Team Foundation Server 2017 Installation Guide

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Contents

Chapter 1: Install Windows Server 2016

Introduction

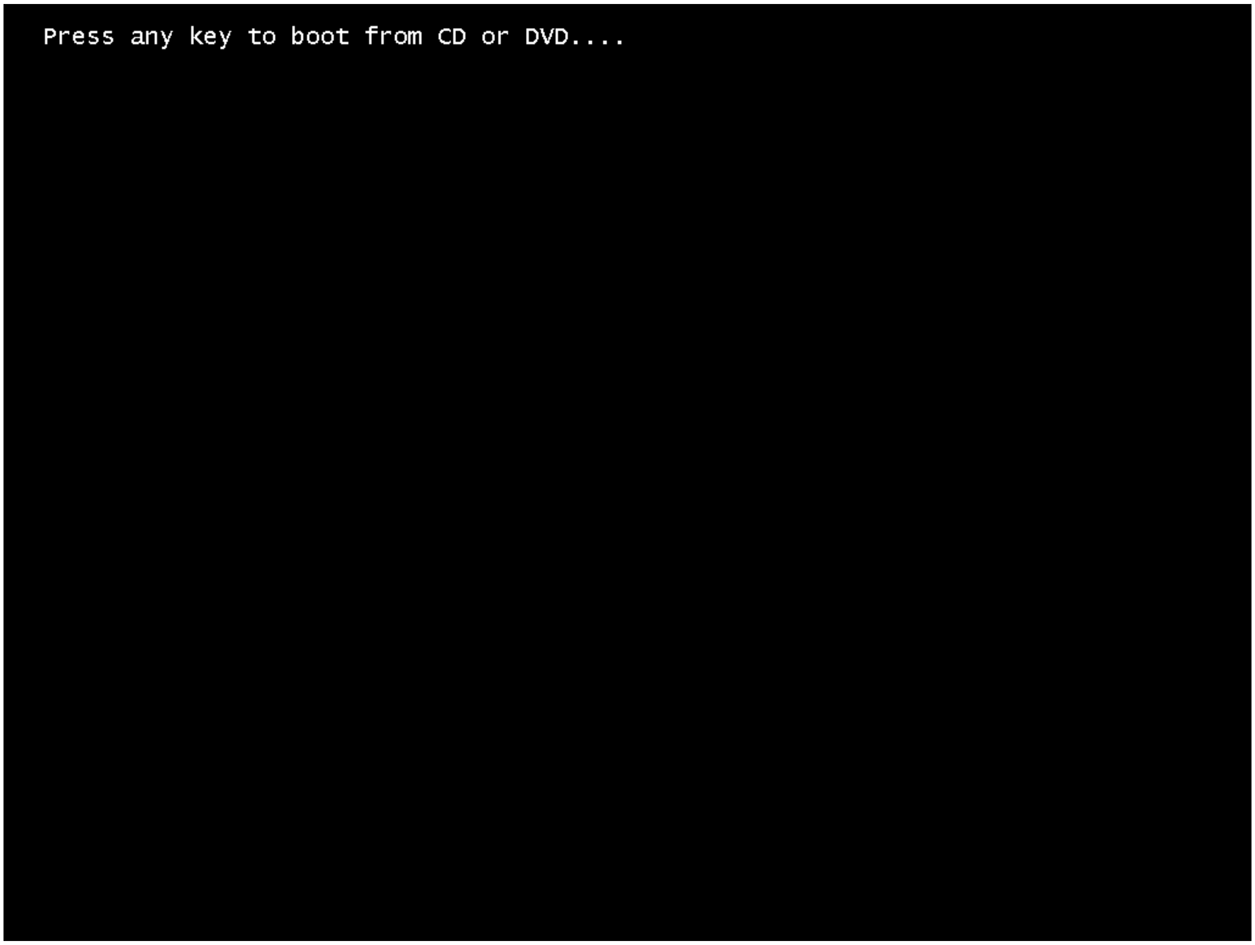
The first step for installing Team Foundation Server 2017 (TFS2017) is to install Windows Server. In this guide, I'm going to be using Windows Server 2016. I'm also assuming that you'll be installing TFS2017 in a single server configuration – aka. the TFS Application Tier and SQL Server will be installed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

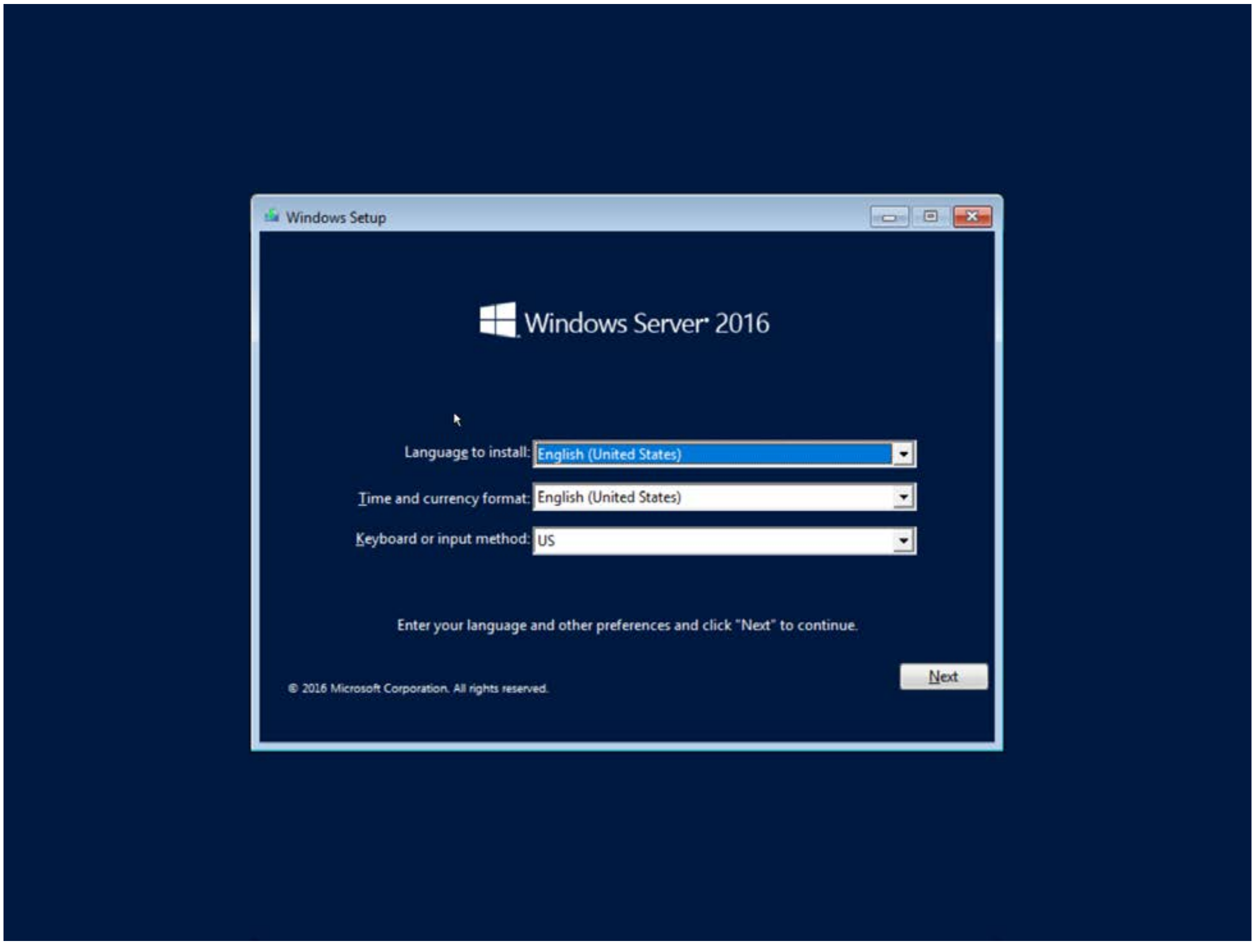
You will see the **Press any key to boot from CD or DVD....** message appear.



```
Press any key to boot from CD or DVD....
```

- Press any key to boot from the DVD drive

You should see the Windows Setup welcome screen.



Language to install: English (United States)

Time and currency format: English (United States)

Keyboard or input method: US

Enter your language and other preferences and click "Next" to continue.

