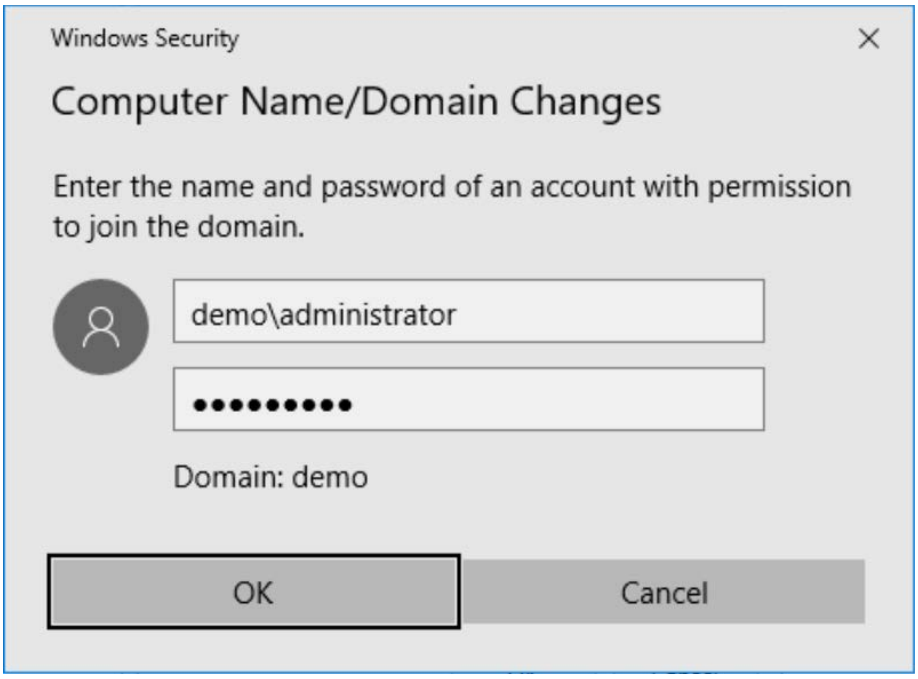


You should now change the values to be what you want the server to be named and the Active Directory domain that it should be attached to.



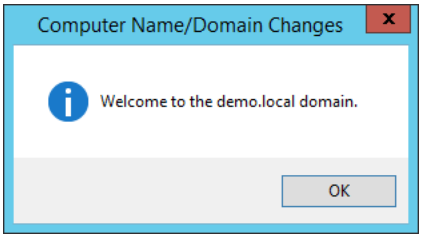
- In the Computer name textbox, enter the desired name for this server
- Under **Member of** choose the **Domain** radio button
- In the **Domain** textbox, enter the name of the Active Directory domain
- Click the **OK** button

You'll be prompted for the username and password for a domain administrator for the target domain.



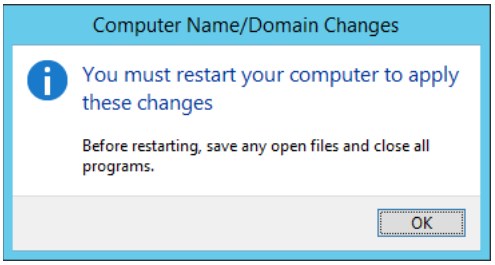
- Enter the username and password
- Click **OK**

You should see a dialog welcoming you to the new domain.

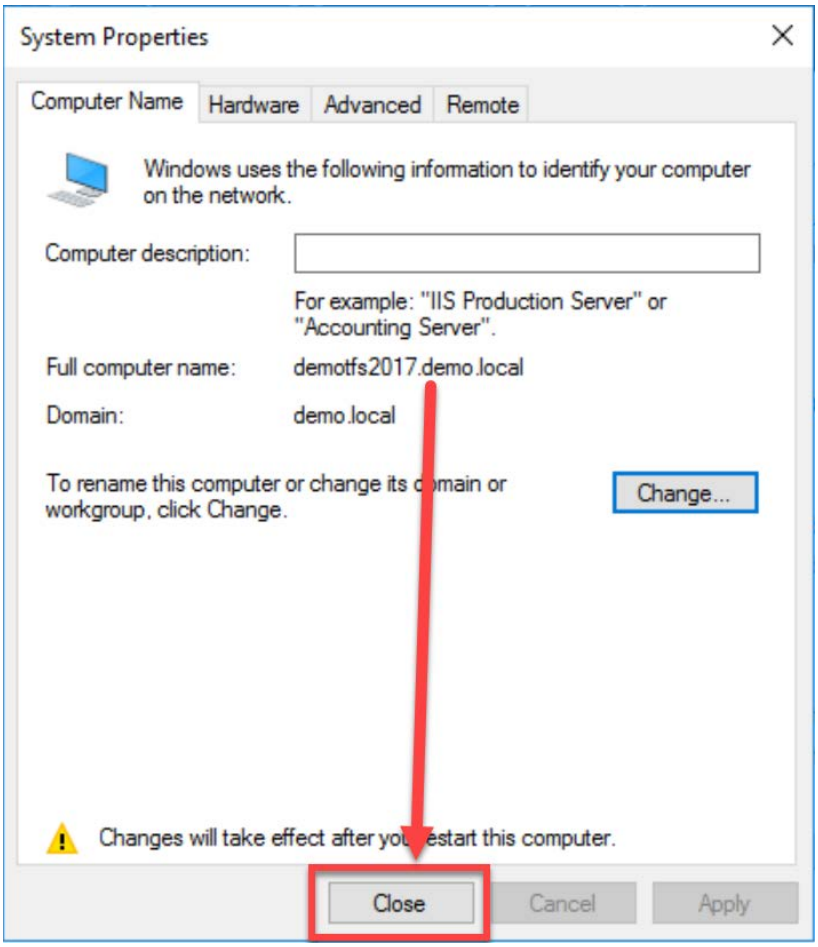


- Click **OK**

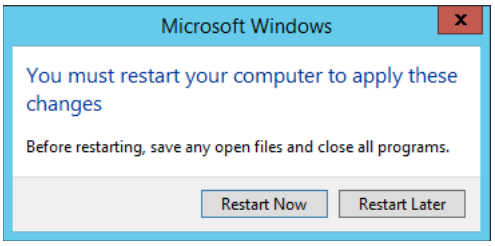
You'll be notified that you'll need to reboot this server.



- Click the **OK** button



- Click the **Close** button



- Click the **Restart Now** button

The server will restart and return you to the lock screen. The server has been installed and joined to the domain.

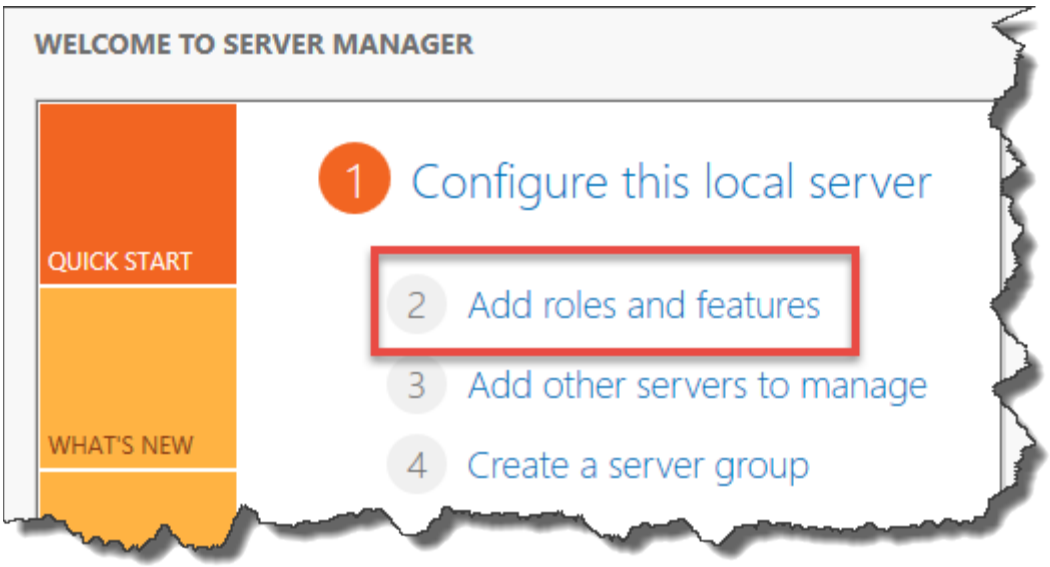
NOTE: It is *optional* but you might find it helpful to configure this server to have a static IP address and a static A record entry in your DNS server.

Chapter 2: Install Pre-requisites for SQL Server 2016 and Team Foundation Server 2017

Before you can install SQL Server or Team Foundation Server, you'll need to enable their pre-requisite roles and features in Windows Server.

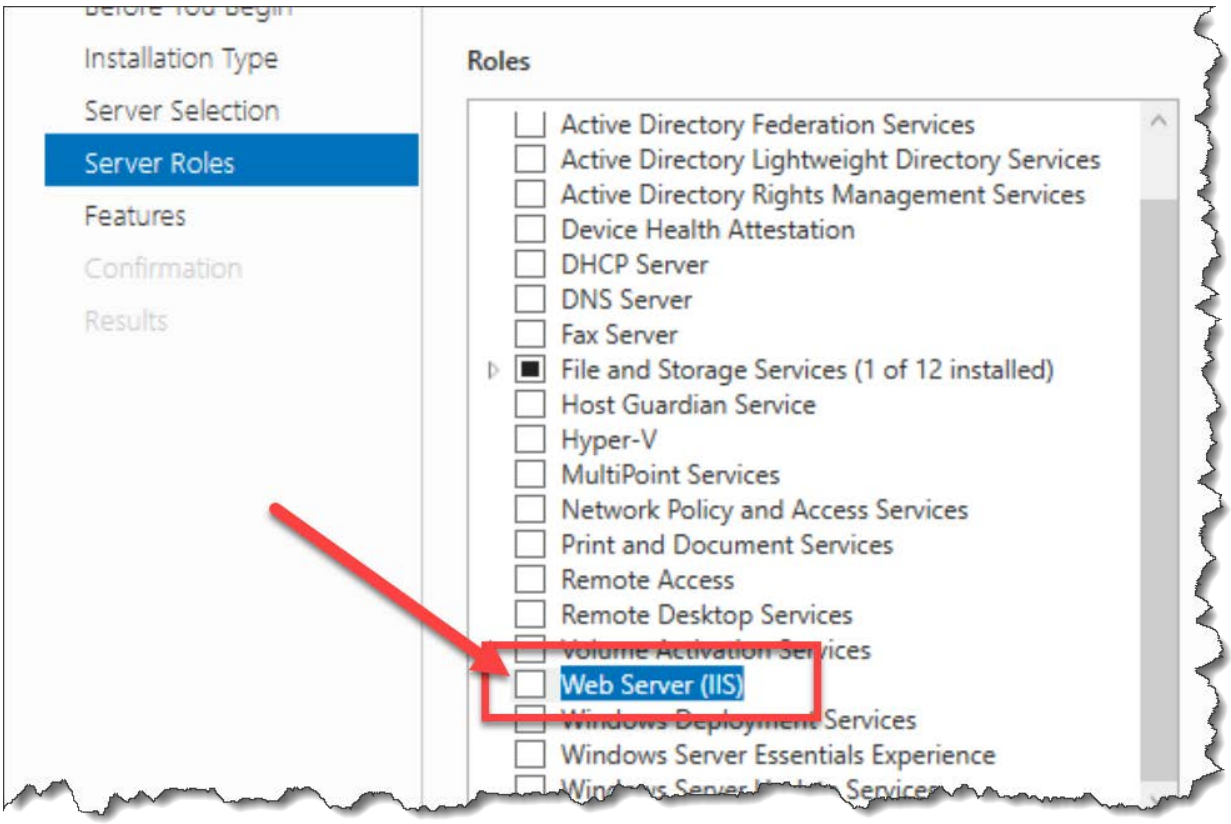
- Log on to the server using an account that is a member of the **Administrators** group
- Run **Server Manager**

First we need to verify that the .NET Framework 3.5 features are installed on this server.



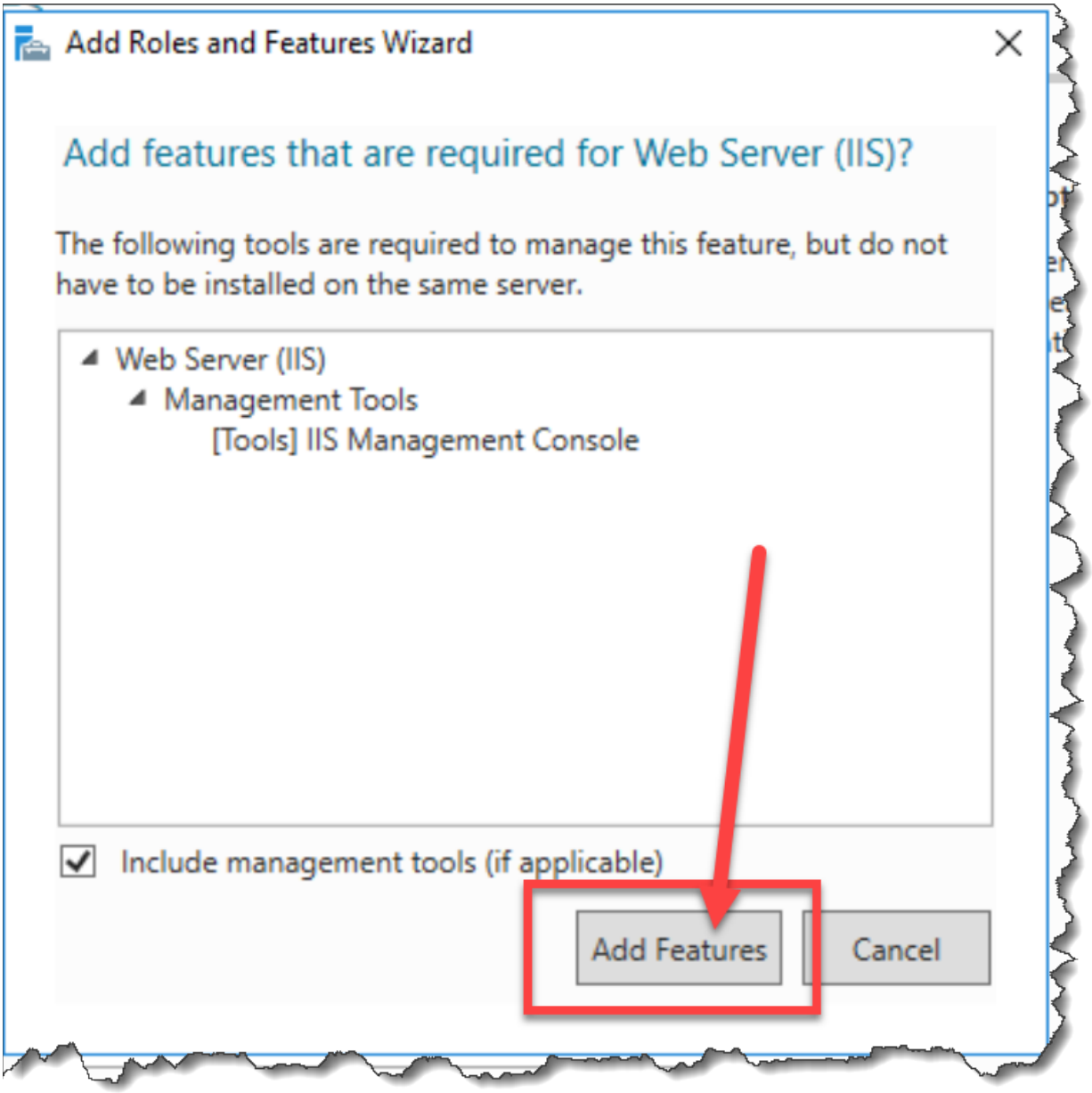
- In Server Manager, click **Add roles and features**
- On the **Before you begin** page of the wizard, click **Next**
- On the **Select installation type** page, choose **Role-based or feature-based installation** and click **Next**
- On the **Select destination server** page
    - Choose **Select a server from the server pool**
    - Select the name of the current server
    - Click **Next**

You should now be on the **Select server roles** page of the wizard.



- Check **Web Server (IIS)**

You'll see an **Add Roles and Features Wizard** dialog prompting you to add some additional features.

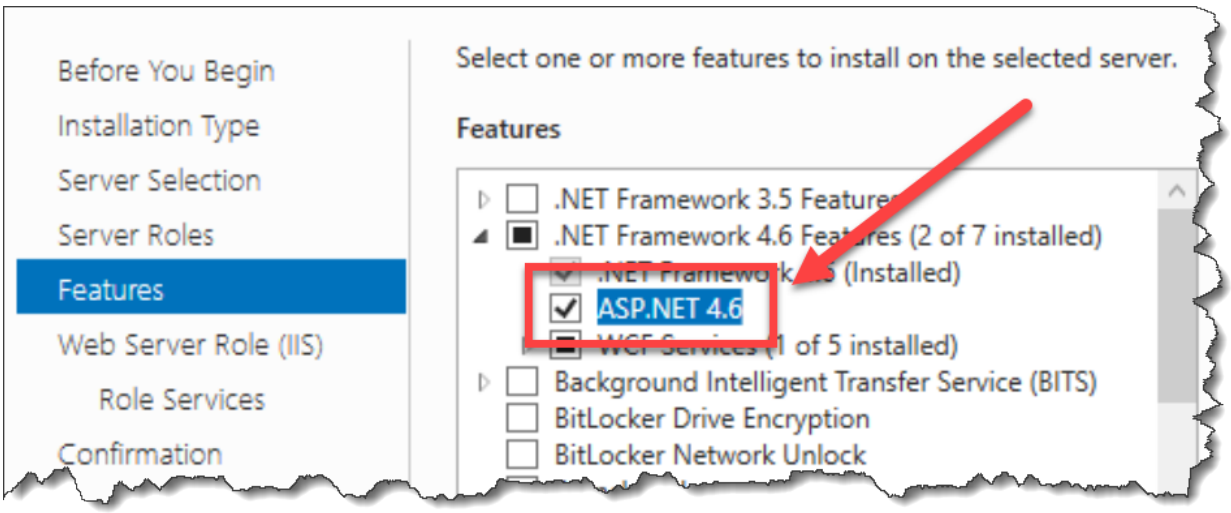


- Click **Add Features**

Web Server (IIS) should now be checked.

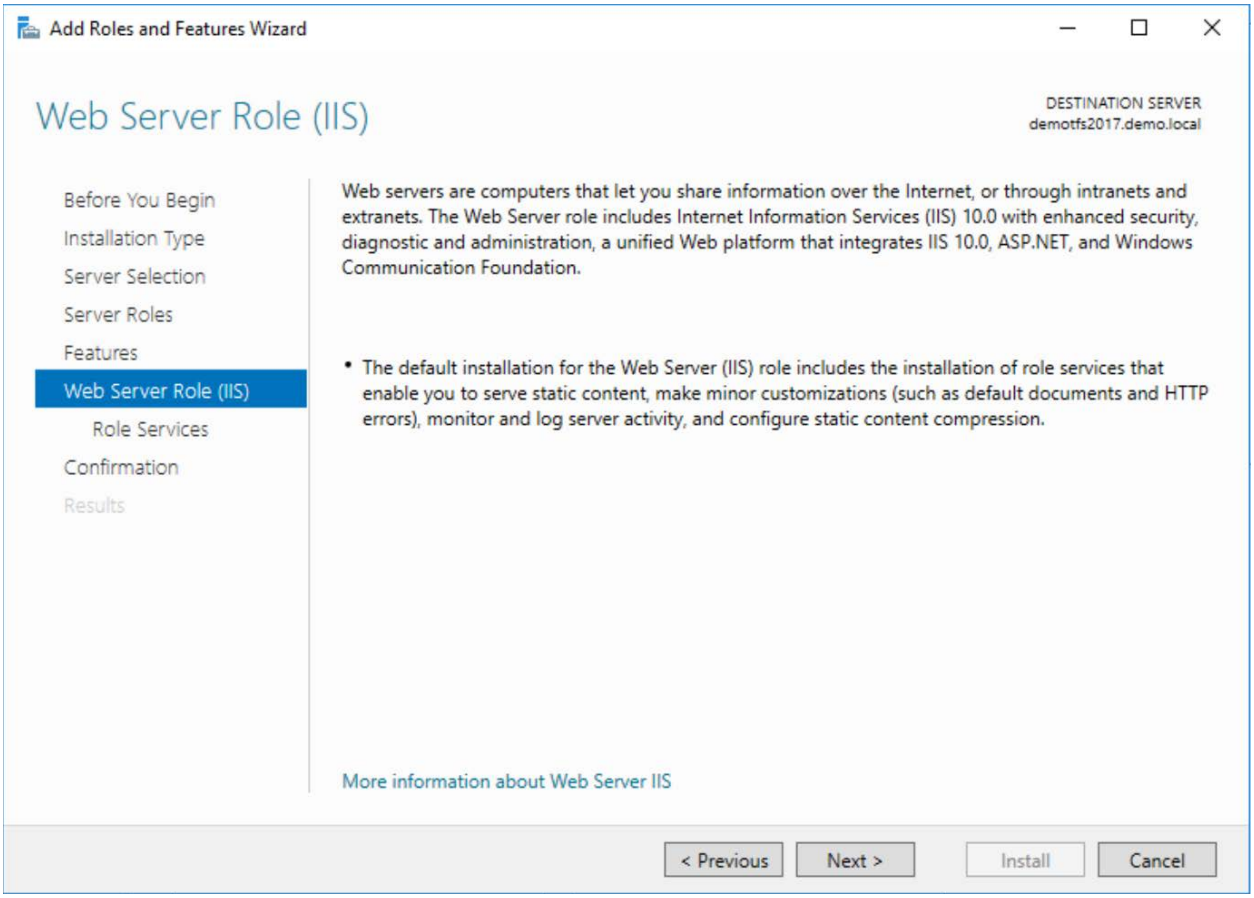
- Click **Next**

You should now be on the **Select features** page.



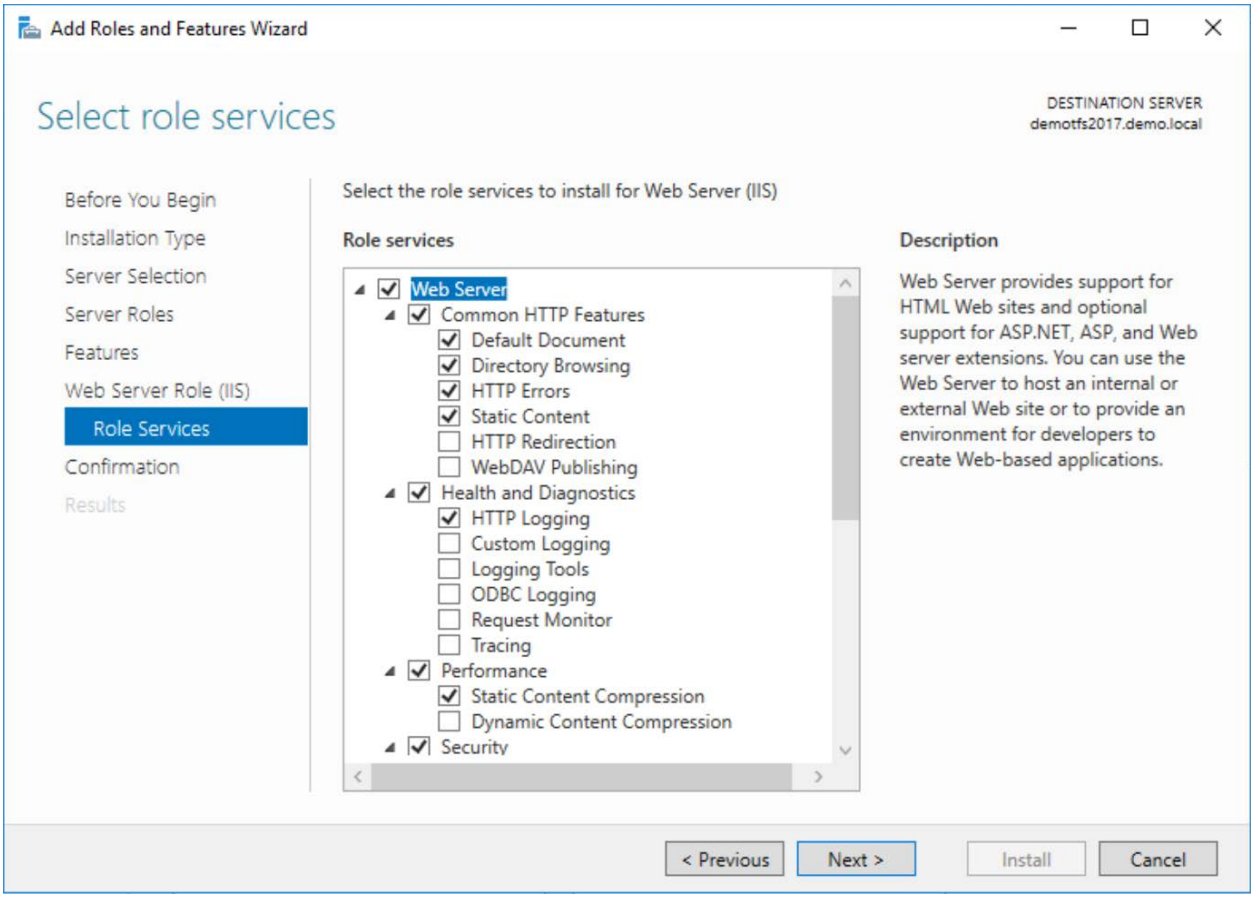
- Verify that **.NET Framework 4.6 Features** is checked
- Expand the .NET Framework 4.6 Features node
- Check **ASP.NET 4.6**
- Click **Next**

You'll probably see a message about the Web Server (IIS) role.



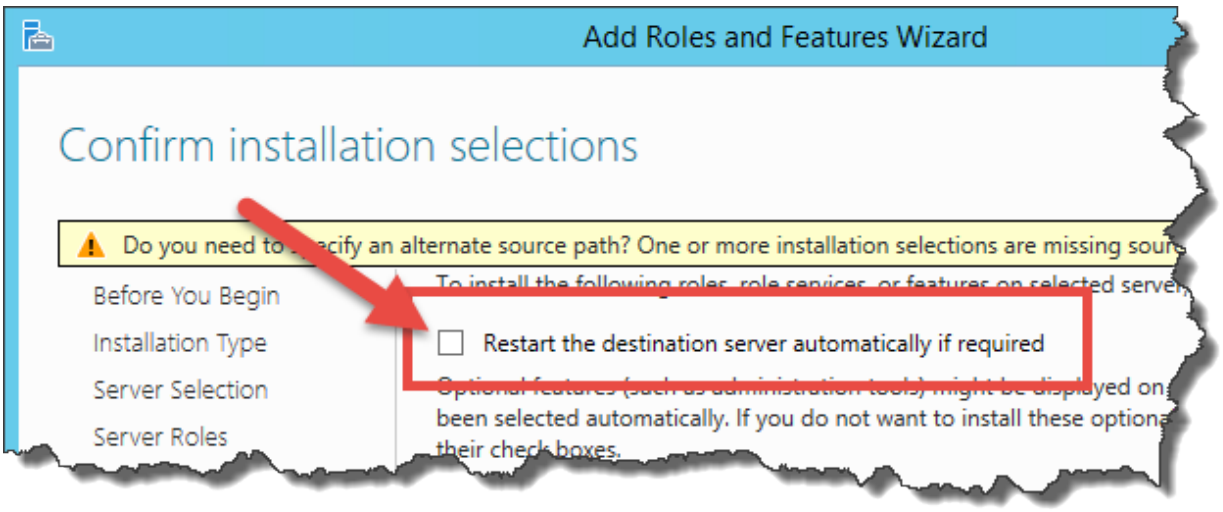
- Click **Next**

You should now see the **Select role services** page of the wizard.



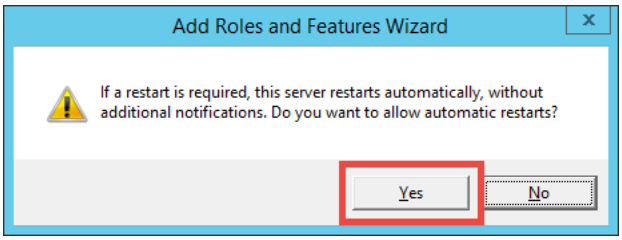
- Click the **Next** button

You should now be on the **Confirm installation selections** page.



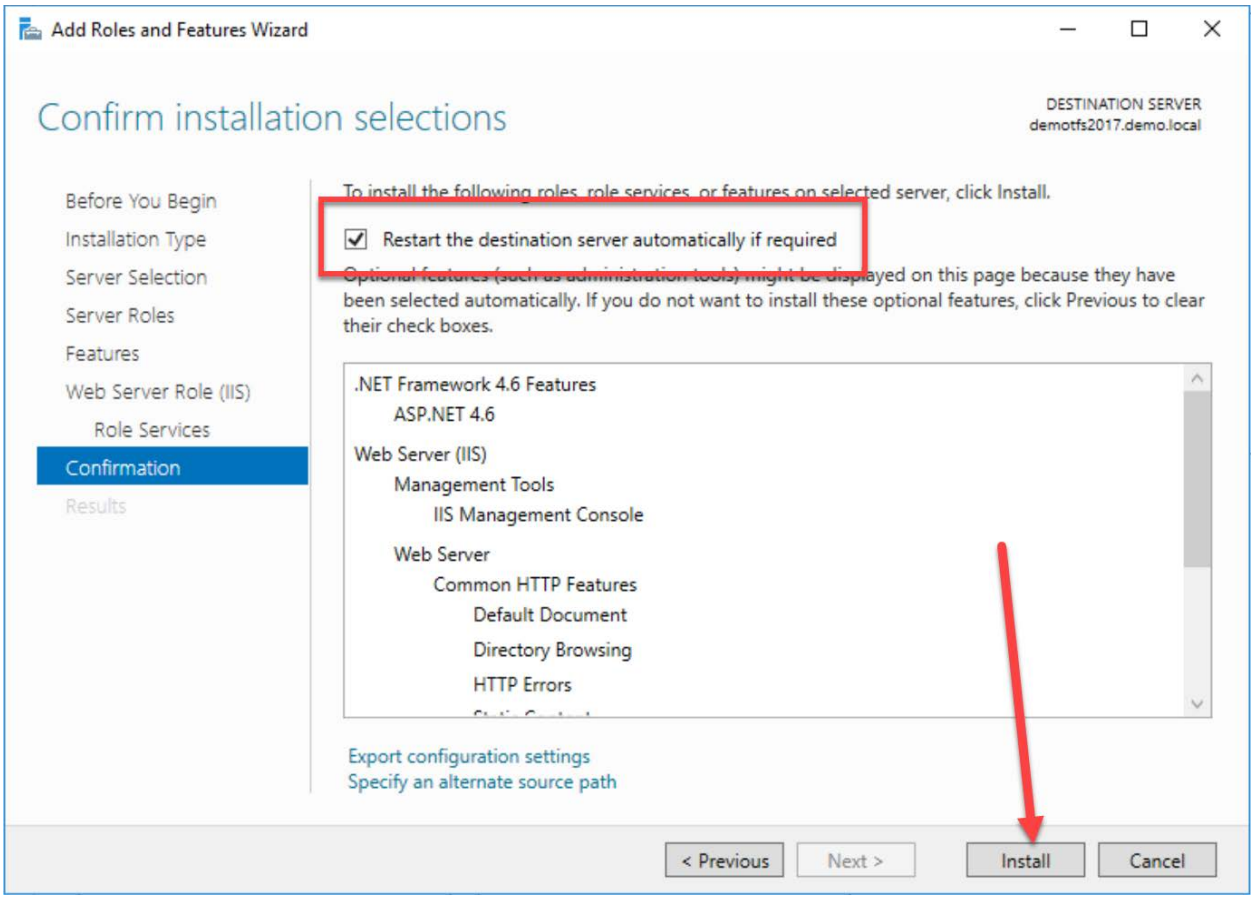
- Click the checkbox for **Restart the destination server automatically if required**

You'll be prompted to approve automatic restarts.



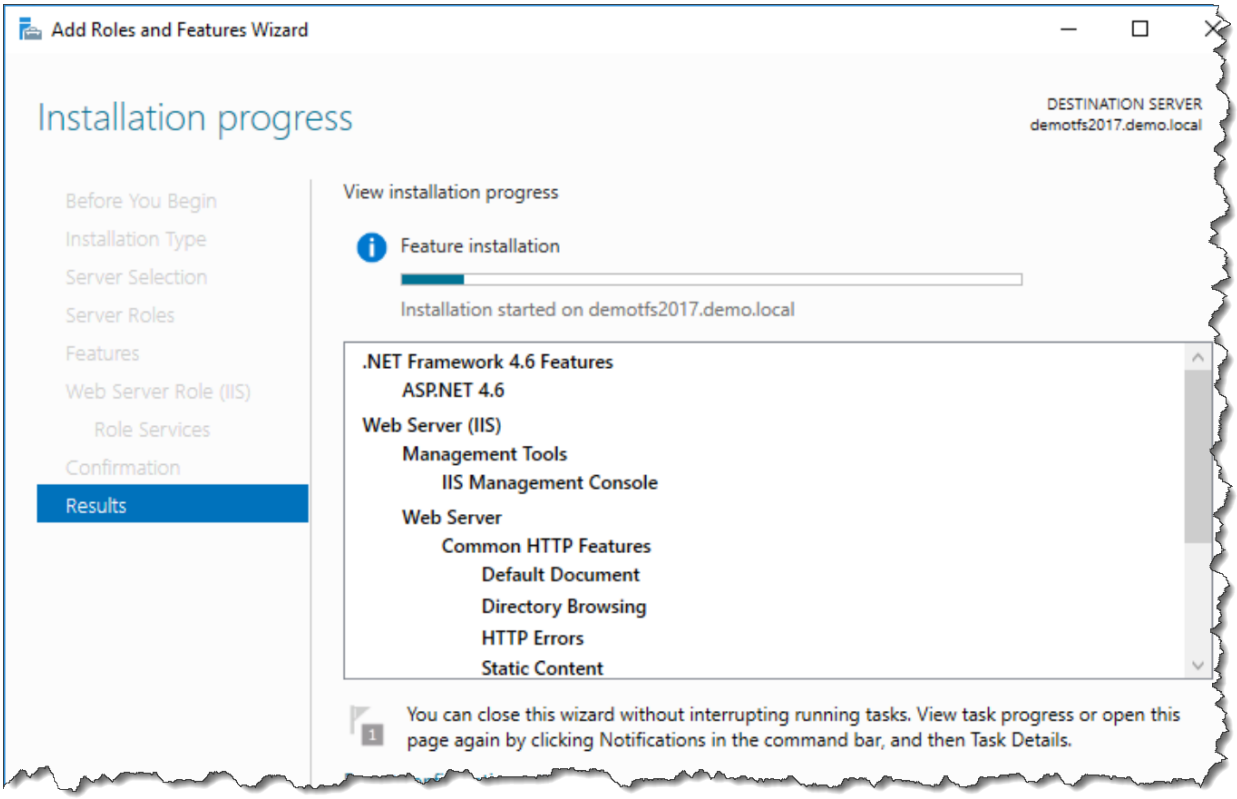
- Click **Yes**

You should now be on the **Confirm installation selections** page and **Restart the destination server automatically if required** should be checked.

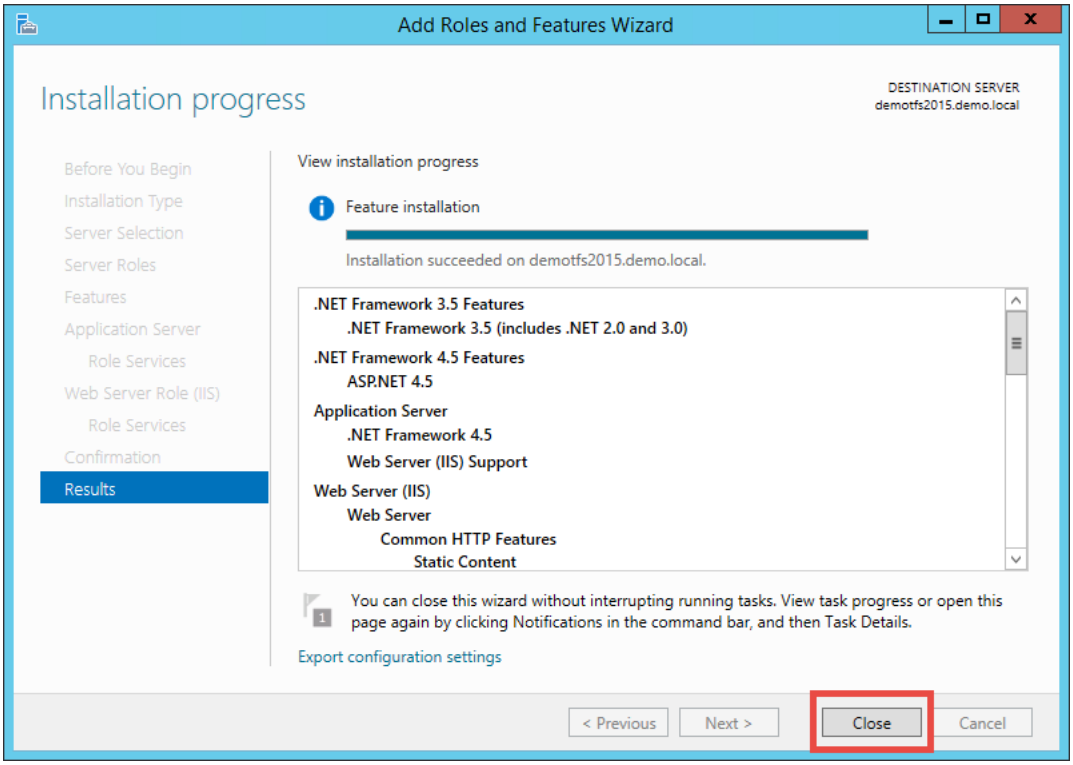


- Check **Restart the destination server automatically if required**
- Click **Install**

The features should now be installing.



Eventually, the feature installation should finish.