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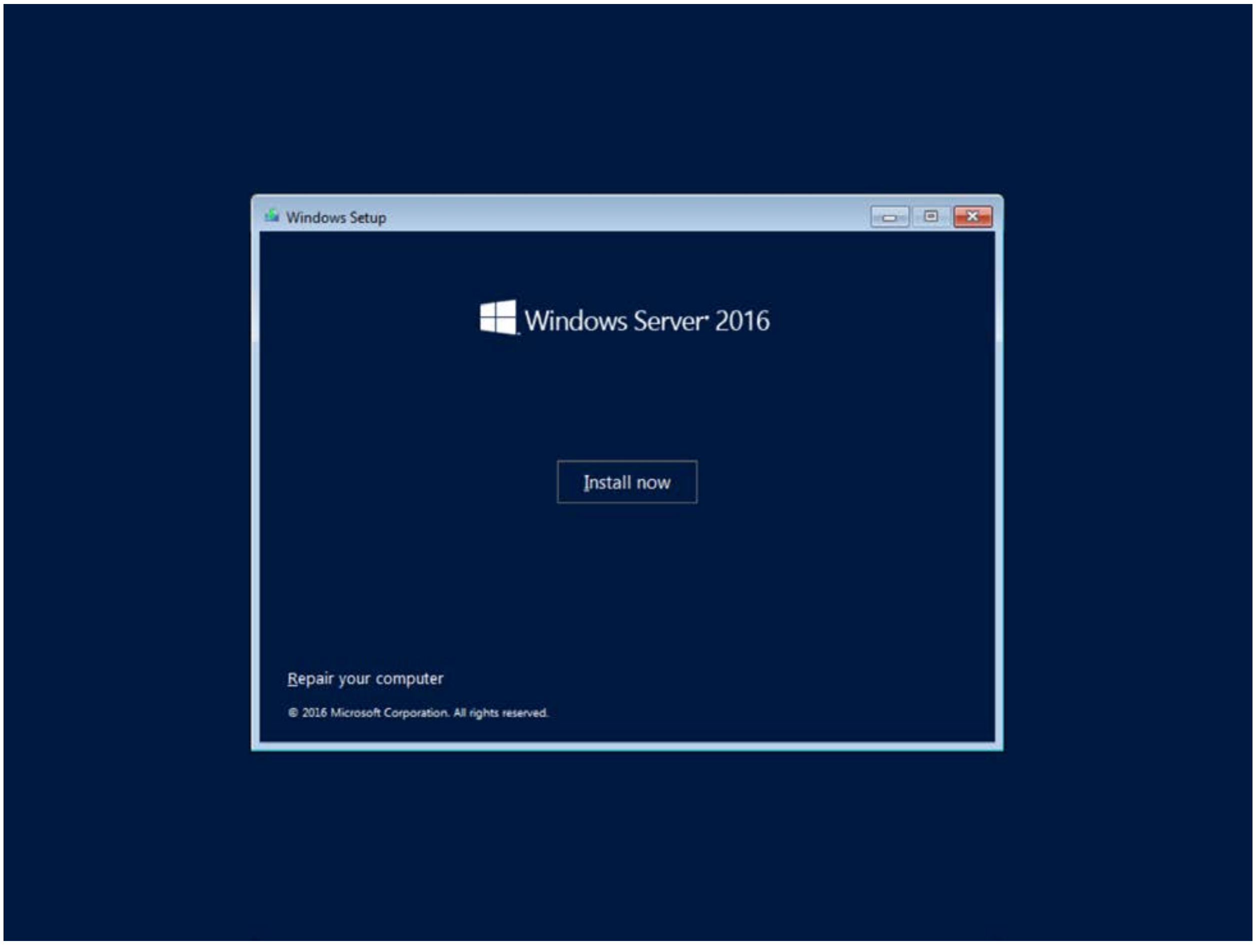
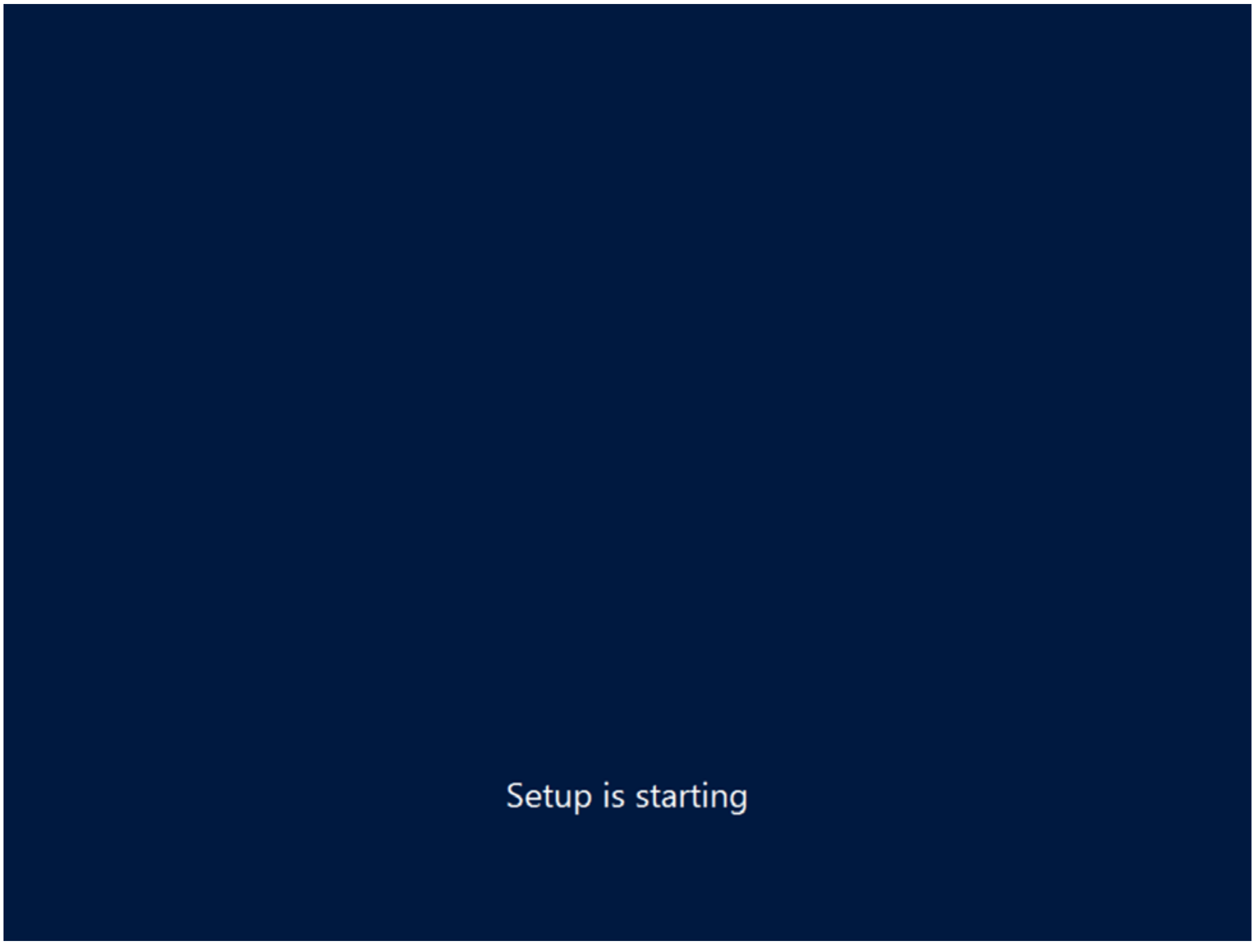
- Click **Next**



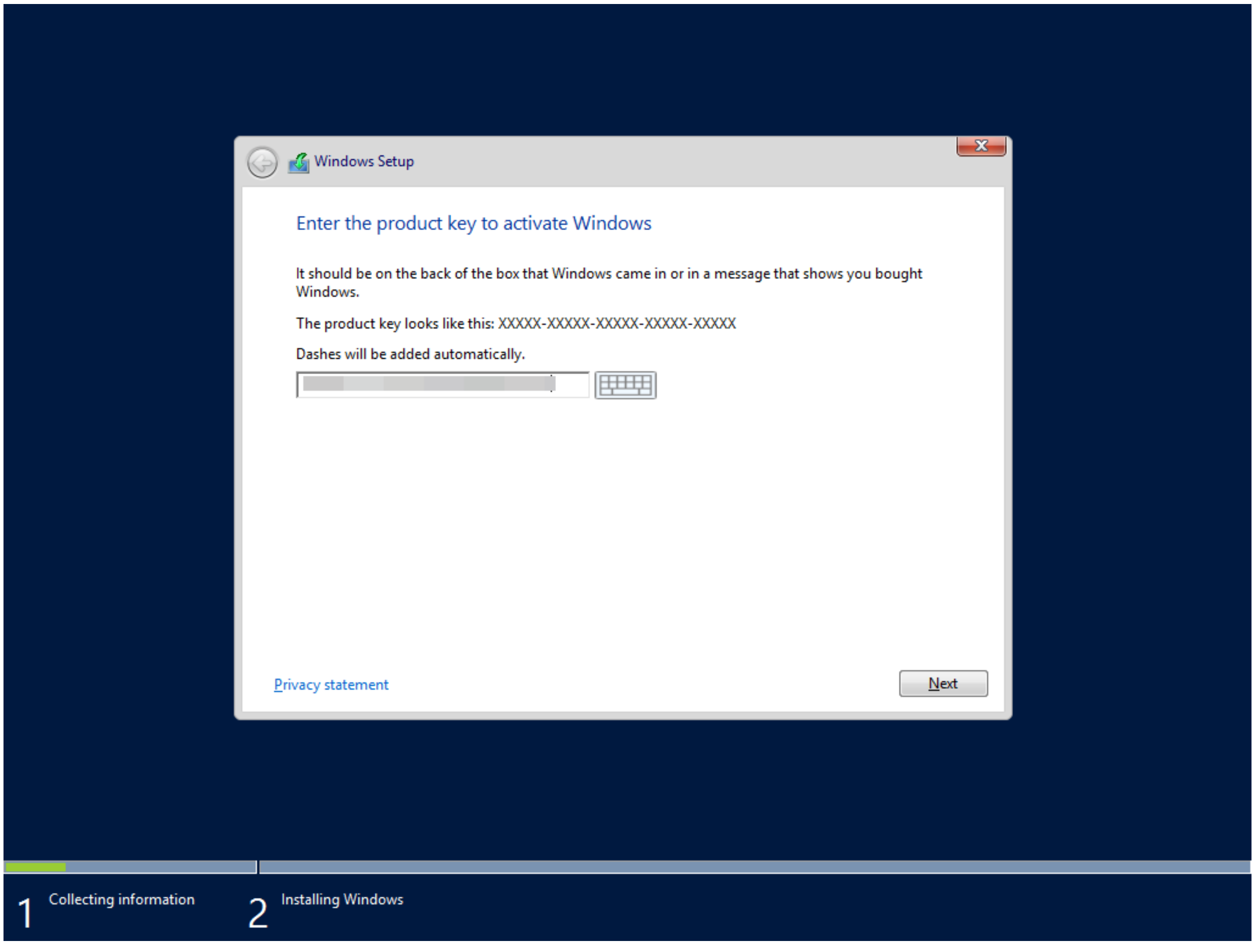
- Click the **Install now** button

You should see a screen saying that setup is starting.



Setup is starting

You’ll be prompted for a license key.



Enter the product key to activate Windows

It should be on the back of the box that Windows came in or in a message that shows you bought Windows.

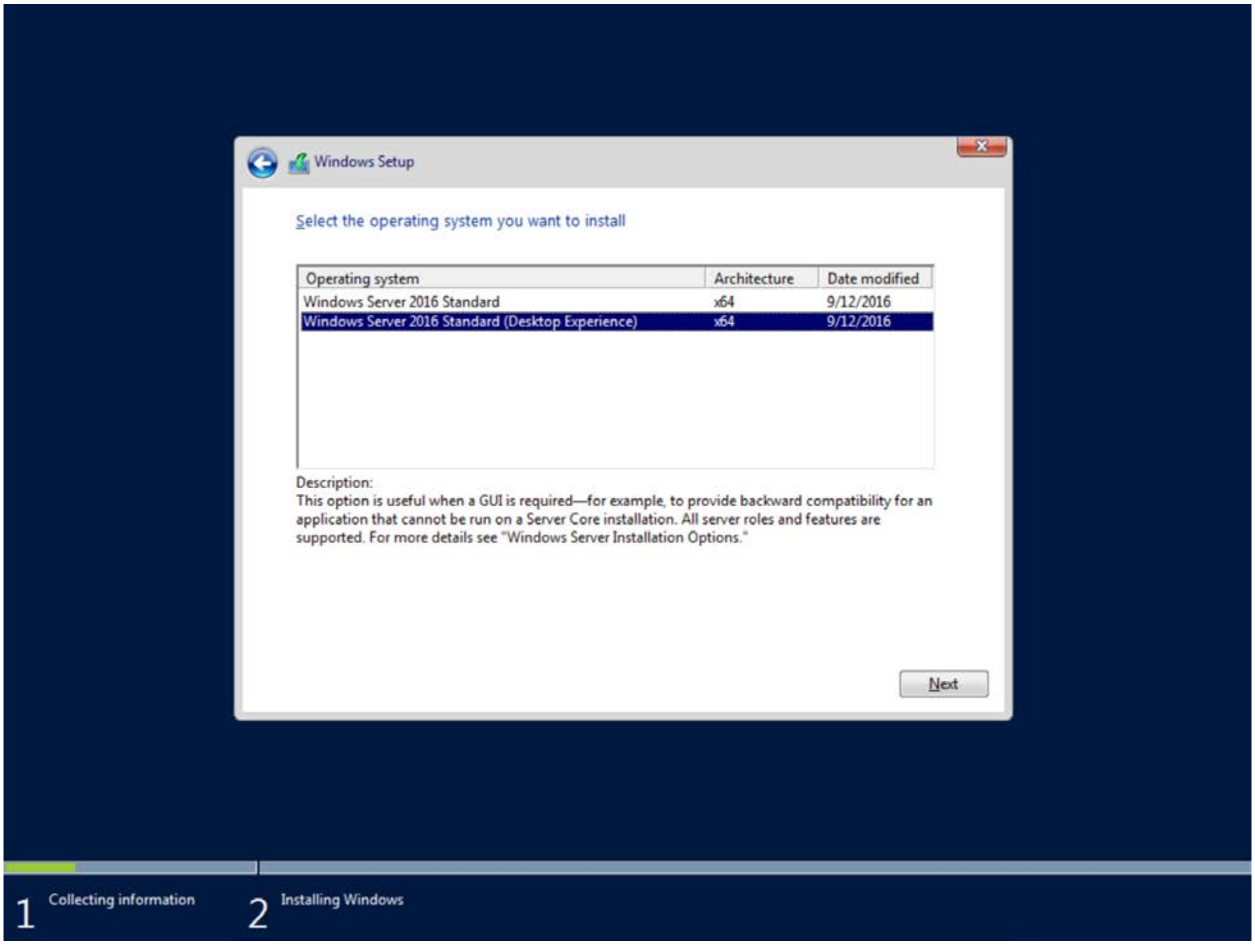
The product key looks like this: XXXXX-XXXXX-XXXXX-XXXXX-XXXXX

Dashes will be added automatically.