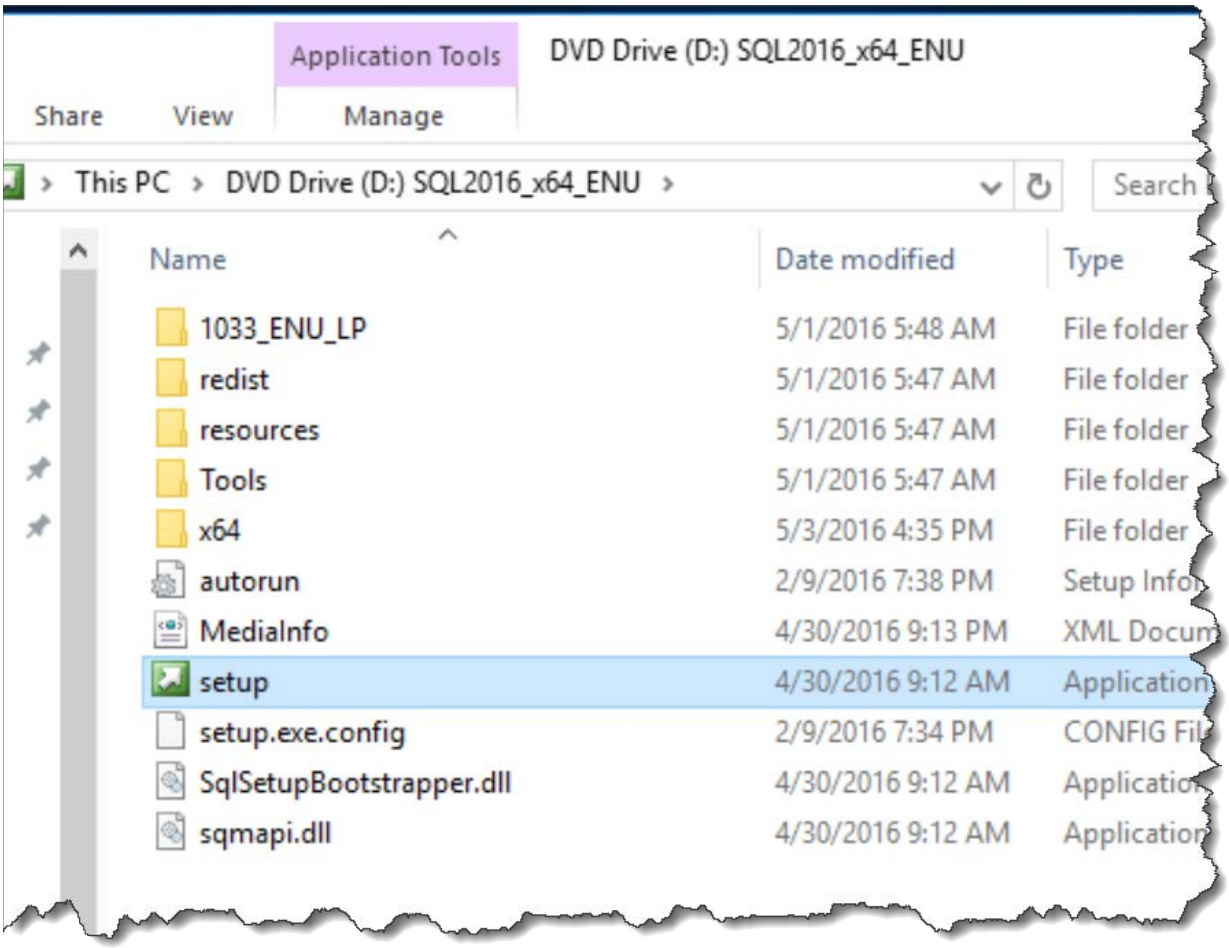


- Verify that the installation succeeded
- Click **Close**
- (Optional) **Reboot** the server

Chapter 3: Install SQL Server 2016

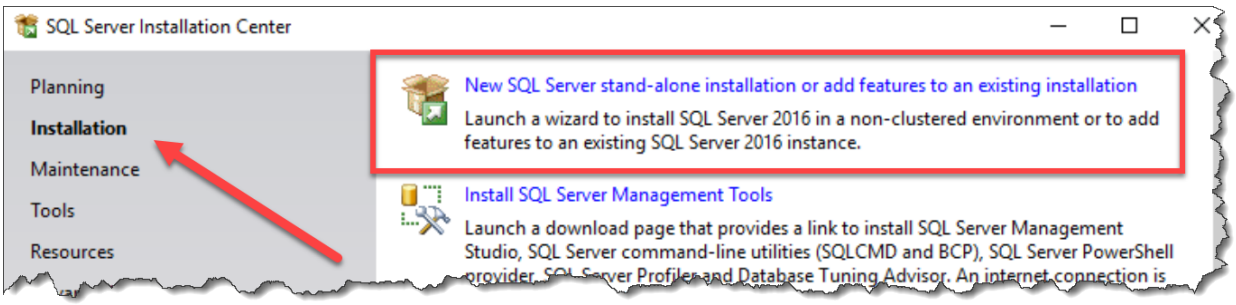
This chapter will walk you through the process of installing SQL Server 2016 for use with TFS.

- Log on to the server using an account that is a member of the **Administrators** group
- Insert the SQL Server 2016 DVD or mount the appropriate ISO image
- Open the DVD drive using **Windows Explorer** (**explorer.exe)**



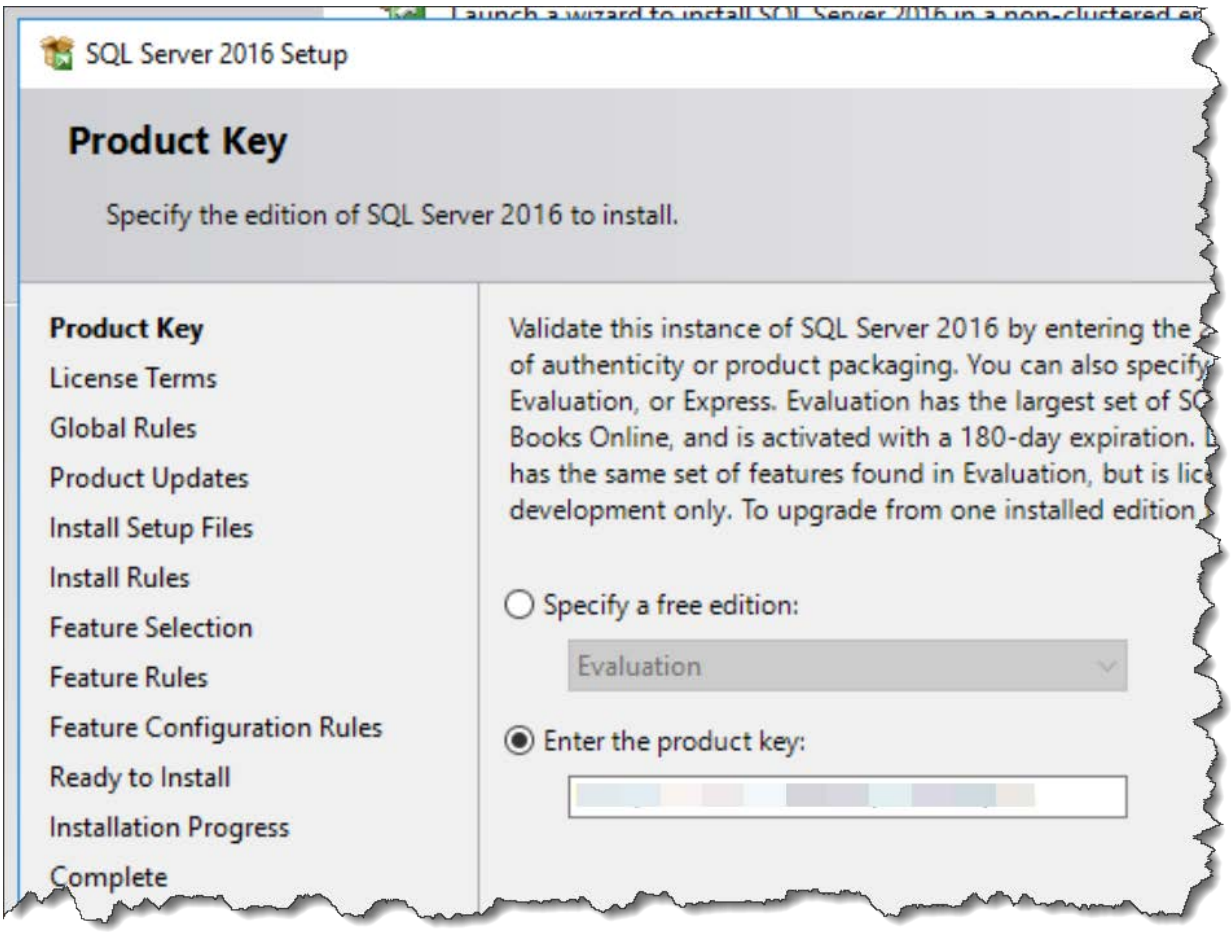
- Run the SQL Server setup program
- Click **Yes** on any User Account Control dialogs that appear

You should now see the SQL Server Installation Center window.

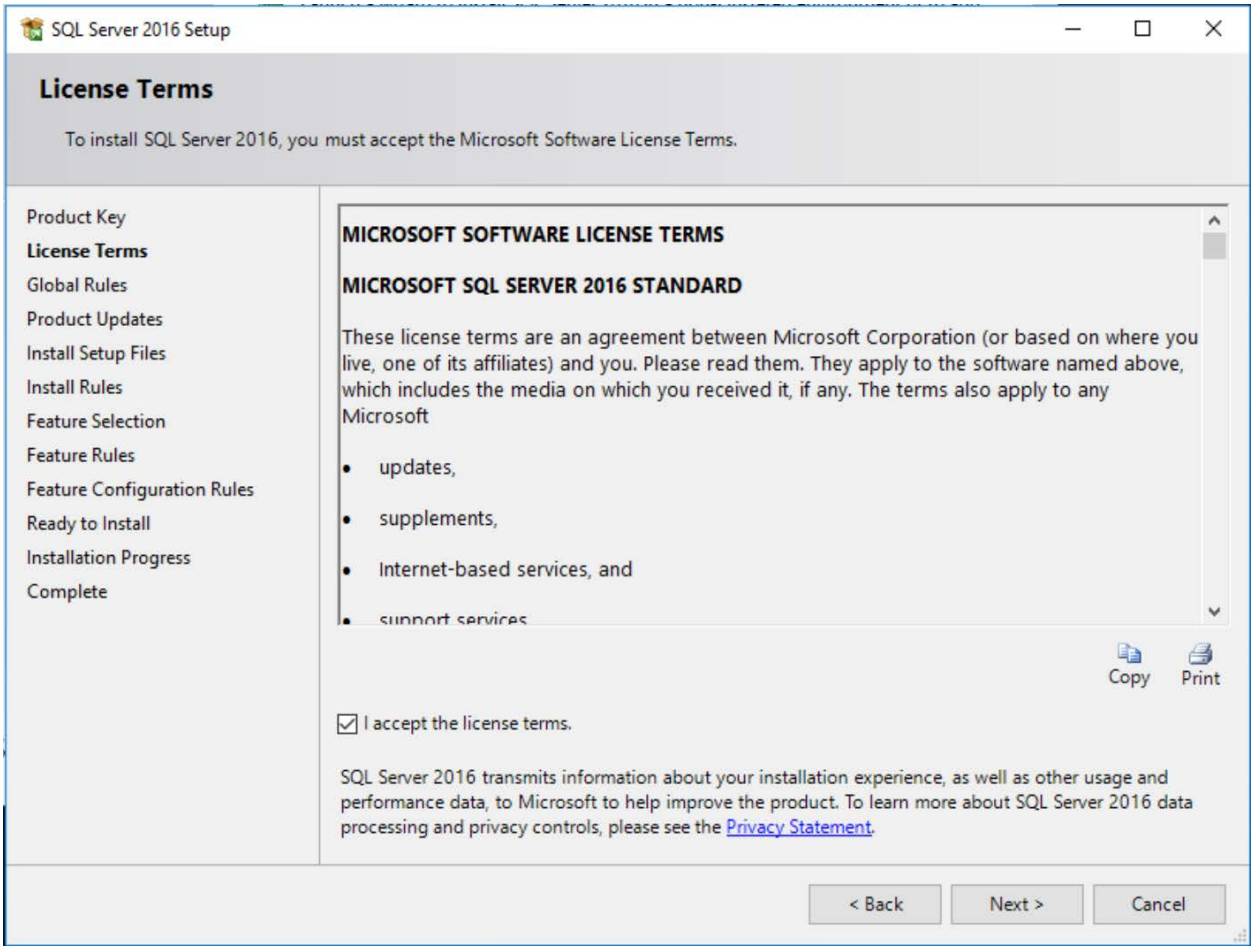


- In the left panel, click **Installation**
- In the right panel, click **New SQL Server stand-alone installation or add features to an existing installation**

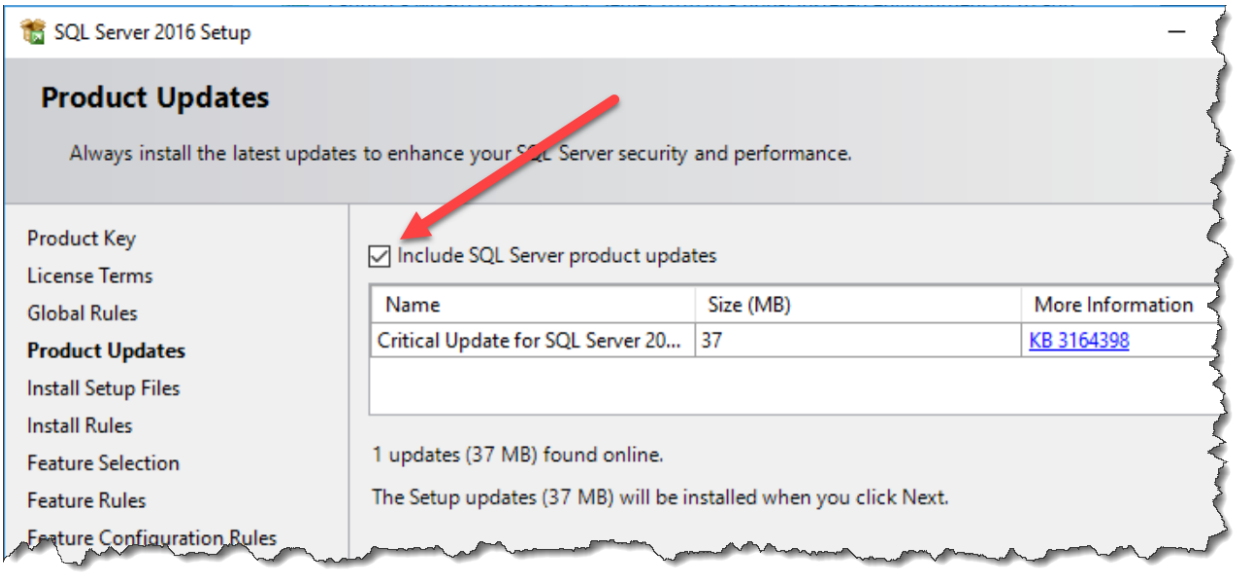
You might now be prompted for a license key.



- Enter a product key
- Click **Next**

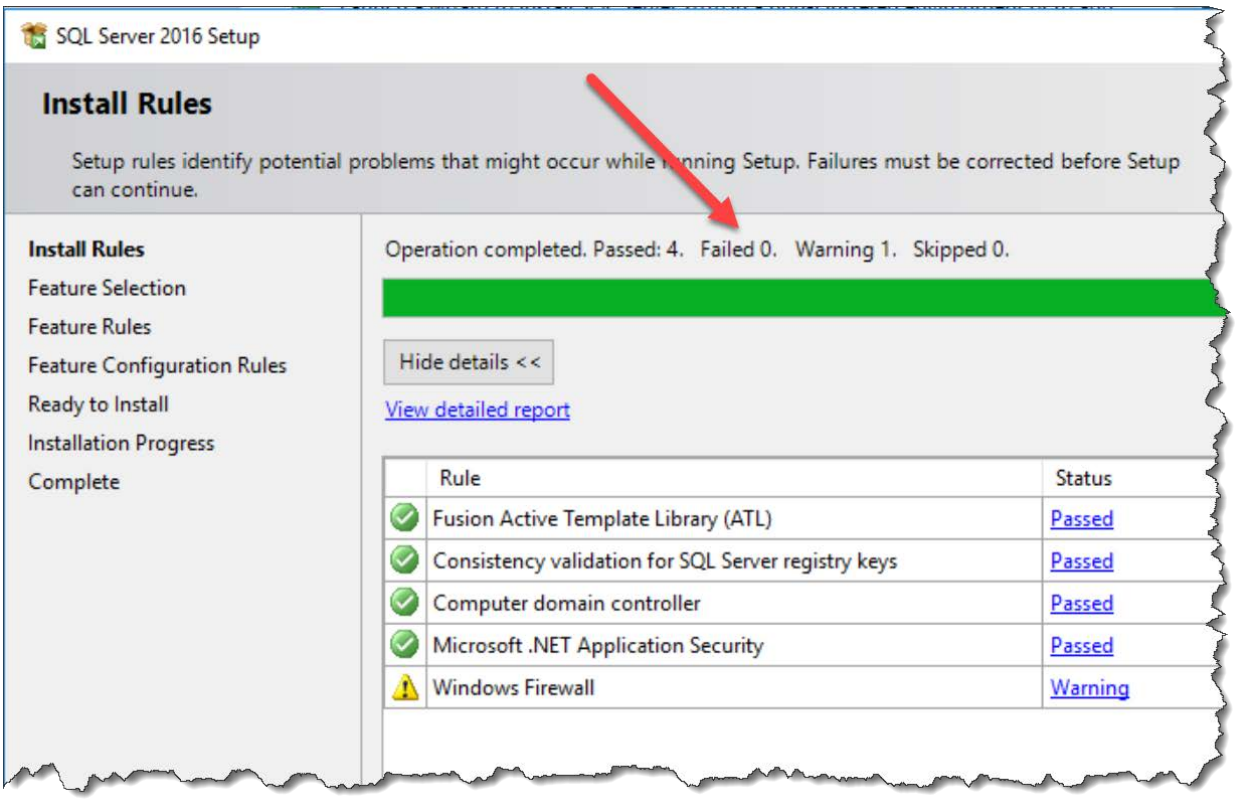


- Check **I accept the license terms**
- Click **Next**



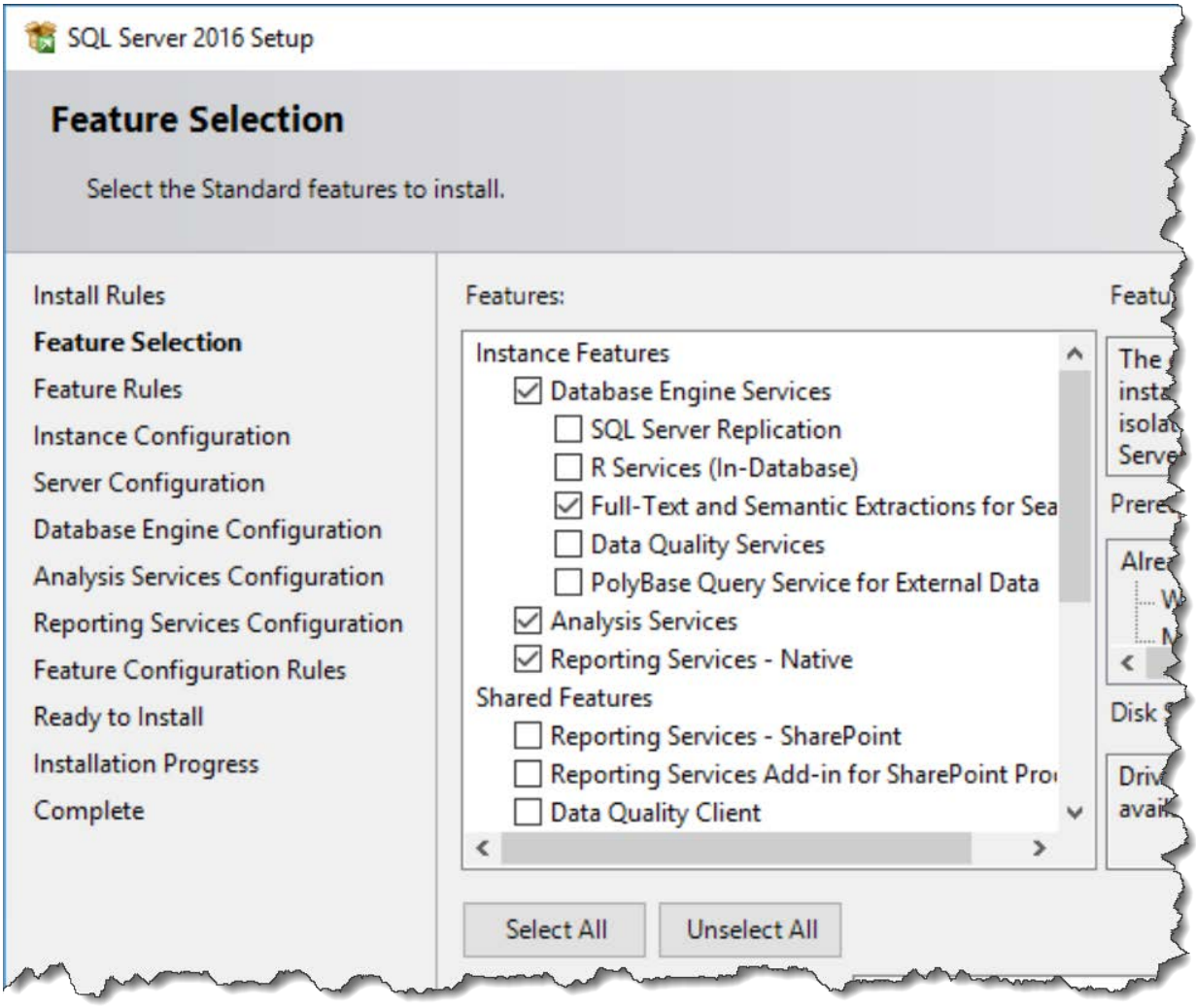
- Check **Include SQL Server product updates**
- Click **Next**

Verify that none of the install rule checks have failed.



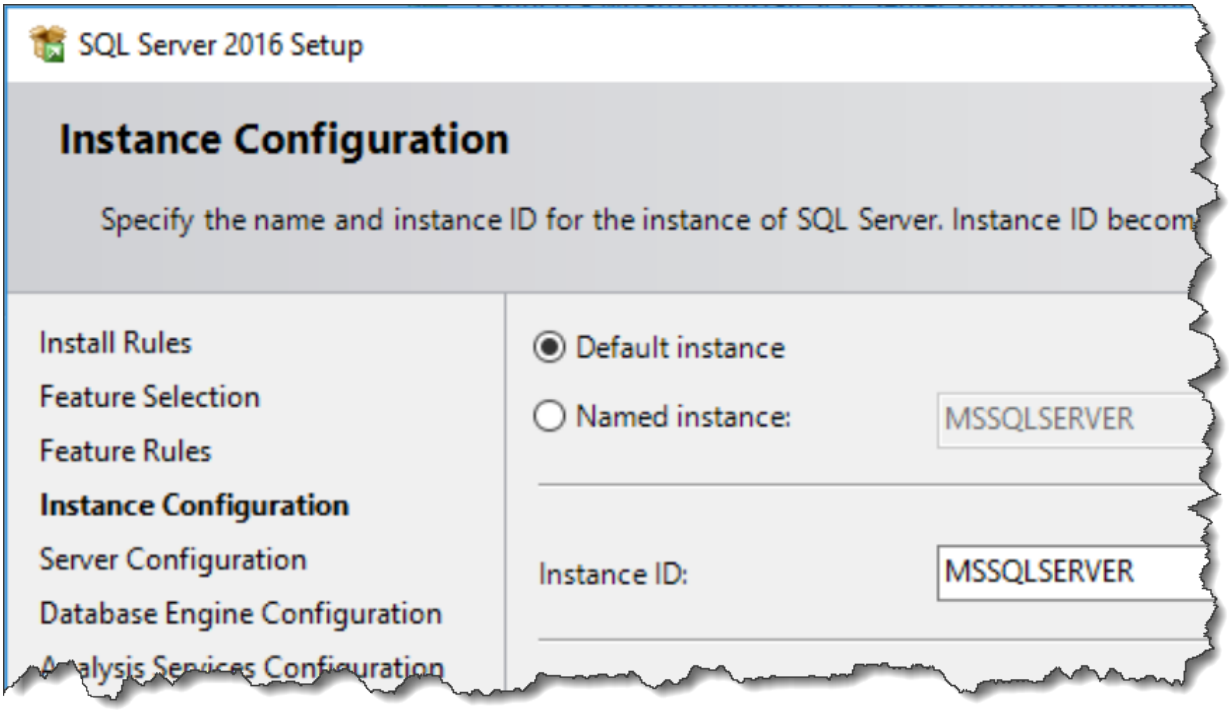
- Verify that there are 0 failures
- Click **Next**

You should now be on the **Feature Selection** page.



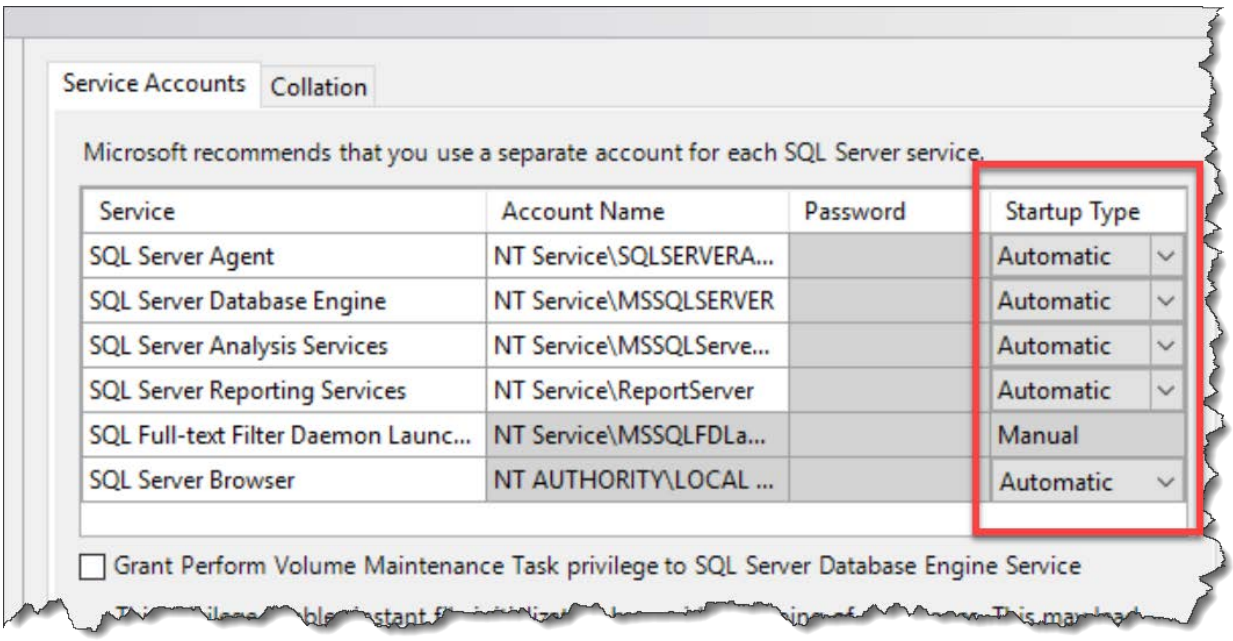
- Under **Instance Features** check
  - **Database Engine Services**
  - **Full-text and Semantic Extractions for Search**
  - **Analysis Services**
  - **Reporting Services – Native**
- Click **Next**

You should now be on the Instance Configuration page.

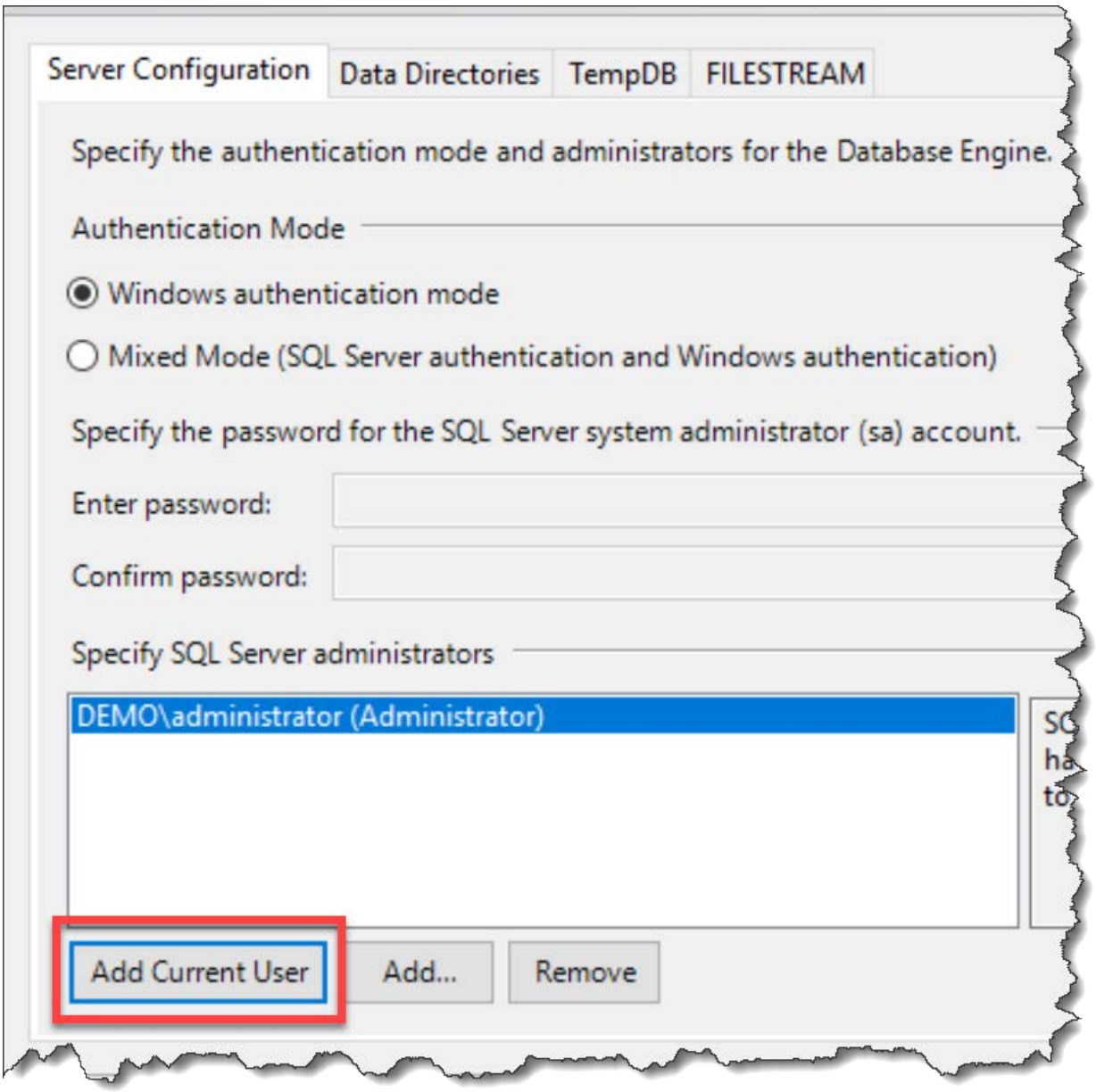


- Choose **Default instance**
- Click **Next**

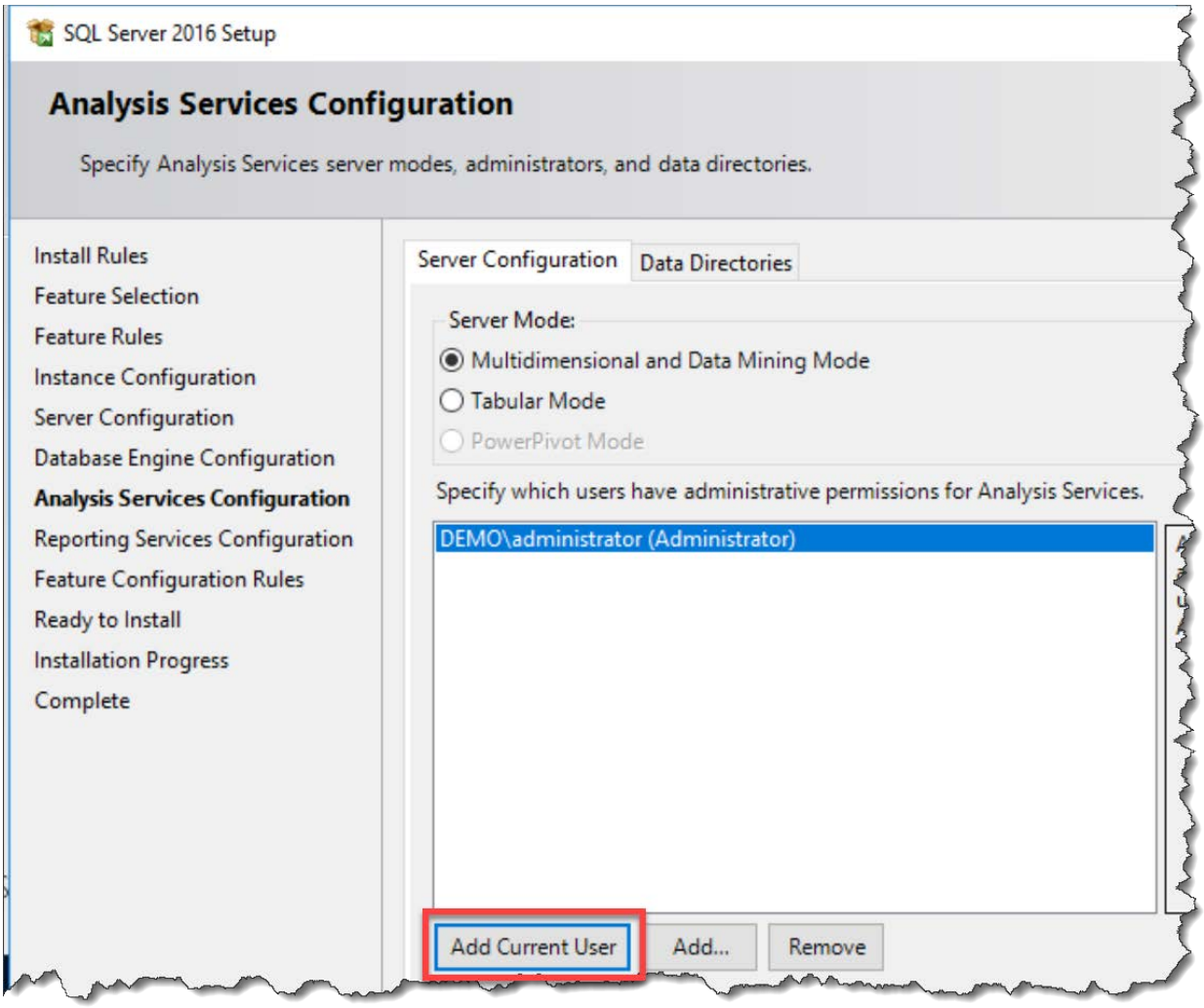
On the **Server Configuration** page you need to set all the services to automatically start.



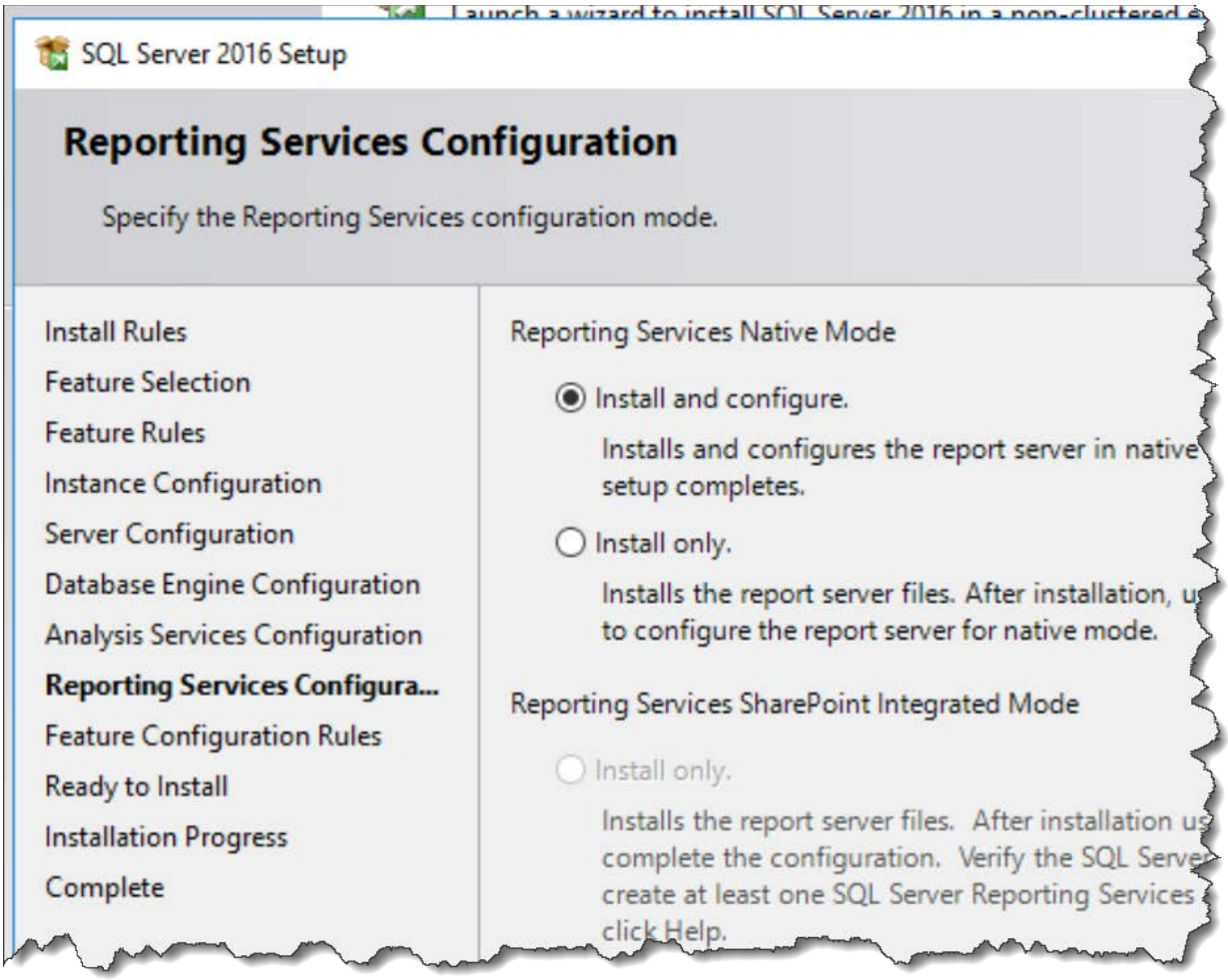
- For each service, set **Startup Type** to **Automatic**
- Click **Next**



- Choose **Windows authentication mode**
- Click the **Add Current User** button to add the current user as a SQL Server administrator
- (Optional) Click the **Add…** button and add the **Domain Admins** group to the SQL Server administrators
- Click **Next**

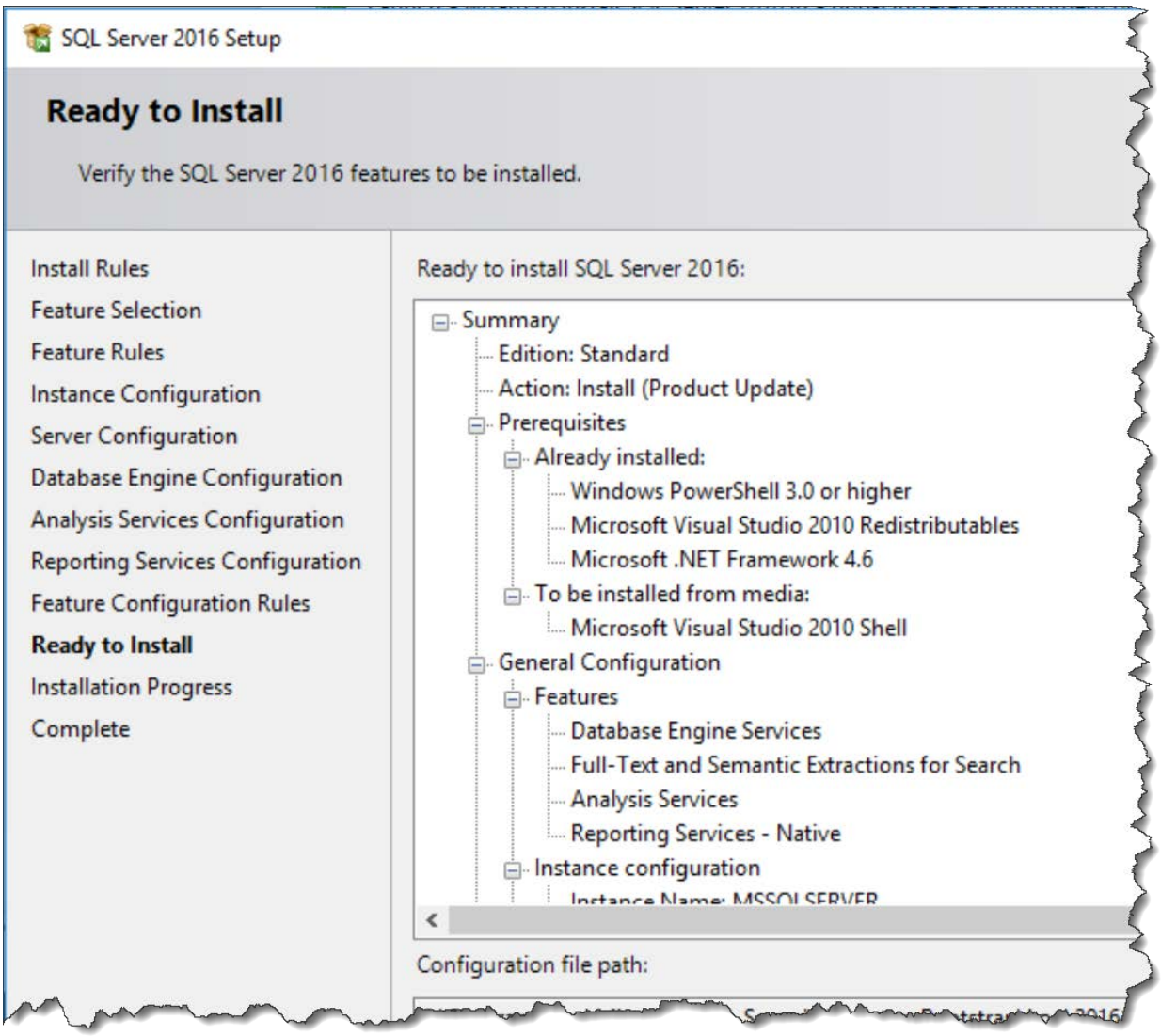


- Click the **Add Current User** button to add the current user as an Analysis Server administrator
- (Optional) Click the **Add…** button and add the **Domain Admins** group to the Analysis Services administrators
- Click **Next**