[redacted]

- 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).



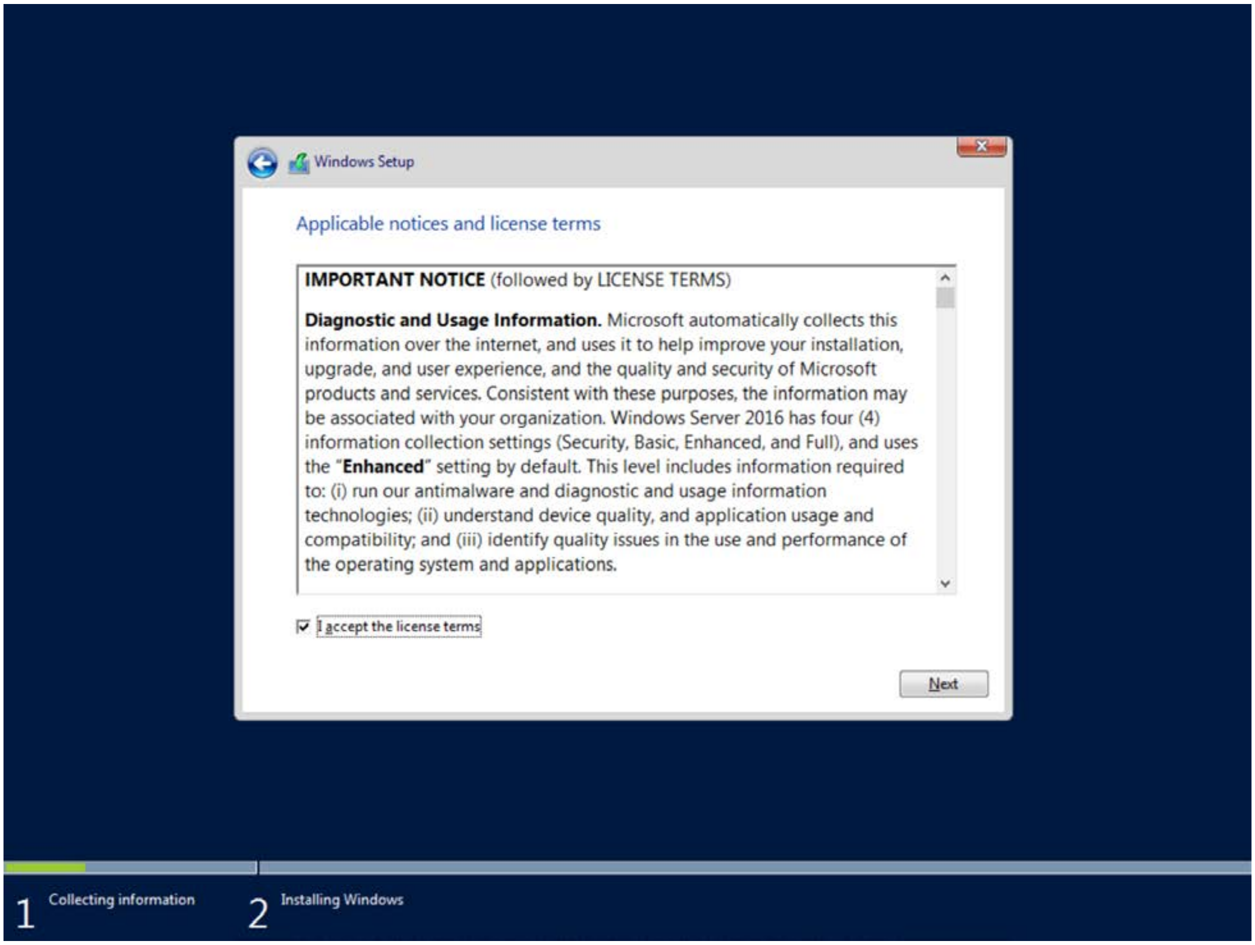
Select the operating system you want to install

Operating system	Architecture	Date modified
Windows Server 2016 Standard	x64	9/12/2016
Windows Server 2016 Standard (Desktop Experience)	x64	9/12/2016

Description:
This option is useful when a GUI is required—for example, to provide backward compatibility for an application that cannot be run on a Server Core installation. All server roles and features are supported. For more details see "Windows Server Installation Options."

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

You'll be shown the license terms.



Applicable notices and license terms

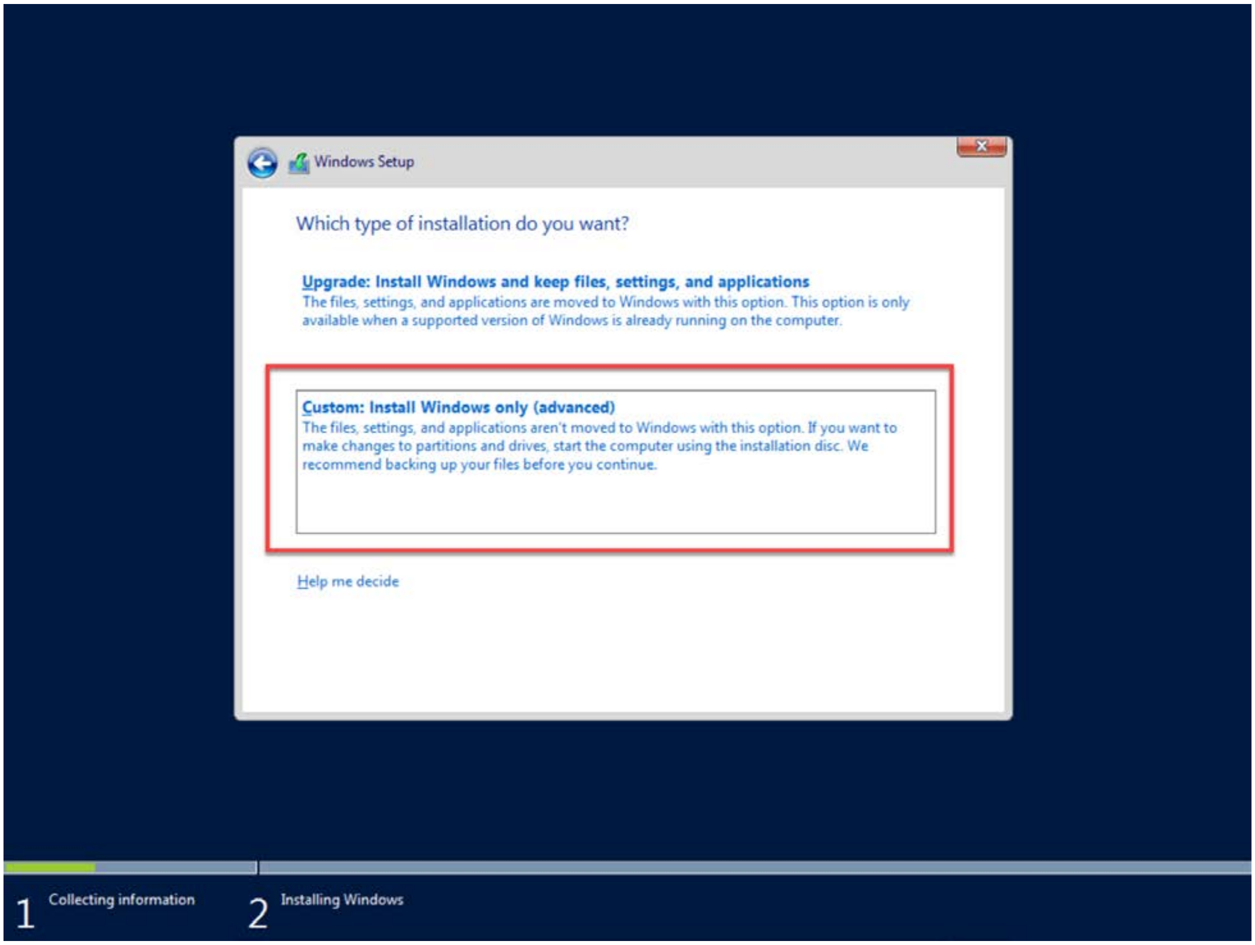
IMPORTANT NOTICE (followed by LICENSE TERMS)

Diagnostic and Usage Information. Microsoft automatically collects this information over the internet, and uses it to help improve your installation, upgrade, and user experience, and the quality and security of Microsoft products and services. Consistent with these purposes, the information may be associated with your organization. Windows Server 2016 has four (4) information collection settings (Security, Basic, Enhanced, and Full), and uses the "**Enhanced**" setting by default. This level includes information required to: (i) run our antimalware and diagnostic and usage information technologies; (ii) understand device quality, and application usage and compatibility; and (iii) identify quality issues in the use and performance of the operating system and applications.

☑ I accept 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.