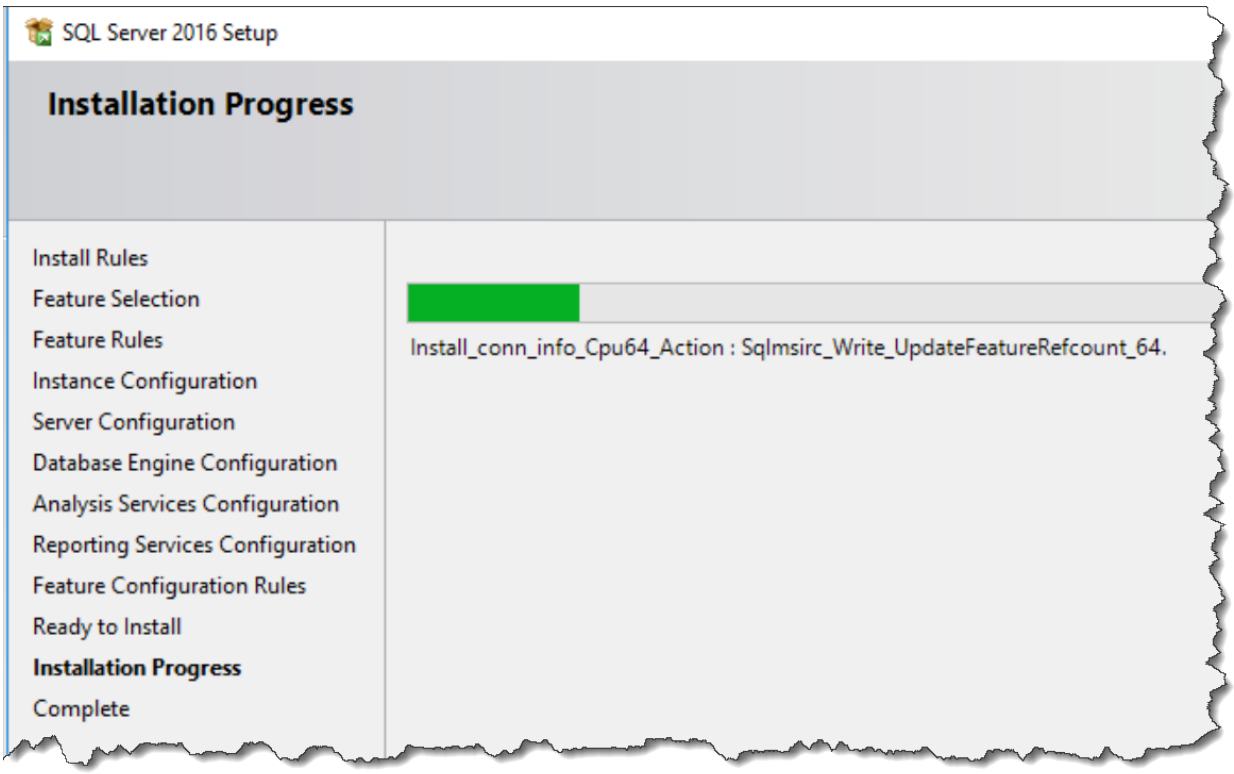
- Choose **Install and configure**
- Click **Next**

You should now see the **Ready to Install** page.

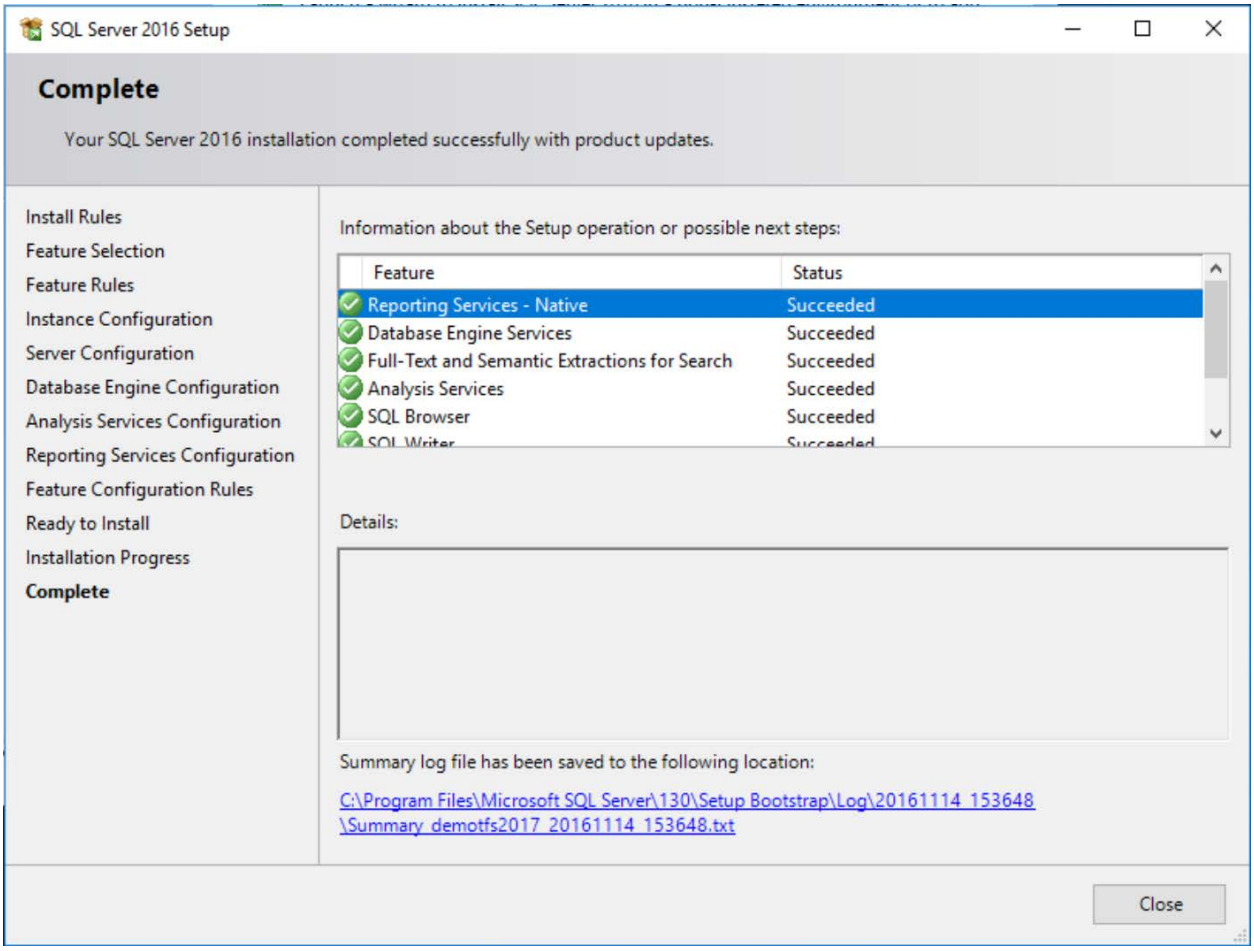


- Click **Install**

The installer should now be running.

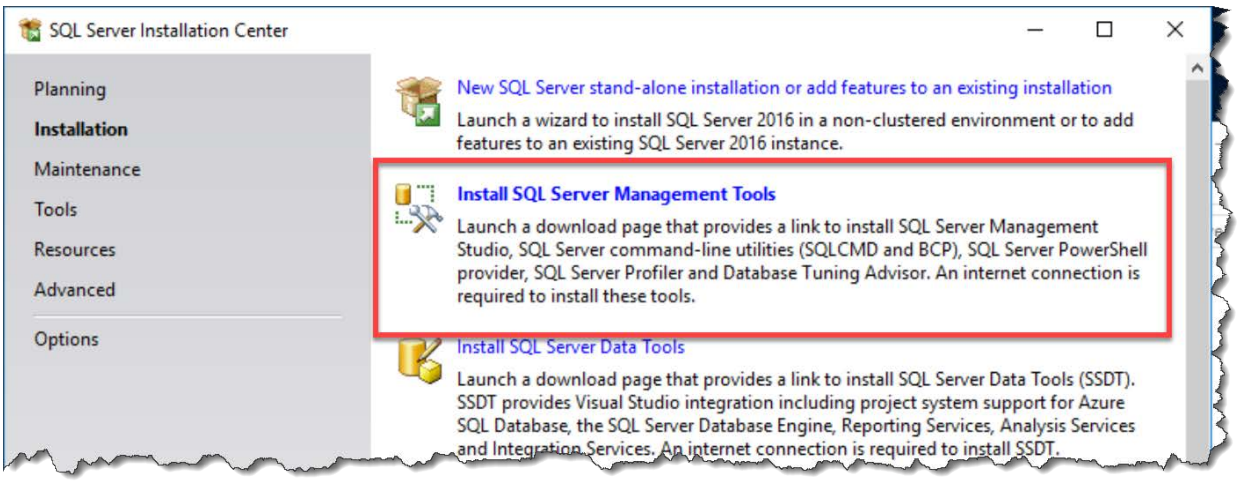


Eventually, the installer should finish.



- Verify that all items installed successfully
- Click **Close** to exit the installer

You should now be back on the **SQL Server Installation Center**.



- (Optional) Install **SQL Server Management** Tools
- Or click the close button to exit the installer

SQL Server 2016 is now installed.

- (Recommended) Re-run **Windows Update** and install any available updates

Chapter 4: Install Team Foundation Server 2017

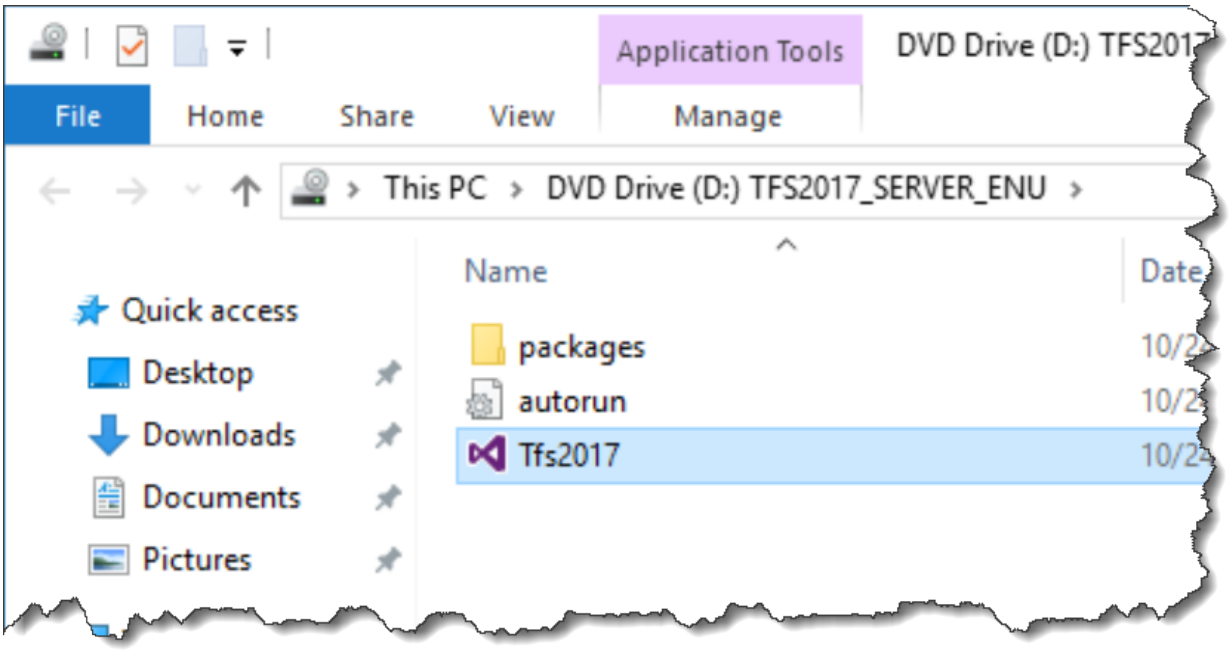
Introduction

Now that Windows and SQL Server are installed, you're ready to install Team Foundation Server 2017 (TFS2017). You'll probably want to create three domain accounts for use by the various pieces of TFS: TFS Service (*domain*\tfsservice), TFS Reports (*domain*\tfsreports), and TFS Build (*domain*\tfsbuild).

- If you're installing this on a Hyper-V virtual machine with dynamic memory enabled, change the **minimum amount of RAM to 2GB** (at least temporarily) to allow Team Foundation Server 2017 to install along with SQL Server.
- Gather the username and passwords for the 3 TFS service accounts (see above)
- Log on to the server using a user account with Administrator privileges

Run the Installer

- Mount the TFS2017 ISO image or insert a TFS2017 installer DVD
- Using Windows Explorer (explorer.exe), navigate to the installer directory

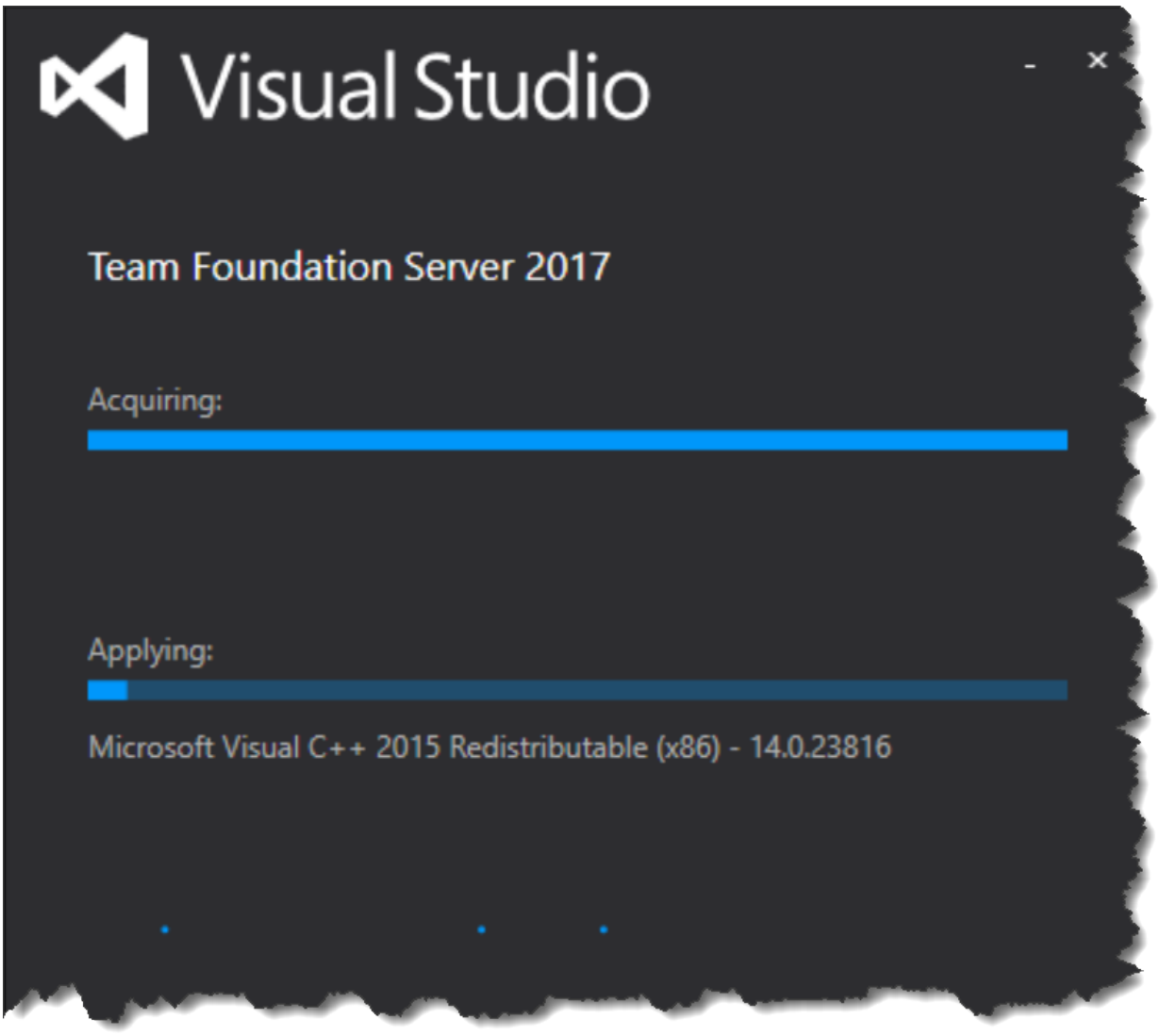


- Run **Tfs2017.exe**

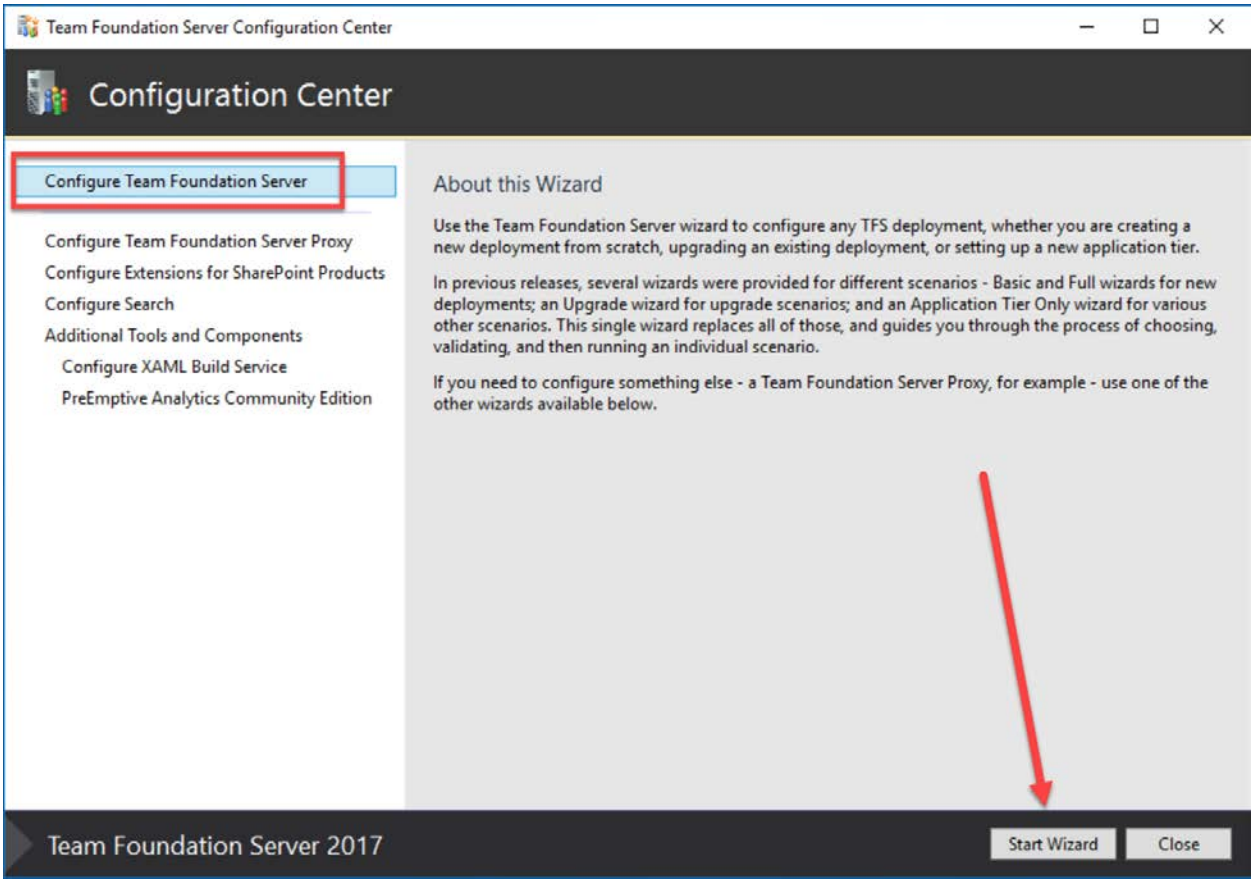
You should see the **Team Foundation Server Setup** dialog.