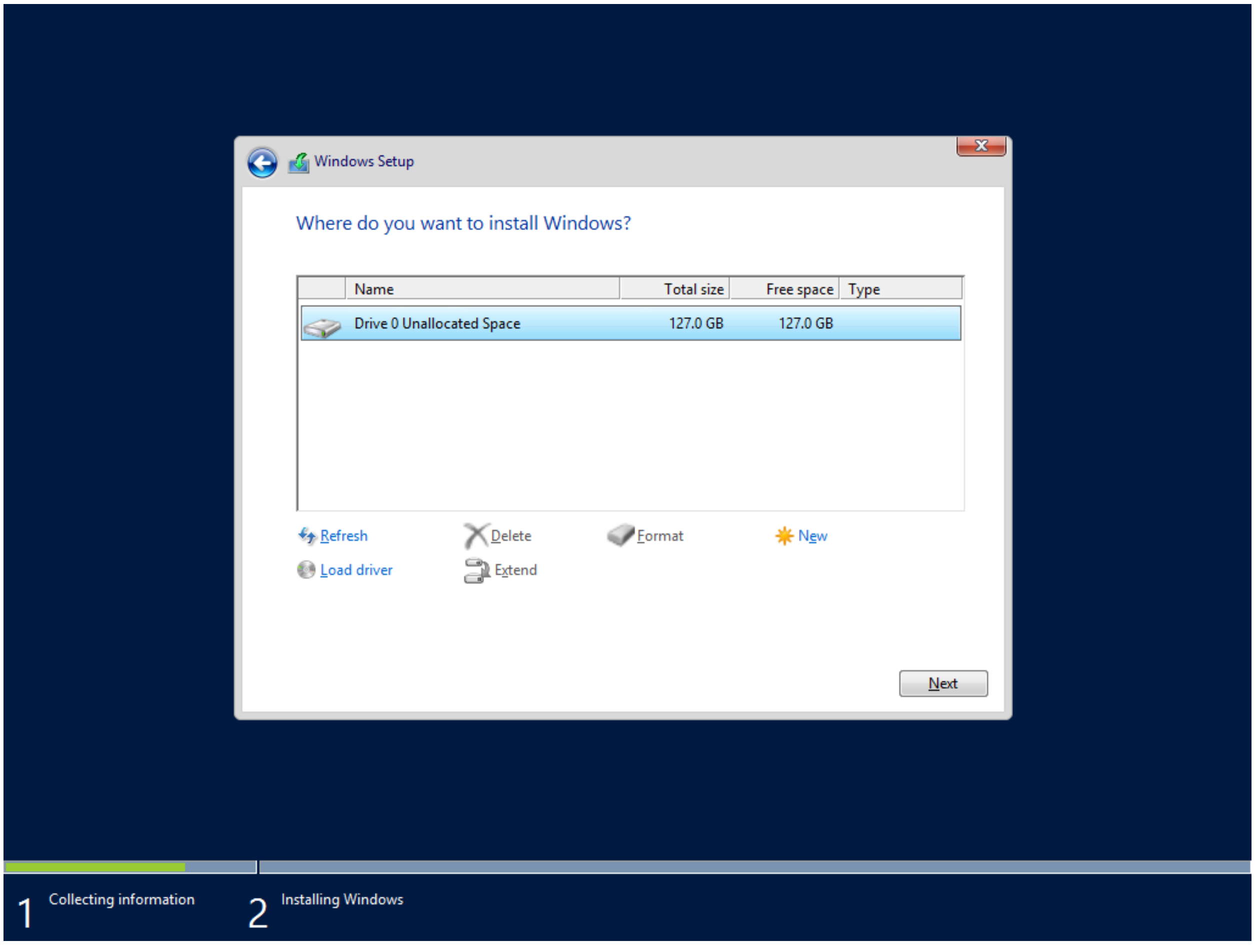
Which type of installation do you want?

Upgrade: Install Windows and keep files, settings, and applications
The files, settings, and applications are moved to Windows with this option. This option is only available when a supported version of Windows is already running on the computer.

Custom: Install Windows only (advanced)
The files, settings, and applications aren't moved to Windows with this option. If you want to make changes to partitions and drives, start the computer using the installation disc. We recommend backing up your files before you continue.

- 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.



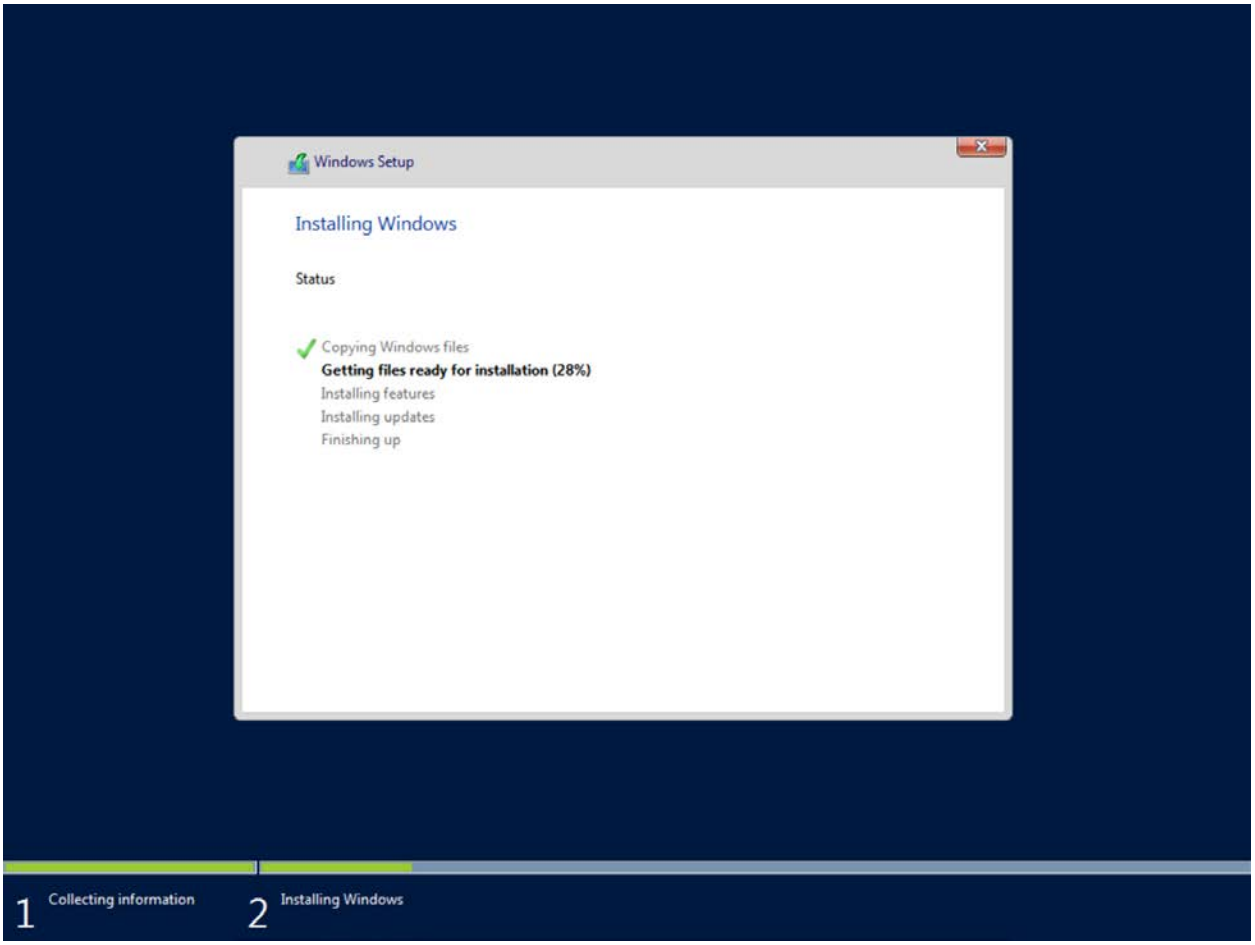
Windows Setup

Where do you want to install Windows?

Name	Total size	Free space	Type
Drive 0 Unallocated Space	127.0 GB	127.0 GB	

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

The installation should now be running.



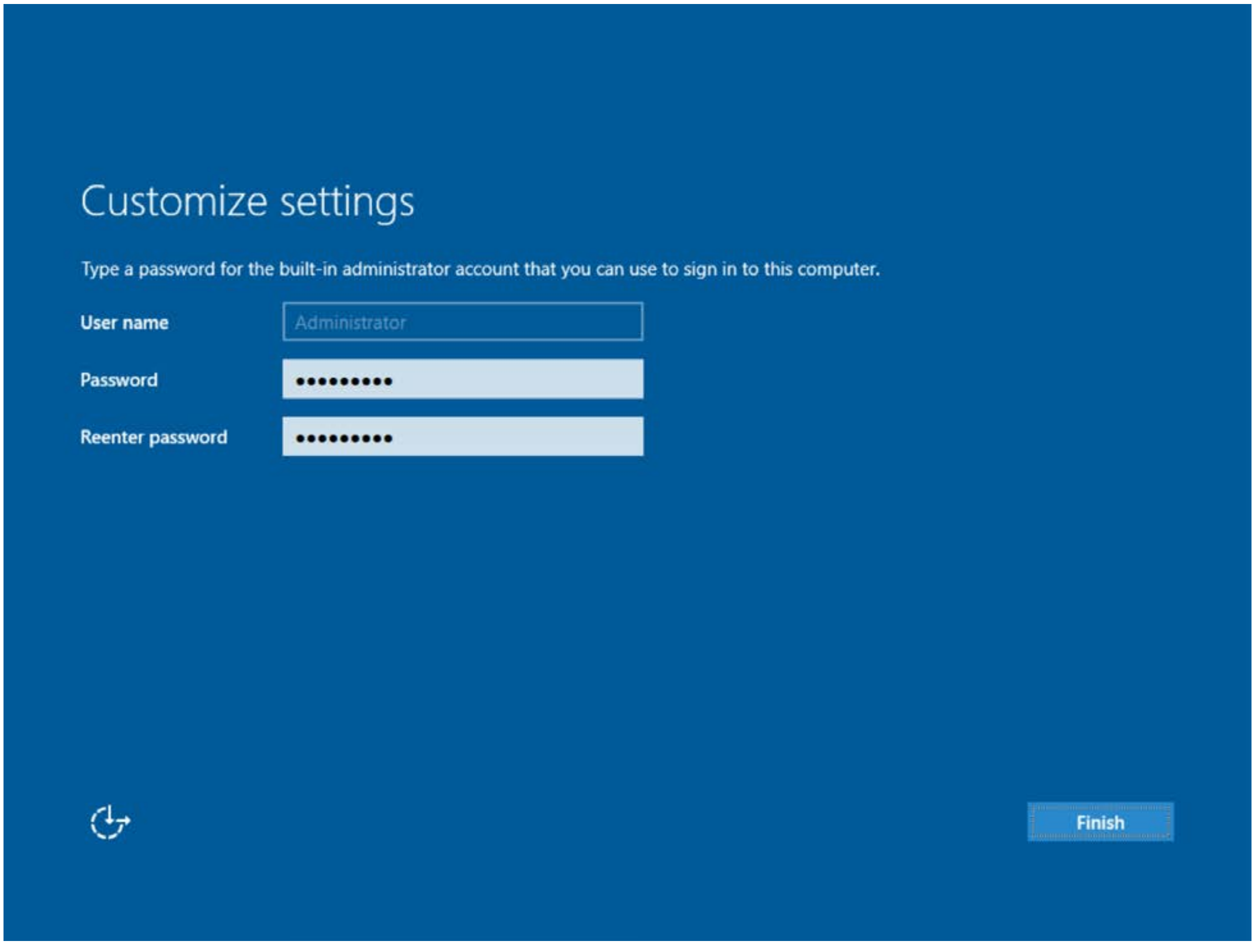
Windows Setup

Installing Windows

Status

✓ Copying Windows files
Getting files ready for installation (28%)
Installing features
Installing updates
Finishing up

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



Customize settings

Type a password for the built-in administrator account that you can use to sign in to this computer.