- Click **Install**

The installer will run and start to copy files to your disk.

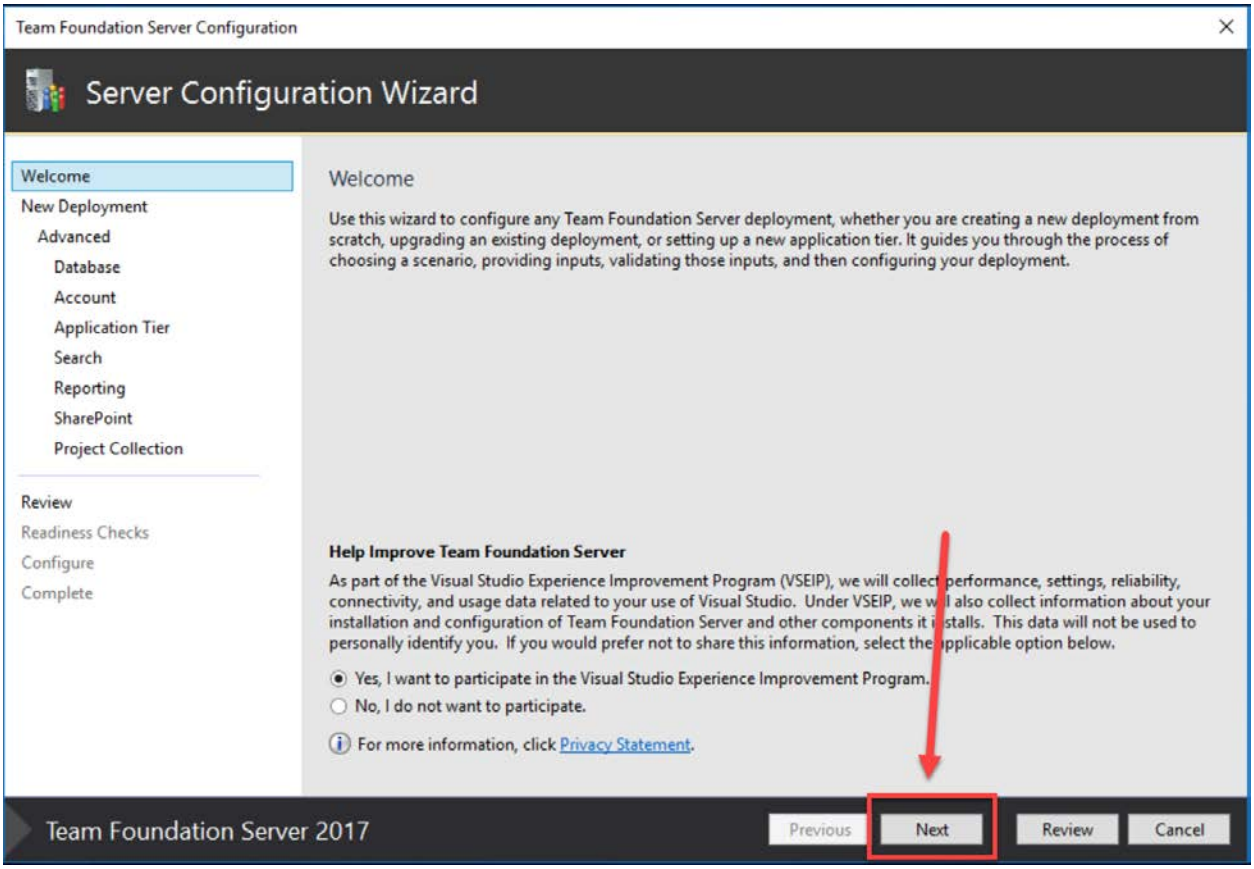


You should now see the **Team Foundation Server Configuration Center**.



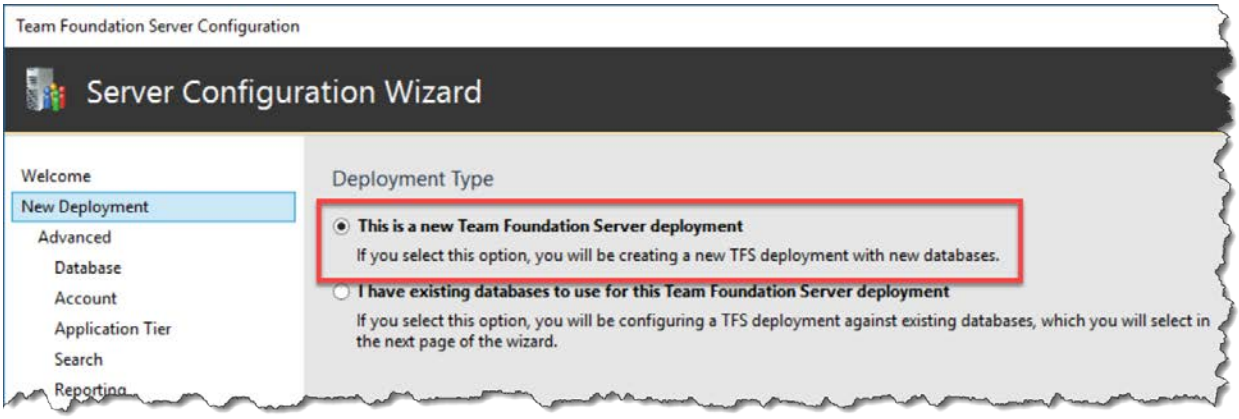
- Choose **Configure Team Foundation Server**
- Click **Start Wizard**

You should now be on the welcome page.



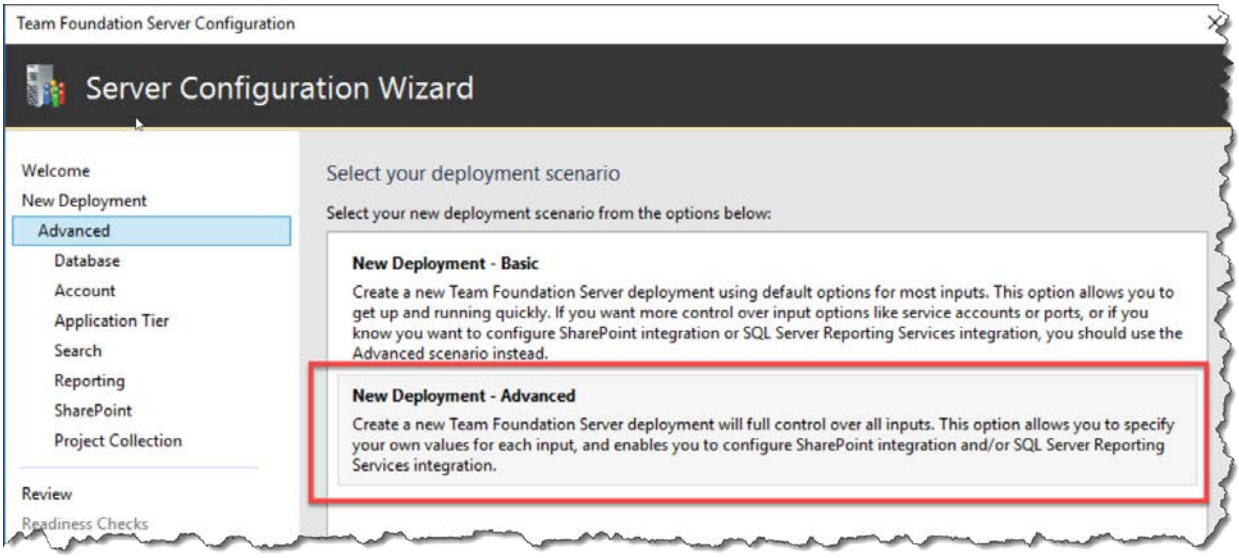
- Choose **Yes, I want to participate in the Visual Studio Experience Improvement Program**
- Click **Next**

You should now be on the Deployment Type page.



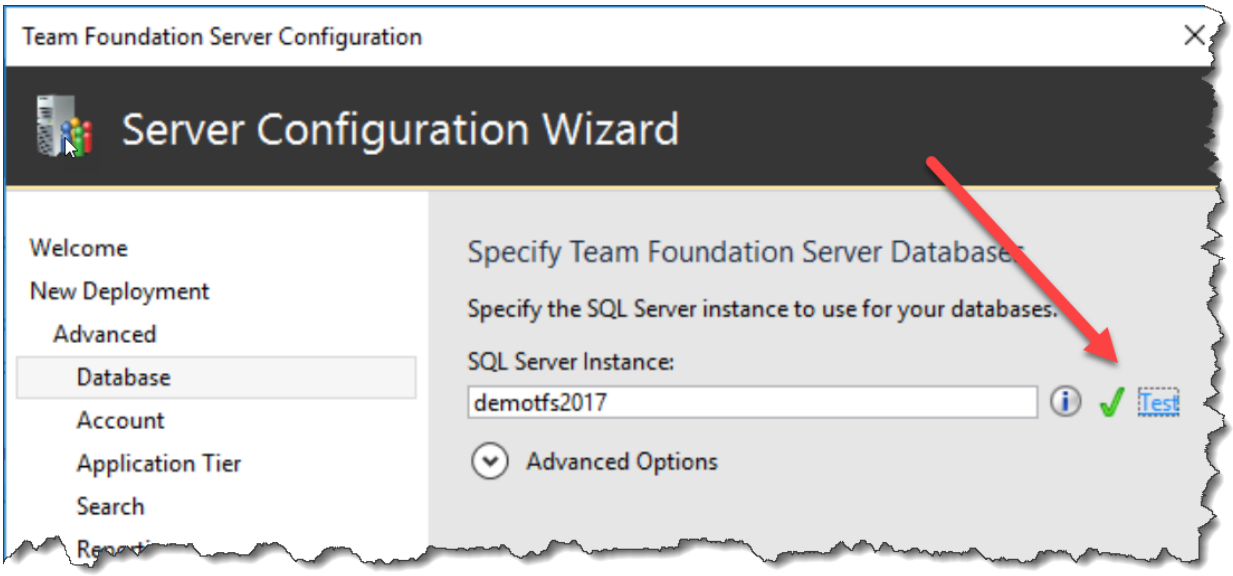
- Select **This is a new Team Foundation Server deployment**
- Click **Next**

On the **Select your deployment scenario** page, you'll be prompted to choose between a TFS Basic or TFS Advanced deployment. Since this guide assumes that you're using SQL Server Reporting Services with TFS, you'll need to choose the Advanced version.



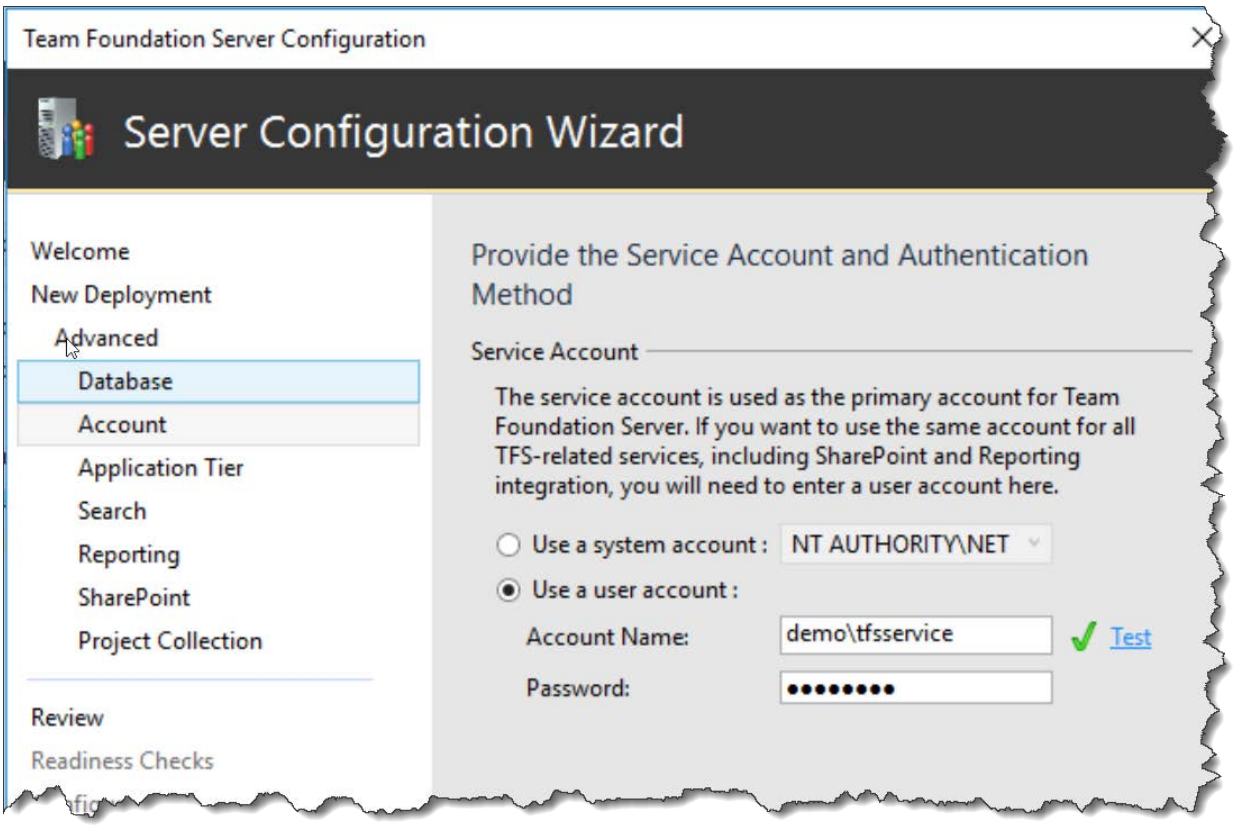
- Choose **New Deployment – Advanced**
- Click **Next**

The **Specify Team Foundation Server Databases** page prompts you to choose your SQL Server database. This guide assumes that you installed SQL Server 2016 Standard on the same machine as TFS.



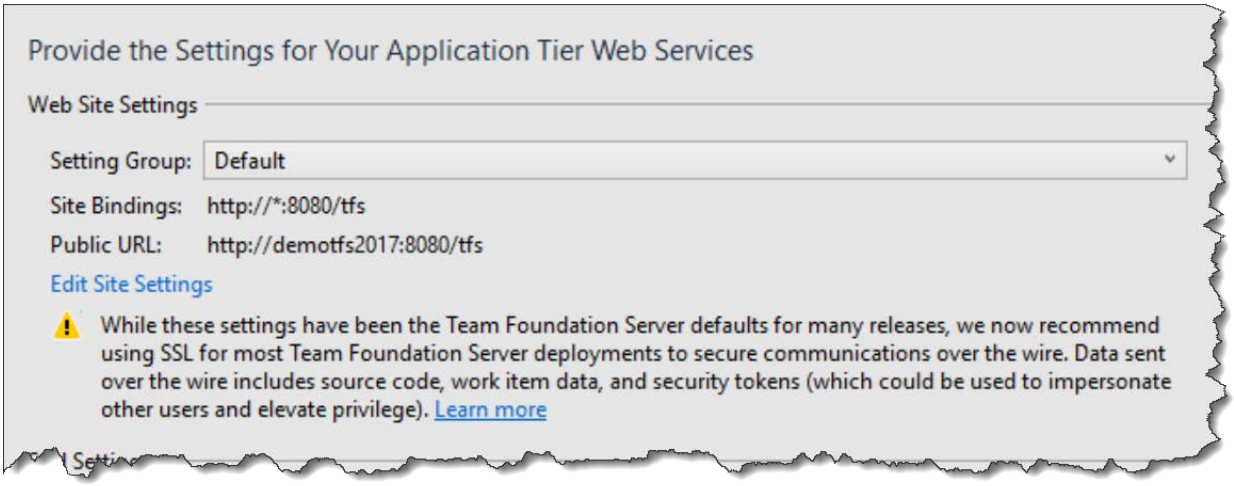
- To the right of the **SQL Server Instance** textbox, click the **Test** link to verify the connection to SQL Server
- Confirm that the test passes
- Click **Next**

You should now see the Service Account page. You can choose to run TFS as a system account but I find that this makes permissions management – more specifically, permissions *debugging* – much harder later on when you start doing automated builds, automated deployments, and automated testing. My recommendation is to run TFS as a separate service account.

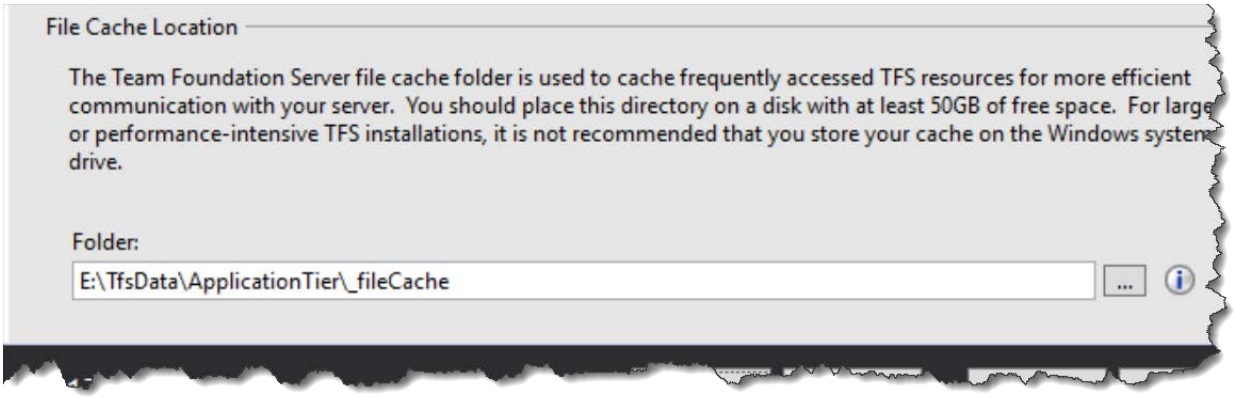


- Choose **Use a user account**
- In the **Account Name** textbox, type the fully-qualified name of the service account. Example: demo\tfsservice
- In the **Password** textbox, enter the password for the service account
- Click the **Test** link to verify the credentials are correct
- Click **Next**

You should now see a page prompting you for the configuration of TFS in IIS. You may see a warning about using SSL encryption. It's a good idea but it's not required.



(Optional) At the bottom of this page, there's a section for **File Cache Location**. TFS caches files for efficiency. The contents of this directory can become impressively large. For performance reasons and for disk space management reasons, you probably should put this on a separate disk – ideally on a different "spindle" – than your system/operating system drive.



- (Optional) Change the **Folder** path to reference the desired location and disk.
- Click **Next**

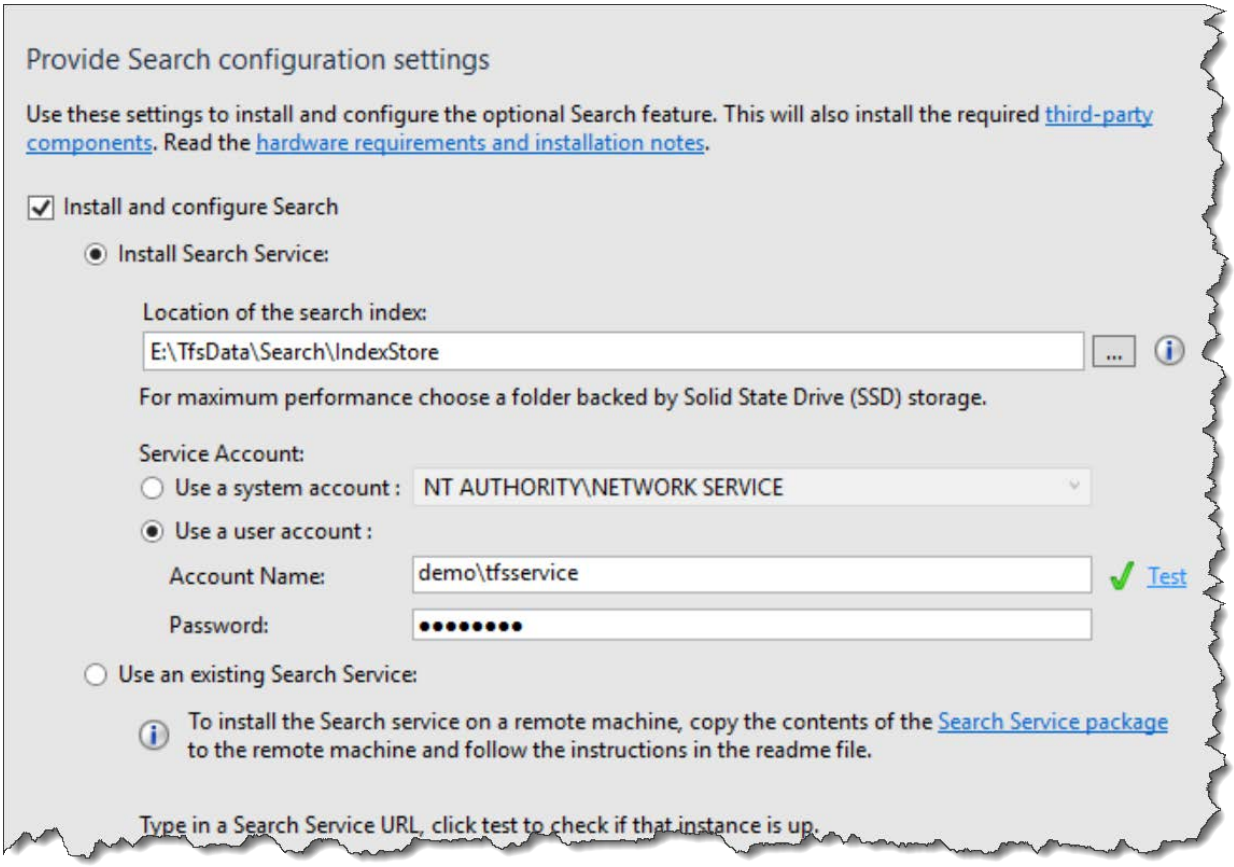
TFS2017 adds a bunch of new features to help you search the contents of your team projects. This is an optional feature.

Option 1: If you *do not* want to install Search:

- Uncheck **Install and configure Search**
- Click **Next**

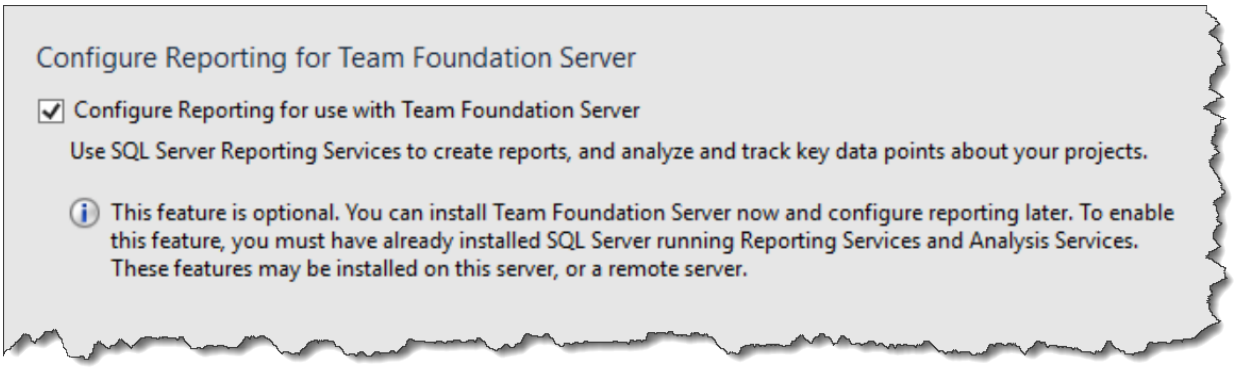
Option #2: Install Search

- Check **Install and configure Search**



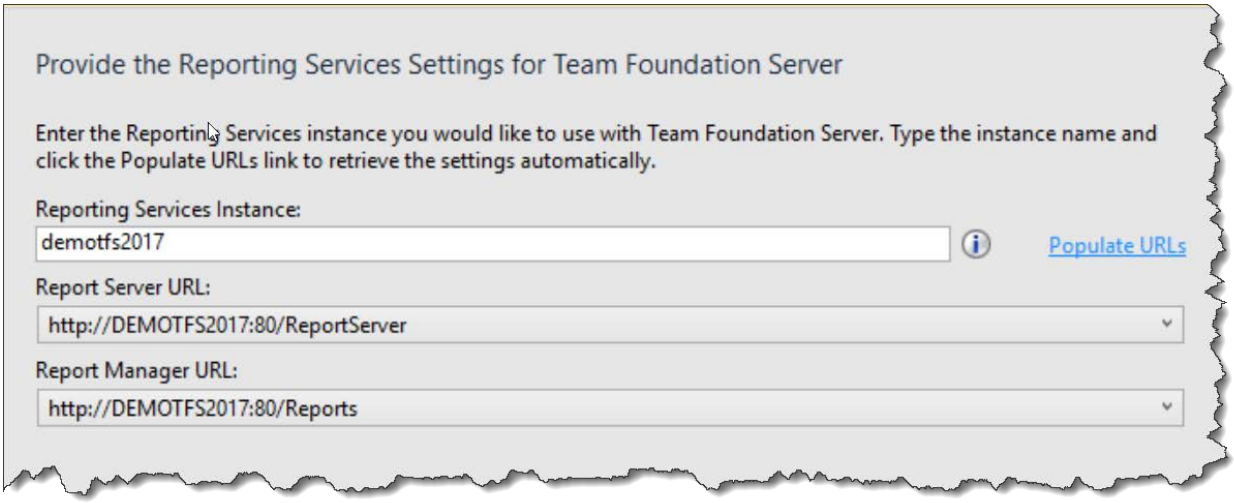
- Choose **Install Search Service**
- Set the **Location of the search index** to the drive and folder you want to use for search. For performance reasons, you'll probably want to keep this on a different drive than the system drive. If your TFS installation is large and busy, you may want to put this on its own drive by itself. In the screenshot, I'm putting this on the same drive as my TFS File Cache at E:\TfsData\Search\IndexStore.
- Under Service Account choose **Use a user account**
- Set **Account Name** to the service account want to use to run search. In this configuration, I'm using the same account at the TFS Service, demo\tfsservice
- Set the **Password** for the service account
- Click the **Test** link to verify the service credentials
- Click **Next**

You should now see the **Configure Reporting for Team Foundation Server** page. This is another optional feature but this guide assumes that you're installing support for SQL Server Reporting Services with TFS2017.



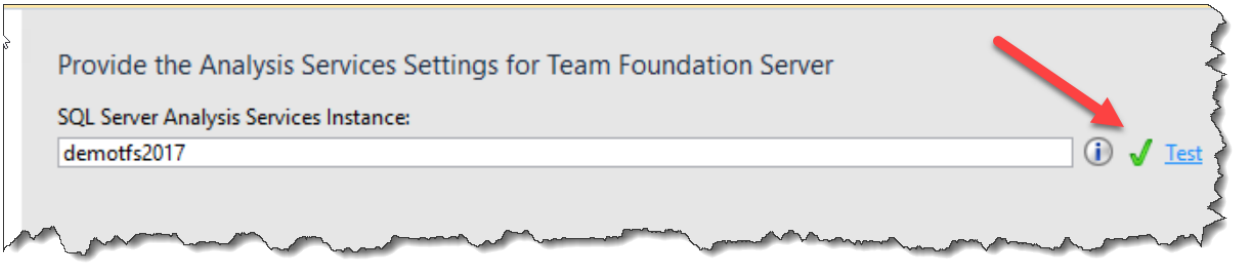
- Check **Configure Reporting for use with Team Foundation Server**
- Click **Next**

You should now see the Provide Reporting Services Settings for Team Foundation Server page. These values should be automatically populated.



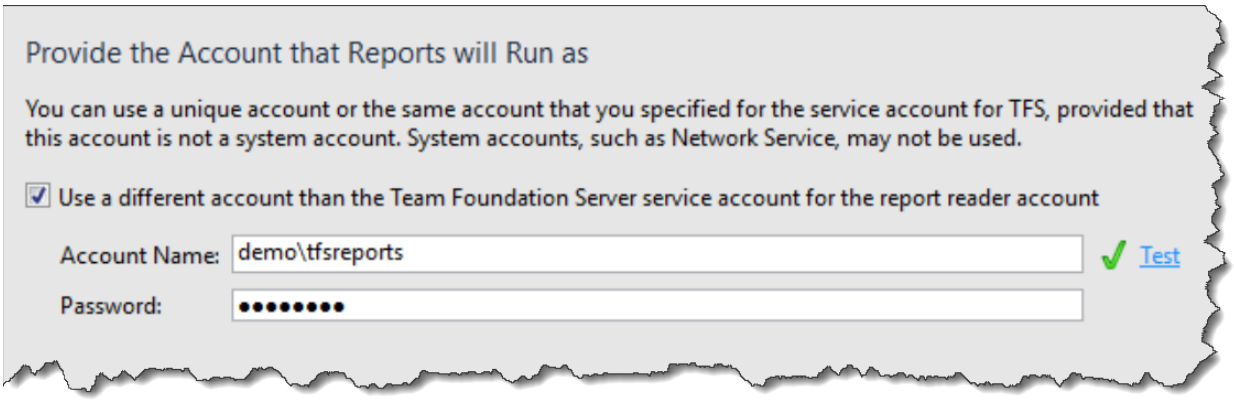
- Click **Next**

You should now see the Analysis Services settings page.



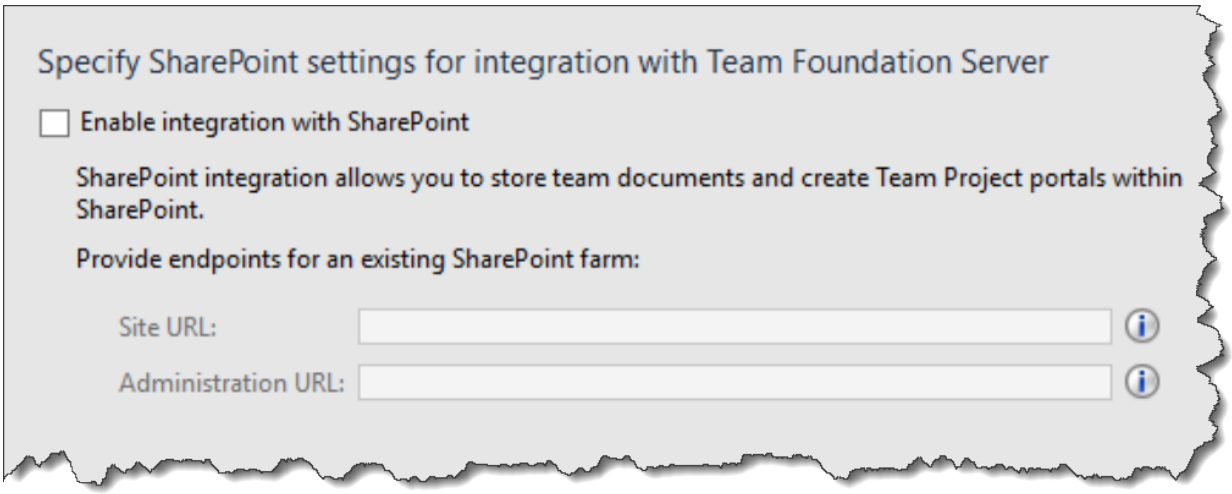
- Click the **Test** link to verify the connection to SQL Server Analysis Services
- Click **Next**

Next you'll provide the credentials for the SQL Server Reporting Services Reports. You have the option of skipping this and running with the same account as the TFS Service Account but this is probably not ideal for security reasons.



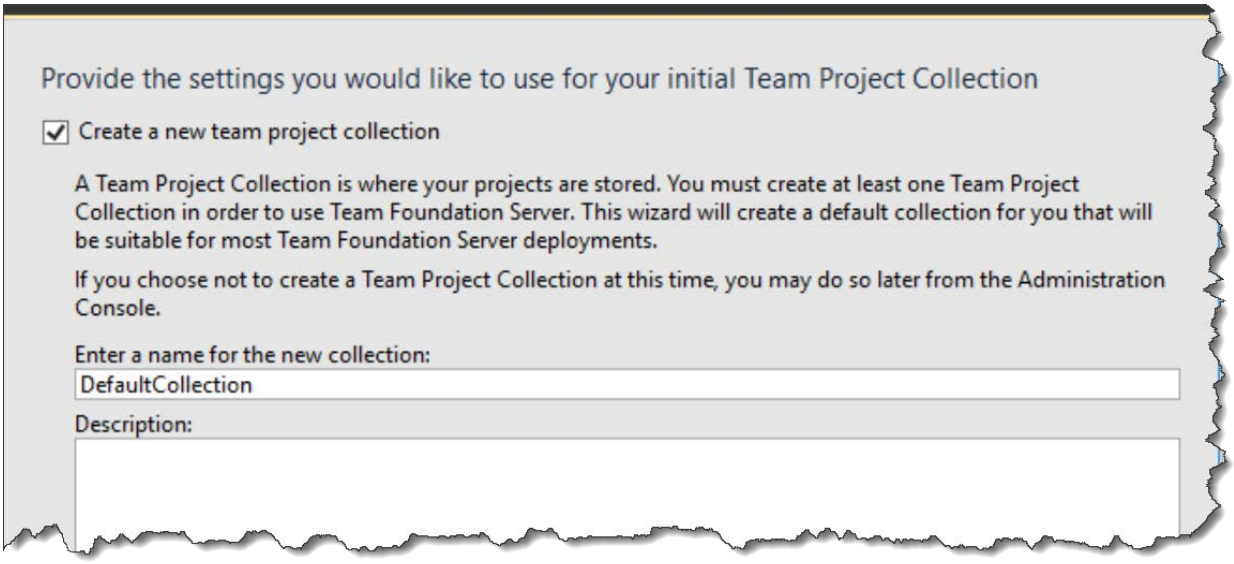
- Check **Use a different account than the Team Foundation Server service account…**
- Set **Account Name** to the fully qualified username of the service account
- Set the **Password** for the service account
- Click the **Test** link to verify the credentials
- Click **Next**

You should now be on the page asking if you'd like to install the integration with SharePoint. The answer is no. No, you have no interest in installing any kind of integration with TFS and SharePoint. THE END.



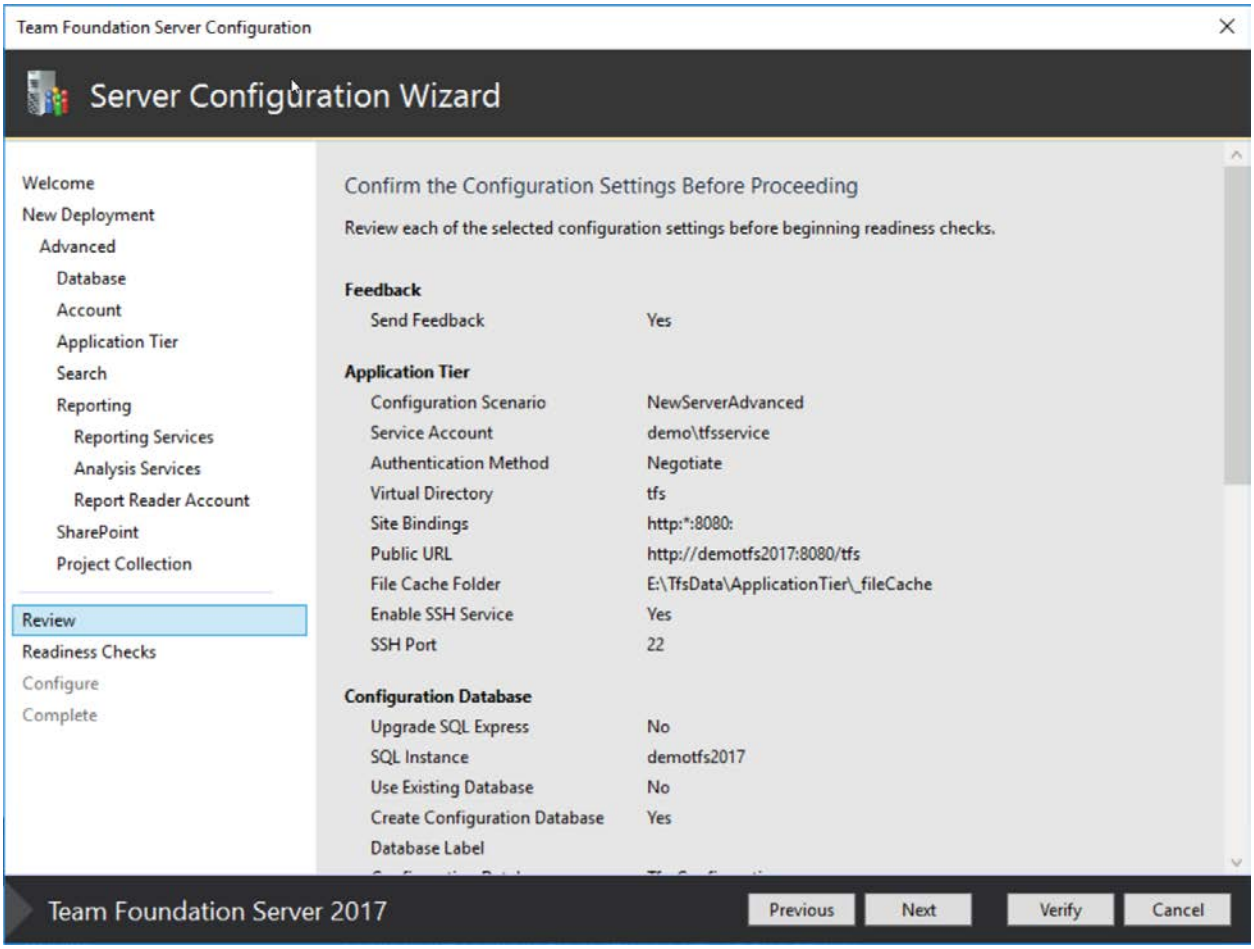
- Uncheck **Enable integration with SharePoint**
- Click **Next**

The installer will now prompt you to create a new Team Project Collection (TPC). The answer to this one (unless you're doing a migration) is yes.