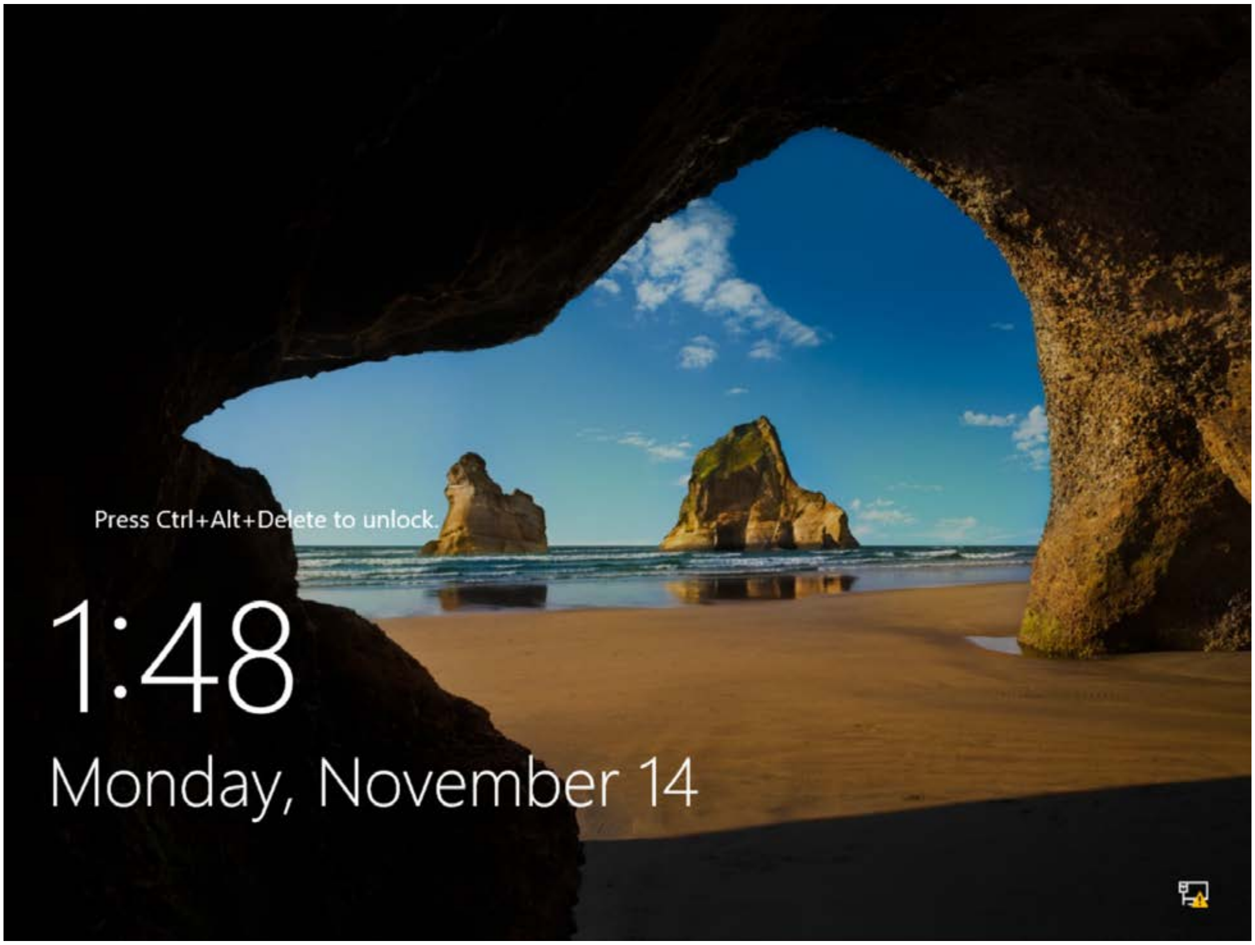
User name: Administrator

Password: ••••••••••

Reenter 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.



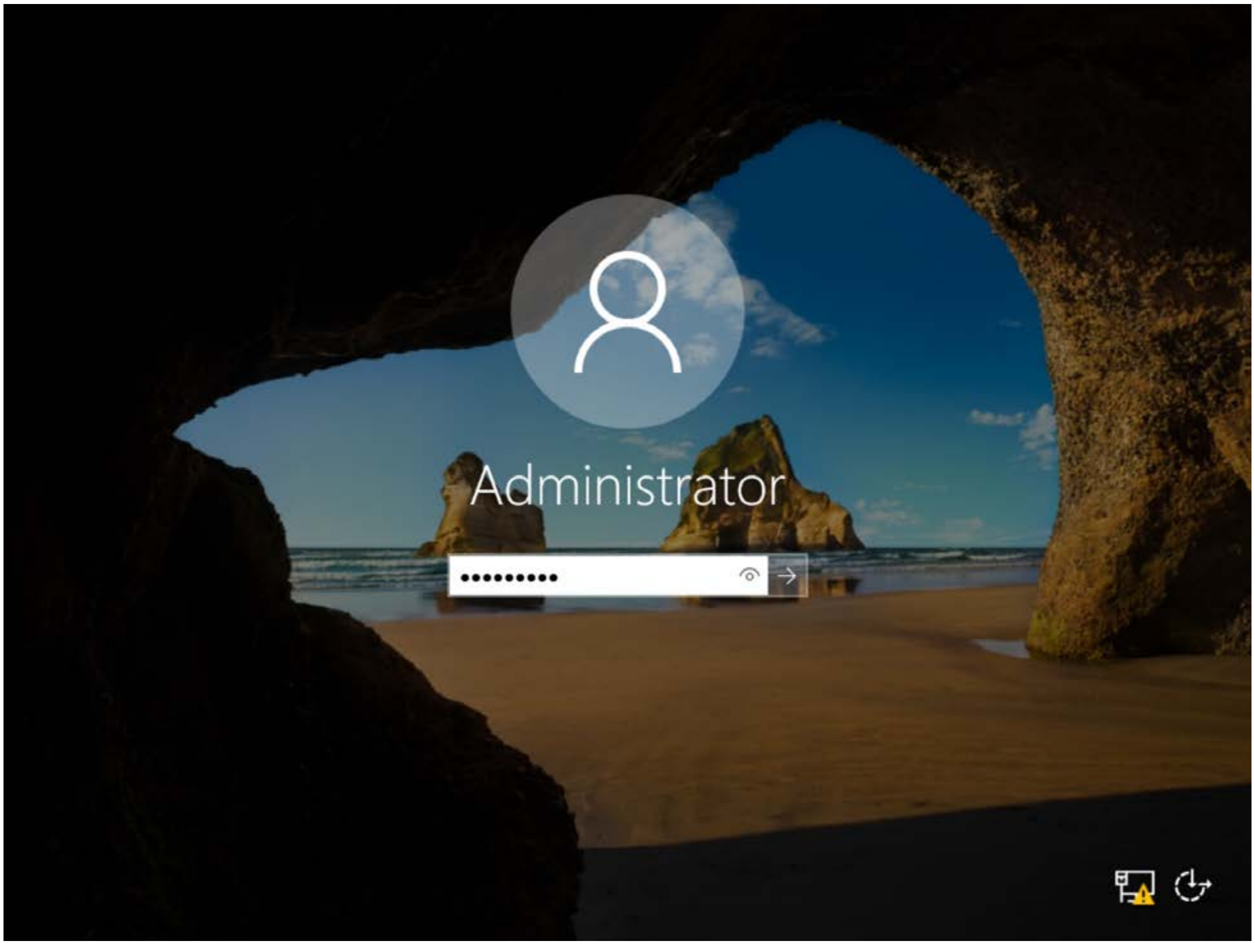
Press Ctrl+Alt+Delete to unlock.

1:48

Monday, November 14

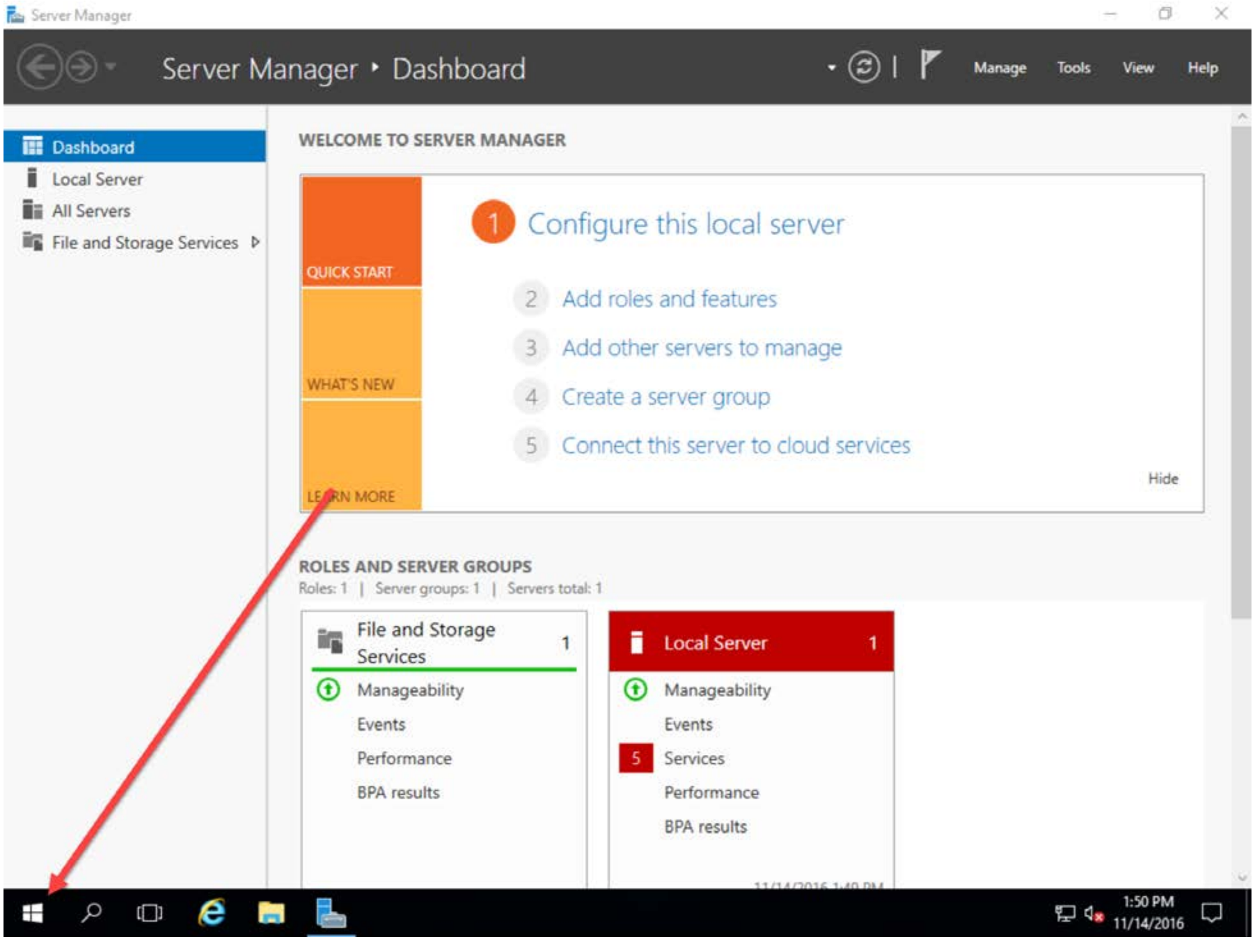
- Type **CTRL-ALT-DEL** to open a login prompt

You should see the login prompt.



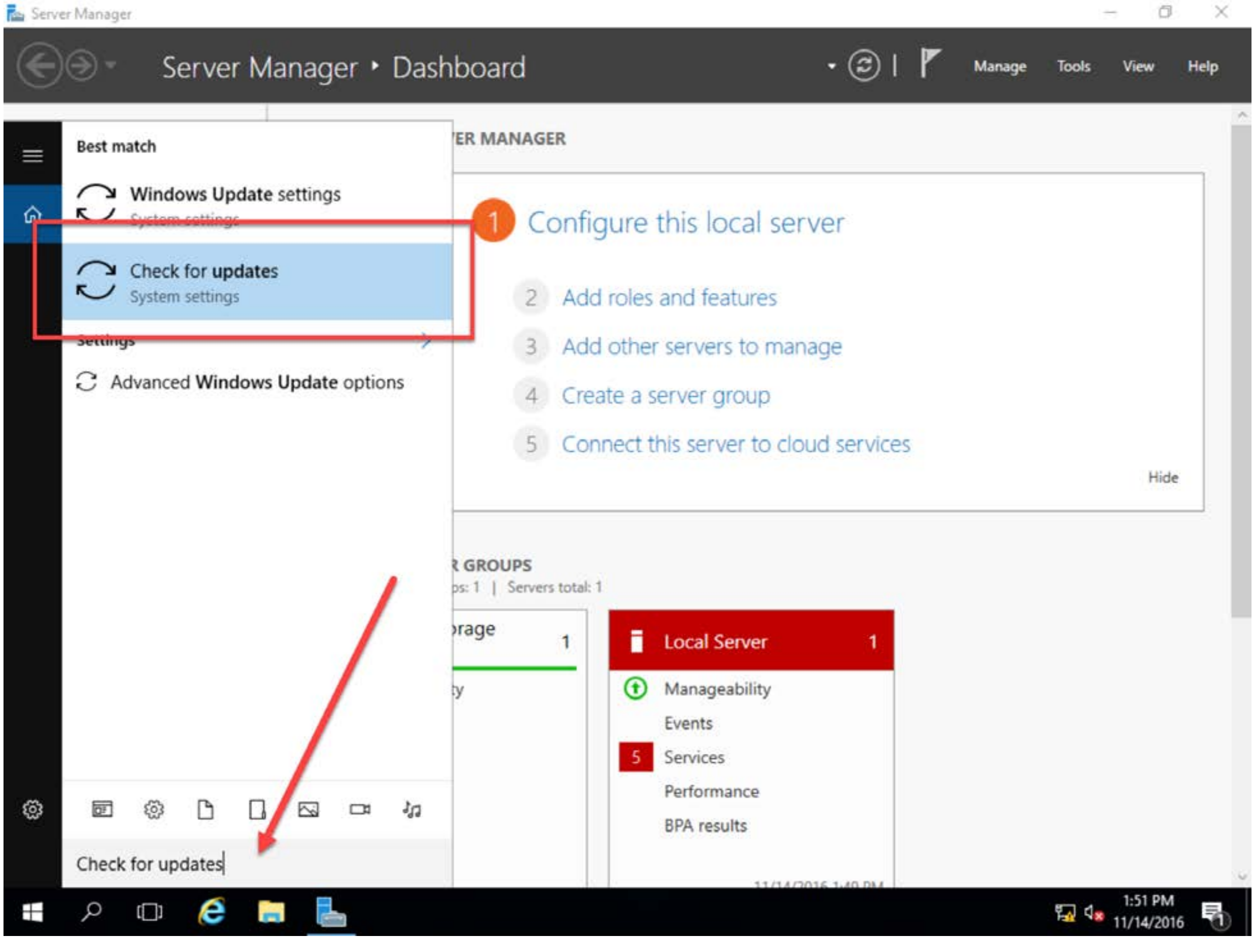
- Enter your **password** followed by **<ENTER>**

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.



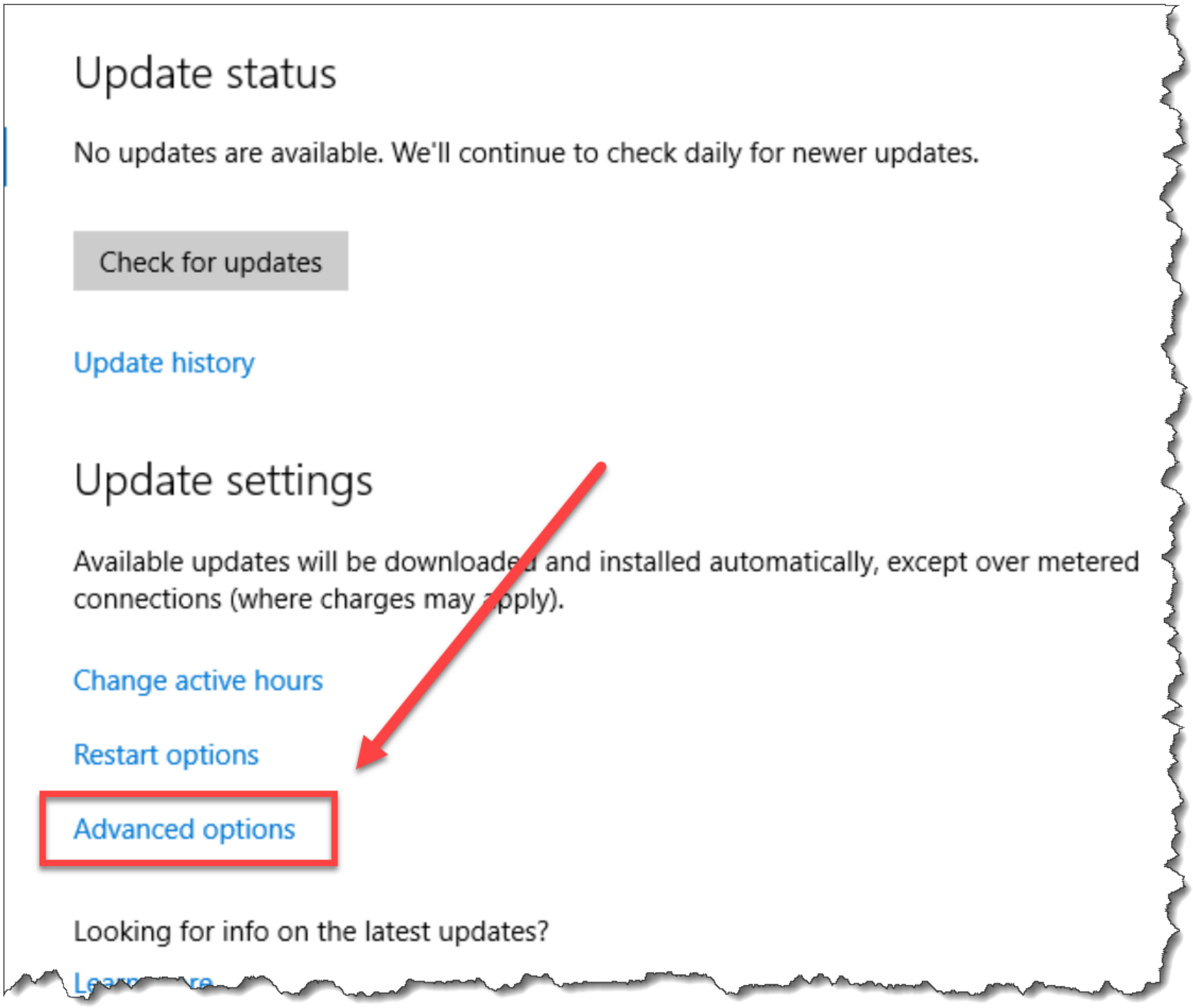
- Click the **Windows button** in the bottom left of the screen to navigate to the Start screen

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.



Update status

No updates are available. We'll continue to check daily for newer updates.

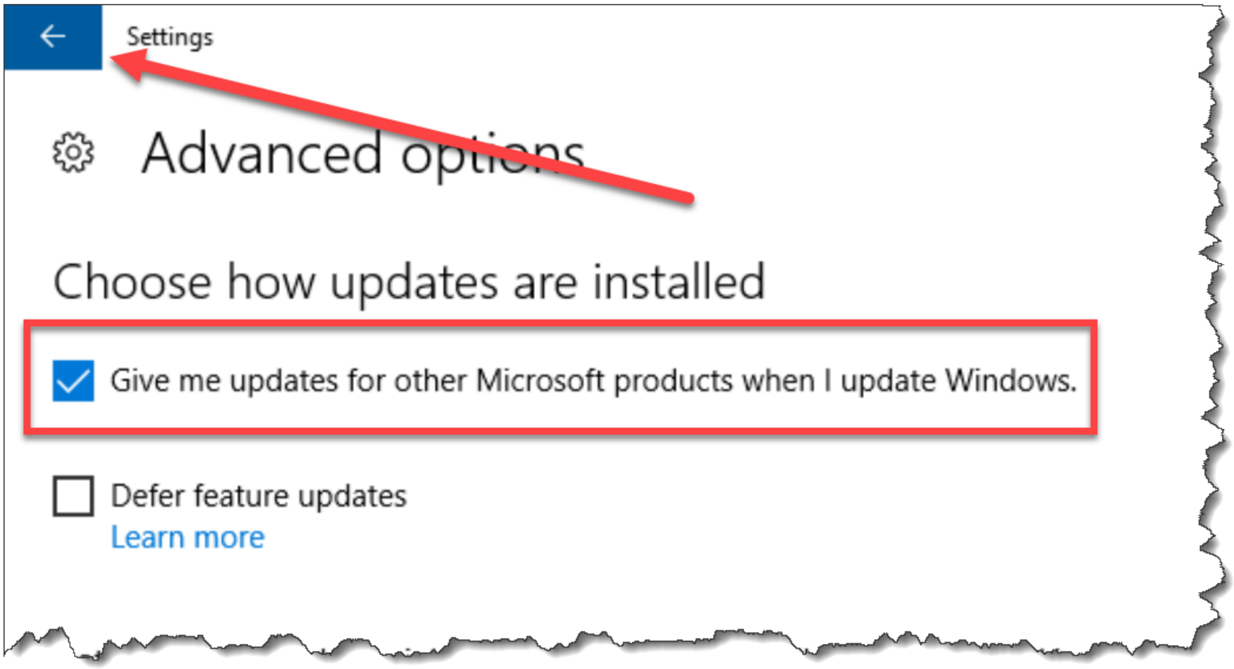
Update settings

Available updates will be downloaded and installed automatically, except over metered connections (where charges may apply).