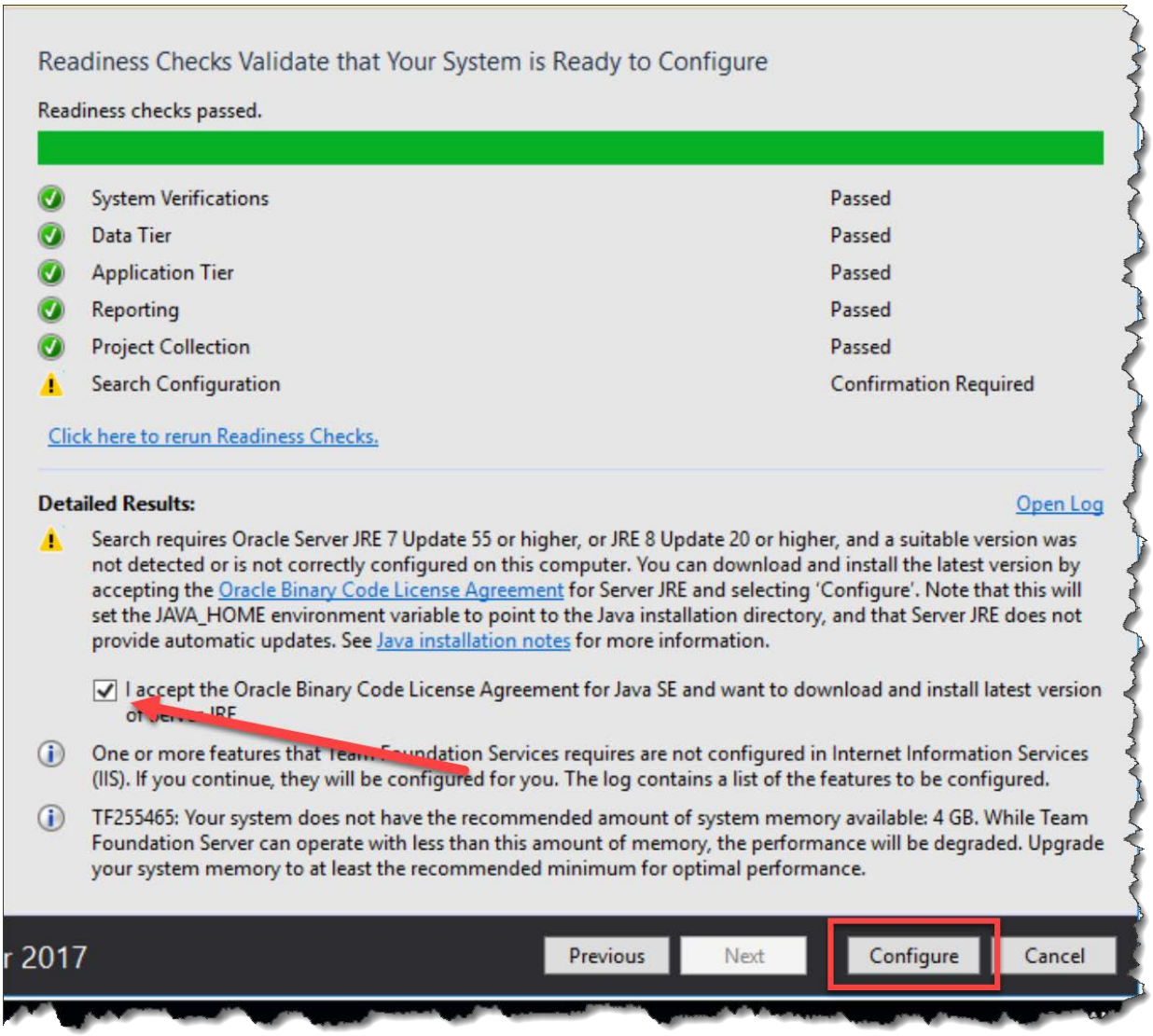
- Check **Create a new team project collection**
- Click **Next**

You should now be on the **Confirm the Configuration Settings Before Proceeding** page.



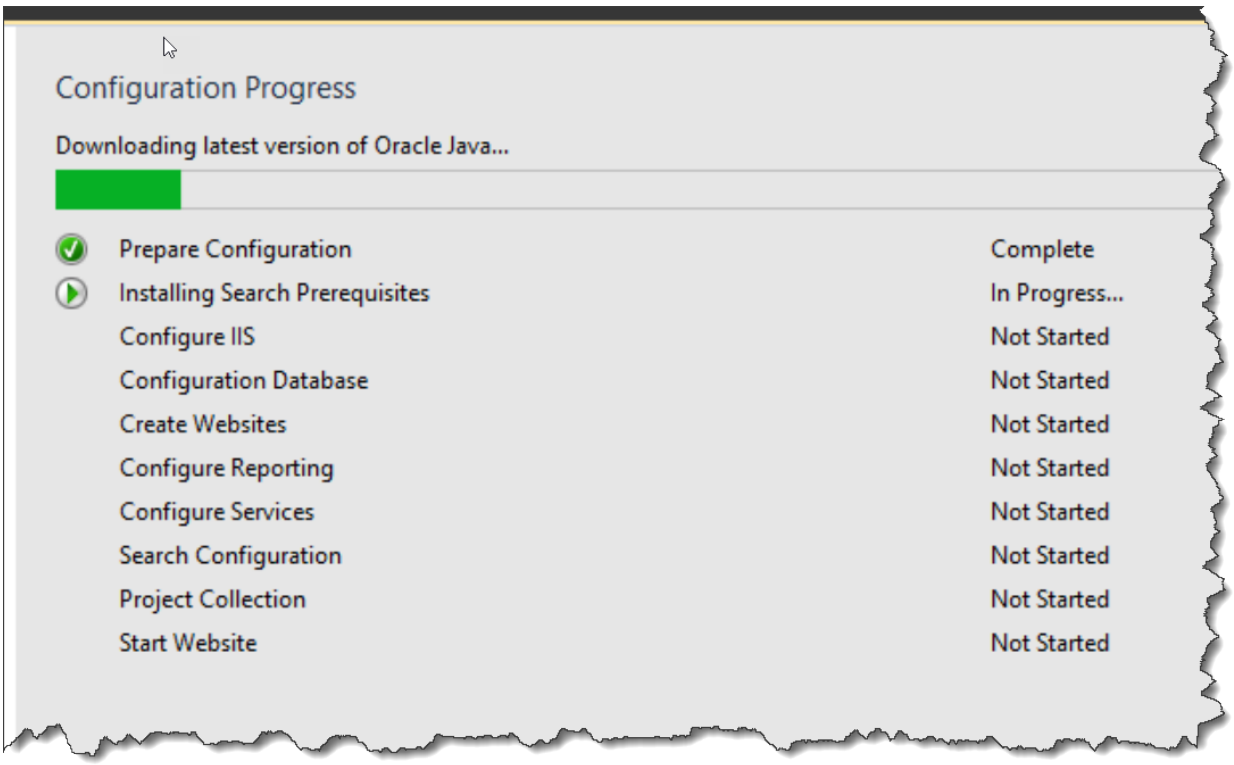
- Click **Next**

The installer will run some readiness checks. They should all come back as passed except for the Search Configuration item. The Search feature requires the Oracle Server JRE to be installed and this warning is prompting you to accept the licensing agreement for the JRE.

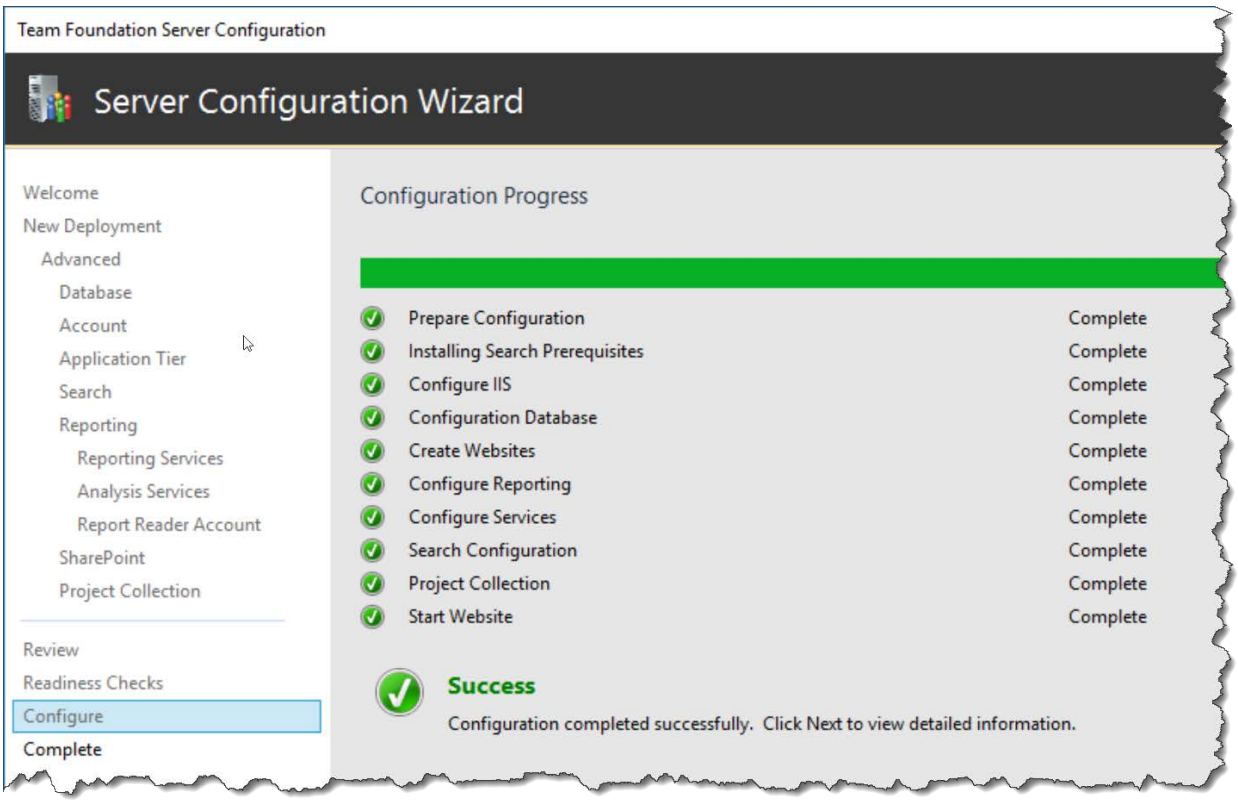


- Check **I accept the Oracle Binary Code License Agreement for Java SE…**
- Click the **Configure** button

The configuration process should now be running.

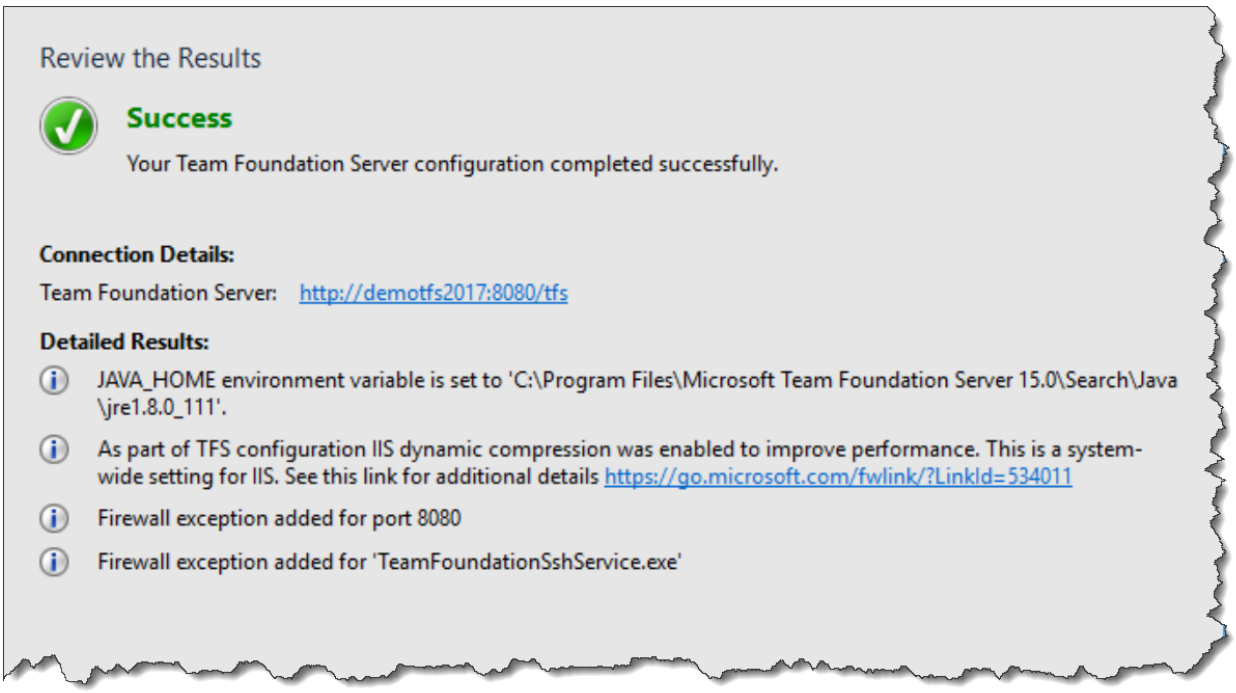


The configuration process should end with a message saying Success.



- Click **Next**

You should now be on the **Review the Results** page.



- Click **Close**

Team Foundation Server 2017 is now configured and running.

Chapter 5: Configure an SMTP Server for Team Foundation Server 2017

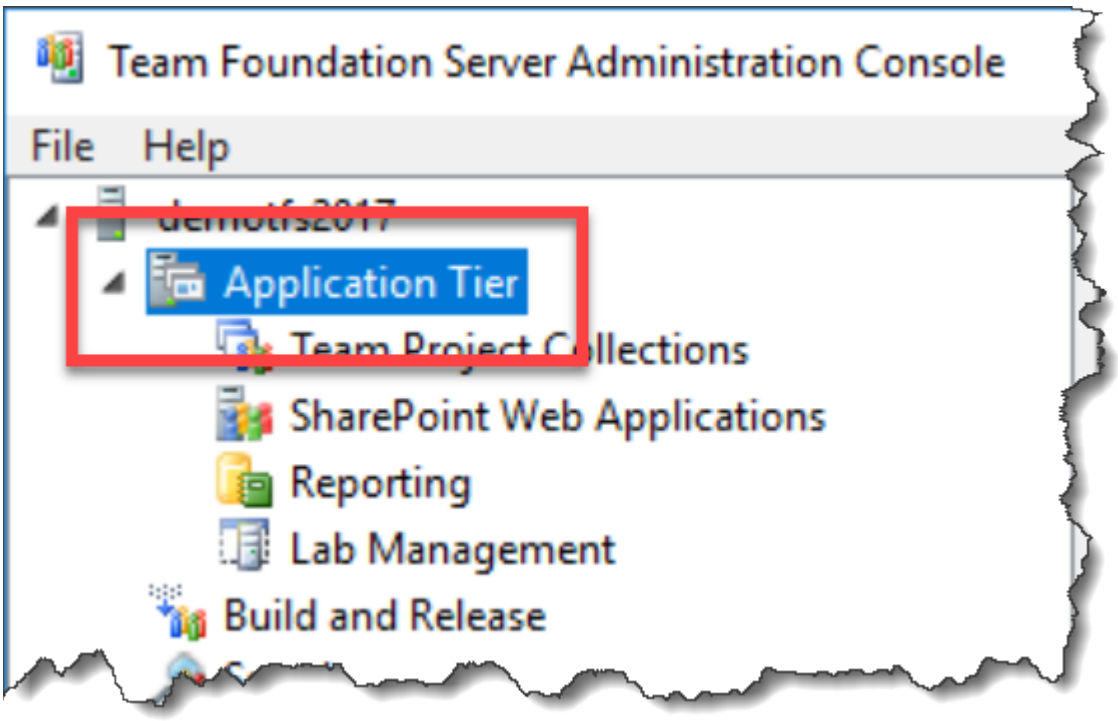
TFS2017 has this great new feature in work item tracking called "Follow". You open a work item and there's a button in the upper right corner of the work item that says "Follow" and when you click it, TFS will send you emails regarding activity on this work item. BUT! If you don't configure an SMTP server for TFS, this Follow button won't be there. You also won't be able to get alerts either.

You'll definitely want to configure an SMTP server connection for TFS.

You probably already have an SMTP server available to you but, if you don't, you can enable the SMTP Server feature in Windows Server 2016.

- Log in to your TFS2017 machine as an administrator
- Go to the Start menu
- Search for **Team Foundation Administrator Console**

You should see the Team Foundation Administrator Console.

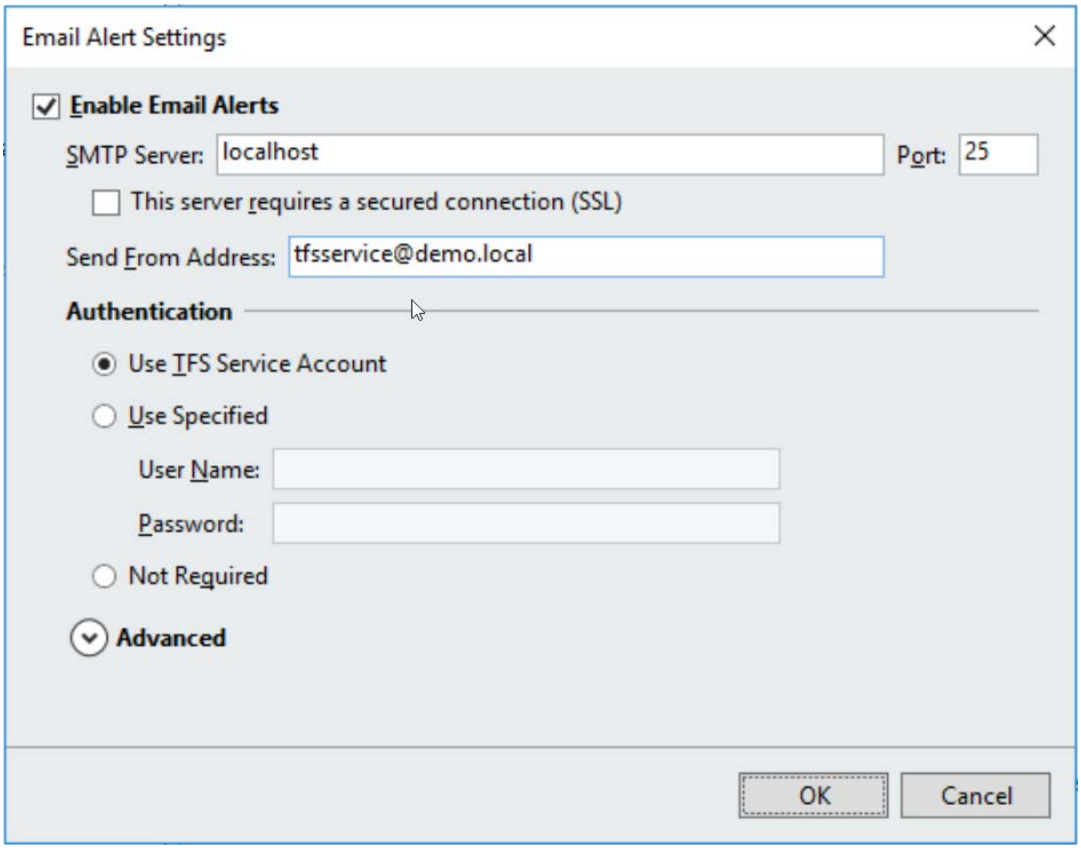


- In the left column, click on **Application Tier**

In the right panel, scroll down until you location the **Email Alert Settings.**

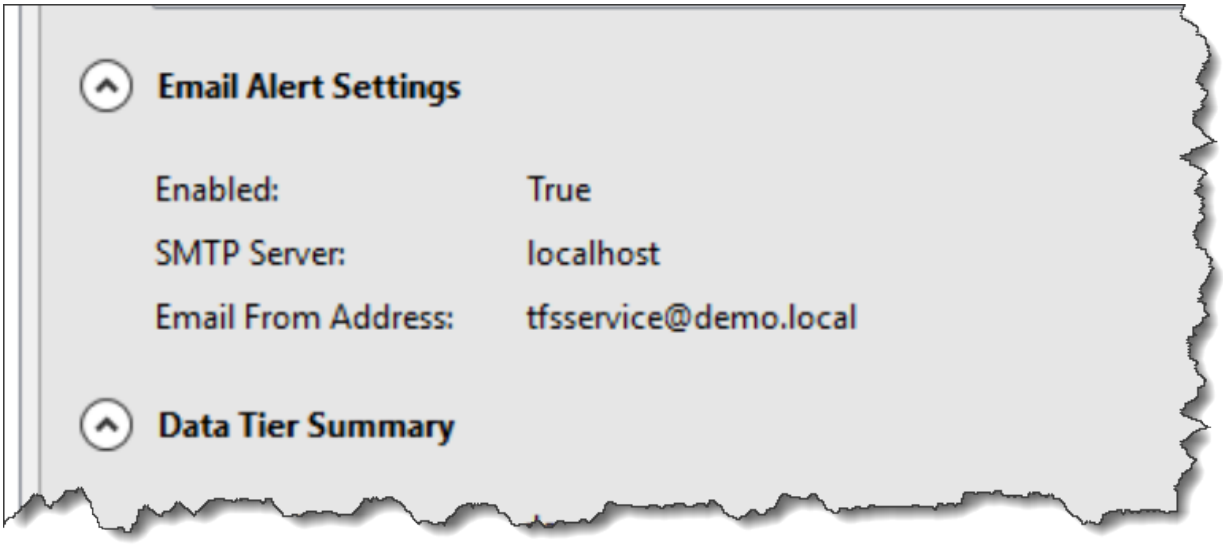
- Click **Alert Settings**

You should now see the **Email Alert Settings** dialog.



- Check **Enable Email Alerts**
- Set **SMTP Server** to the hostname or IP address for your SMTP server.
- Click **OK**

You should now be back on the main window of the admin console. The email alert settings should now be populated with your SMTP server.



(Optional) If you open a work item, you'll now see the Follow button is available to you.

Your TFS is ready to send emails.