Looking for info on the latest updates?

- Click the **Advanced options** link

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



Settings

Advanced options

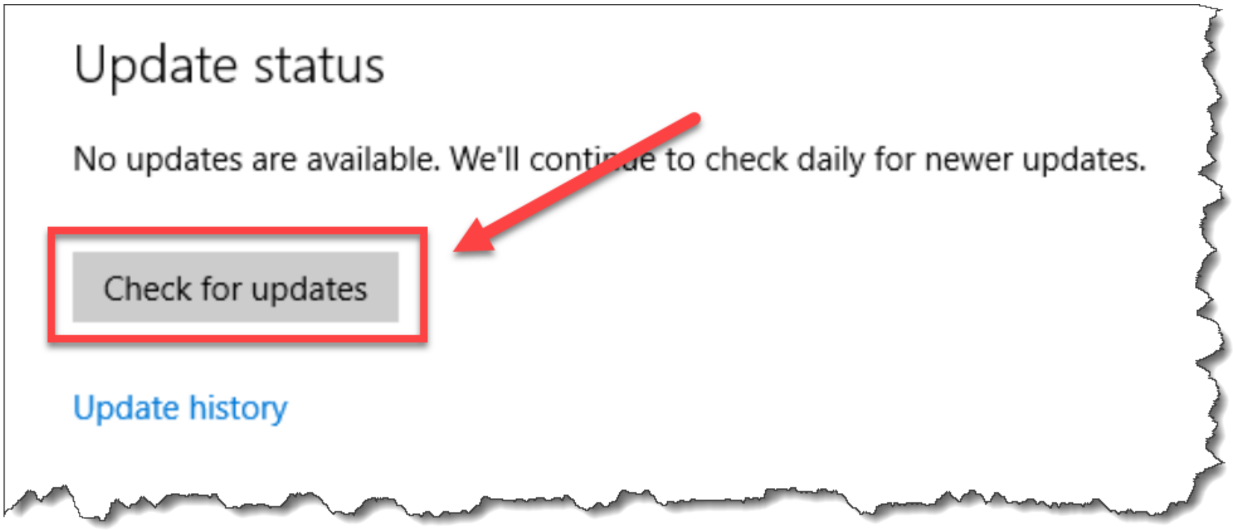
Choose how updates are installed

☑ Give me updates for other Microsoft products when I update Windows.

□ Defer feature updates

- 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.

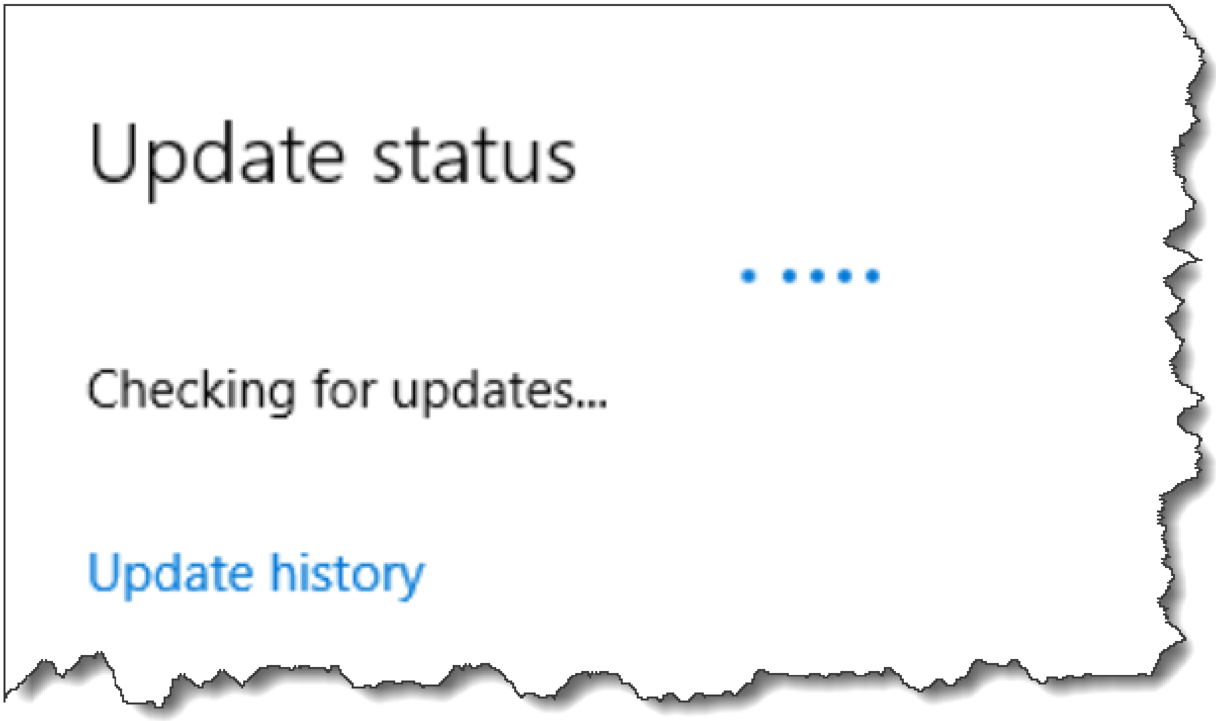


Update status

No updates are available. We'll continue to check daily for newer updates.

- Click the **Check for updates** button

Windows Update should now be checking for updates.



Update status

Checking for updates...

Update history

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.

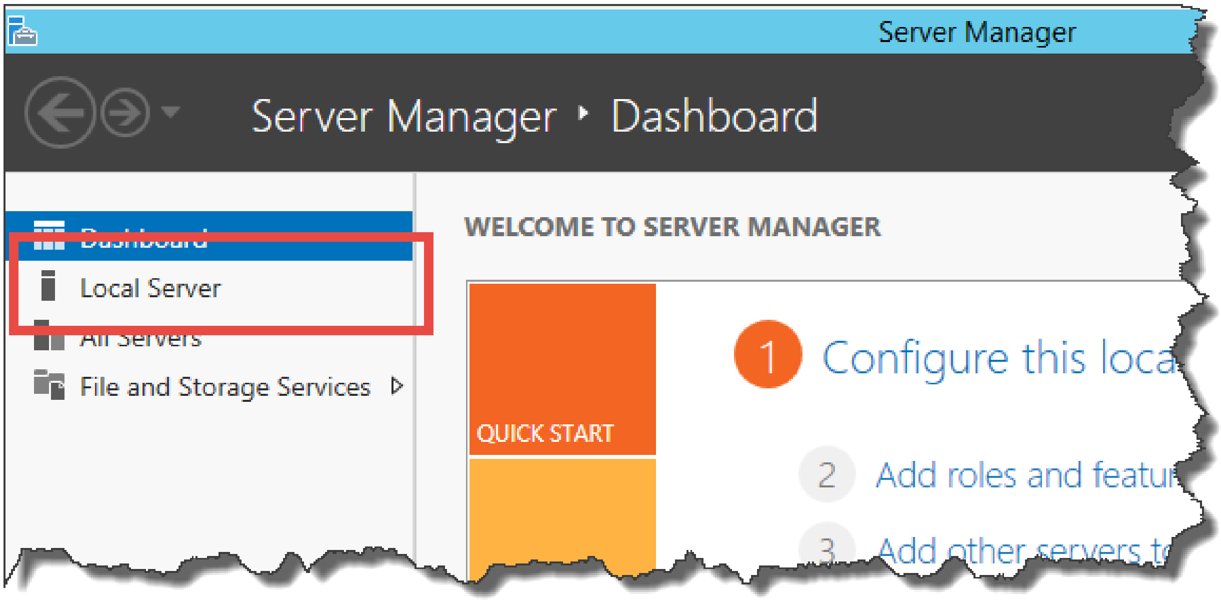
(Optional) Turn off IE Enhanced Security Configuration

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.

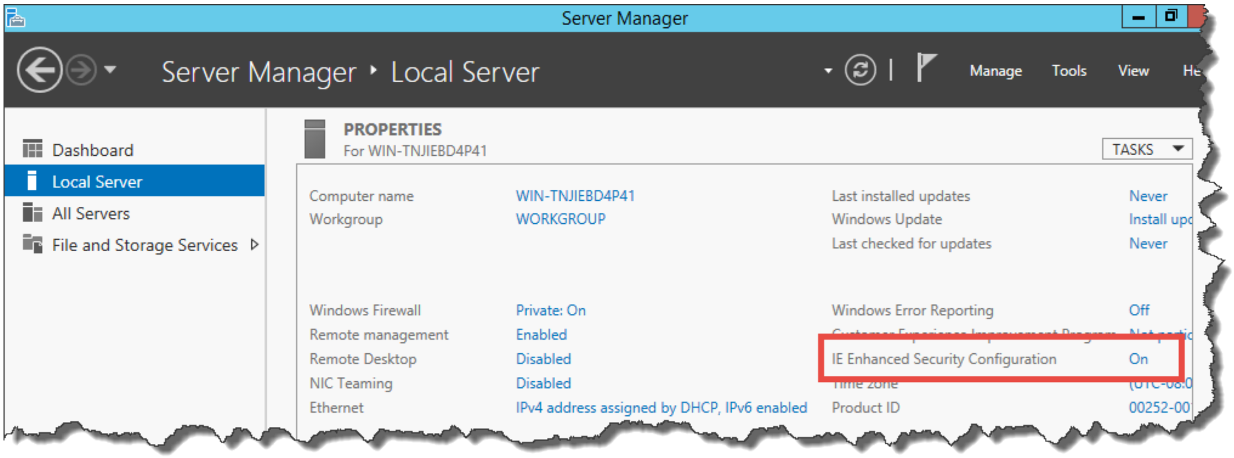
Let's turn it off.

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**.

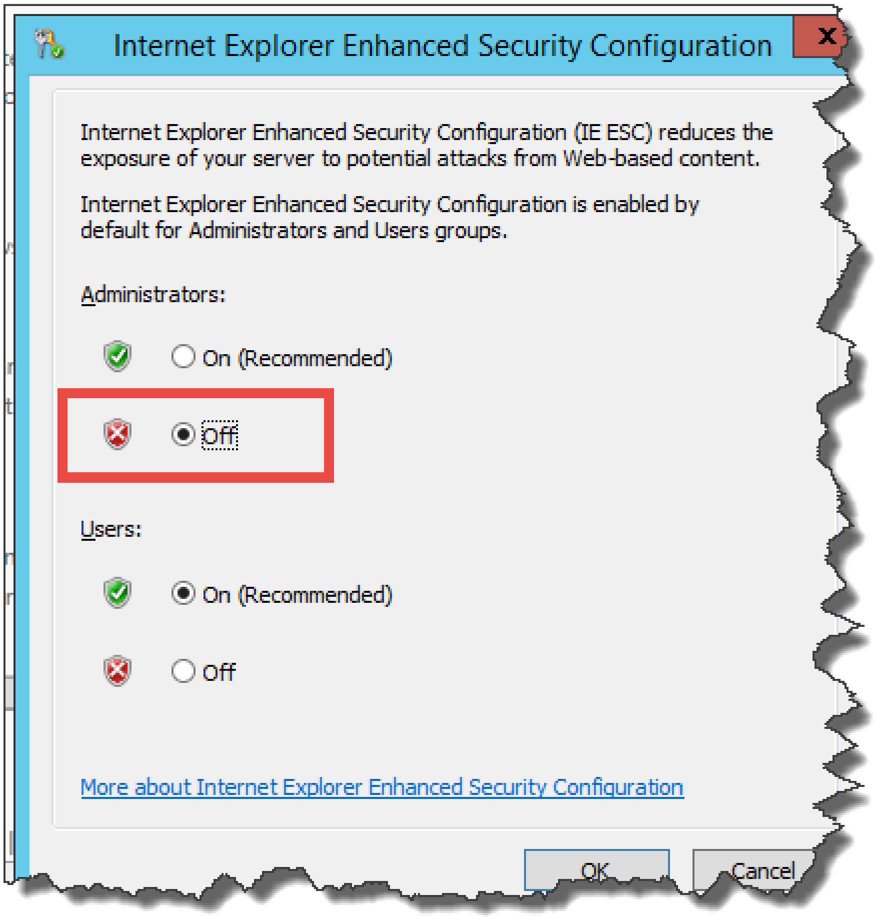


PROPERTIES
For WIN-TNJIEBD4P41

Computer name	WIN-TNJIEBD4P41	Last installed updates	Never
Workgroup	WORKGROUP	Windows Update	Install upc
		Last checked for updates	Never
Windows Firewall	Private: On	Windows Error Reporting	Off
Remote management	Enabled	Customer Experience Improvement Program	Not partic
Remote Desktop	Disabled	IE Enhanced Security Configuration	On
NIC Teaming	Disabled	Time zone	(UTC-08:0
Ethernet	IPv4 address assigned by DHCP, IPv6 enabled	Product ID	00252-00

- Click the link that says **On**

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



Internet Explorer Enhanced Security Configuration

Internet Explorer Enhanced Security Configuration (IE ESC) reduces the exposure of your server to potential attacks from Web-based content.

Internet Explorer Enhanced Security Configuration is enabled by default for Administrators and Users groups.

Administrators:

○ On (Recommended)

● Off

Users:

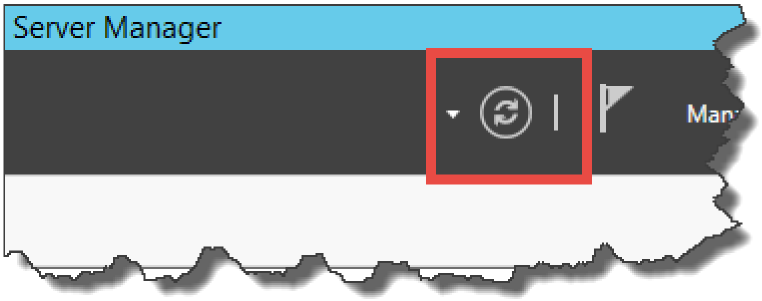
● On (Recommended)

○ Off

More about Internet Explorer Enhanced Security Configuration

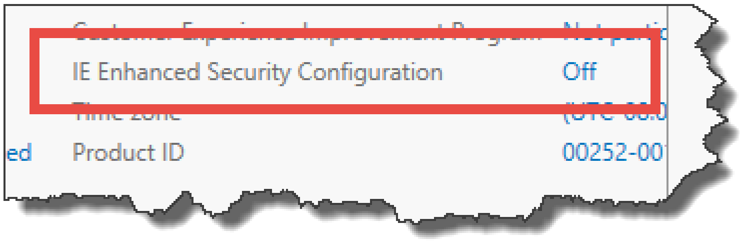
- Under Administrators, select the **Off** radio button
- (Optional) Under Users, select the **Off** radio button
- Click the **OK** button

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.



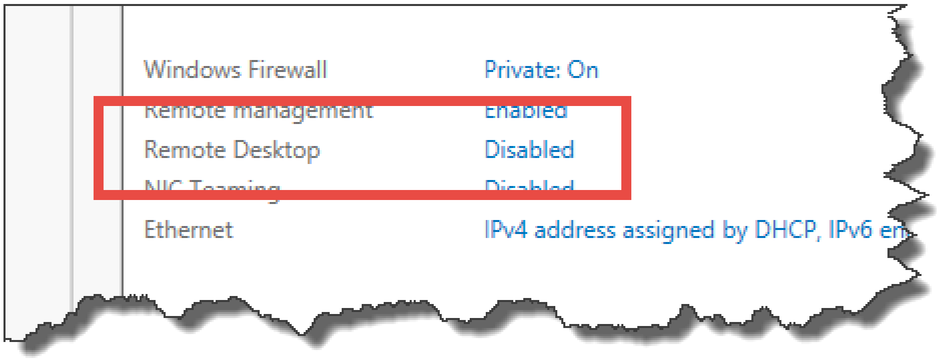
IE Enhanced Security Configuration Off

ed Product ID 00252-00

(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.

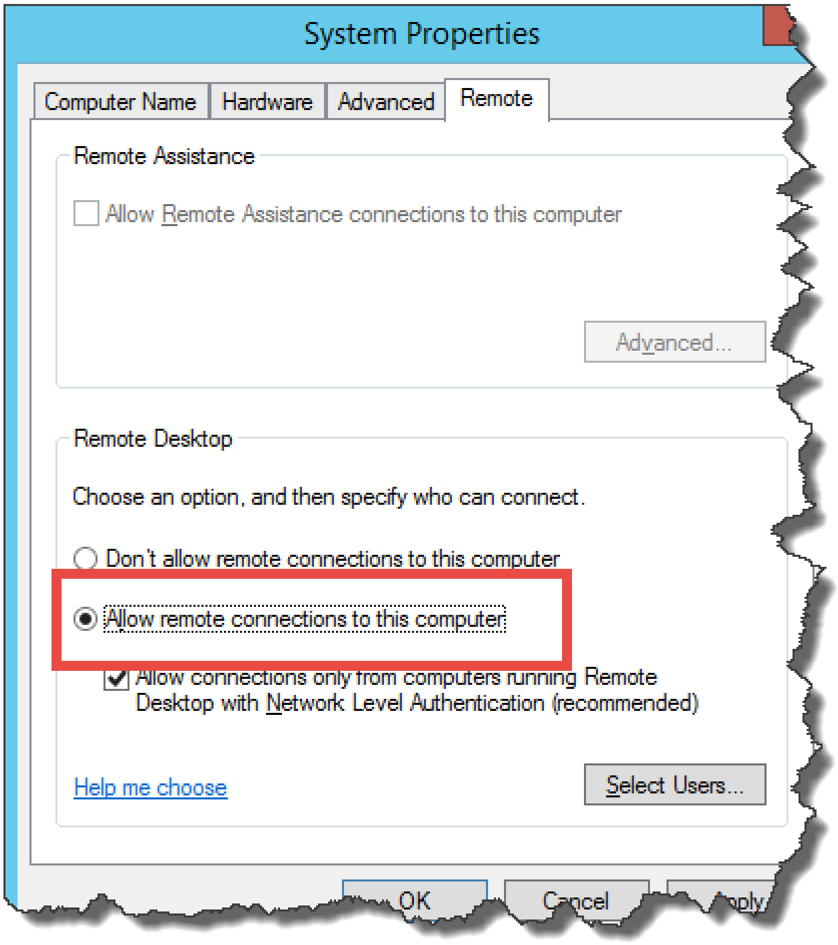
- Find **Remote Desktop** in Server Manager



Windows Firewall	Private: On
Remote management	Enabled
Remote Desktop	Disabled
NIC Teaming	Disabled
Ethernet	IPv4 address assigned by DHCP, IPv6 en

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

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



Remote Assistance

□ Allow Remote Assistance connections to this computer

Remote Desktop

Choose an option, and then specify who can connect.

○ Don't allow remote connections to this computer

● Allow remote connections to this computer

☑ Allow connections only from computers running Remote Desktop with Network Level Authentication (recommended)

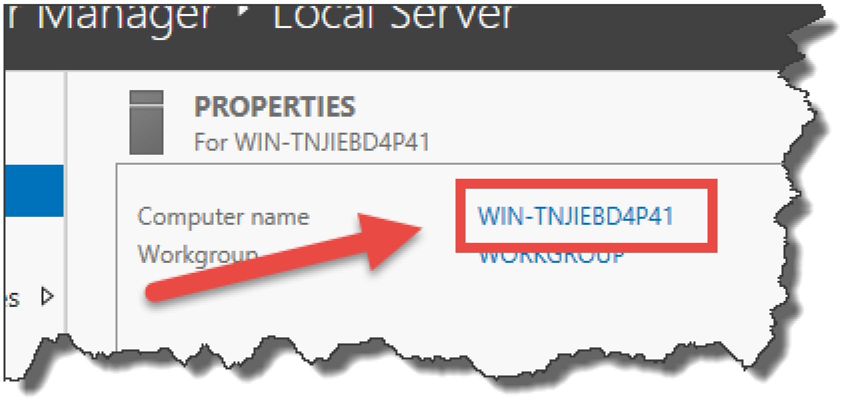
- In the Remote Desktop group, choose **Allow remote connections to this computer**
- Click the **OK** button

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**.



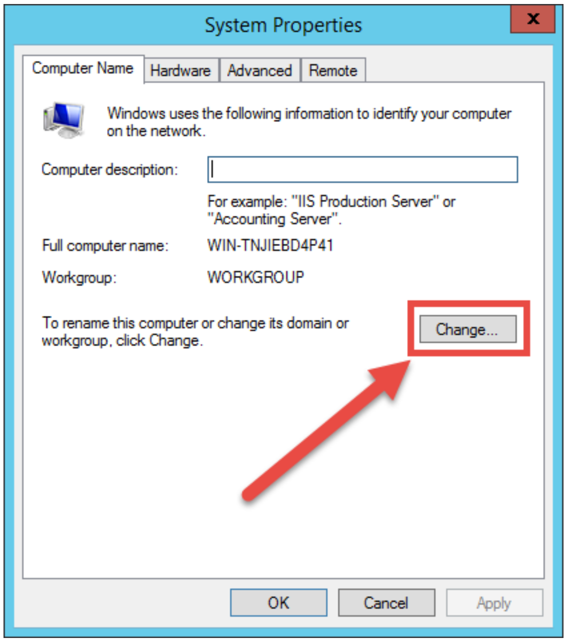
r Manager • Local Server

PROPERTIES
For WIN-TNJIEBD4P41

Computer name WIN-TNJIEBD4P41
Workgroup WORKGROUP

- Click on the computer name link

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



Windows uses the following information to identify your computer on the network.

Computer description:

For example: "IIS Production Server" or "Accounting Server".

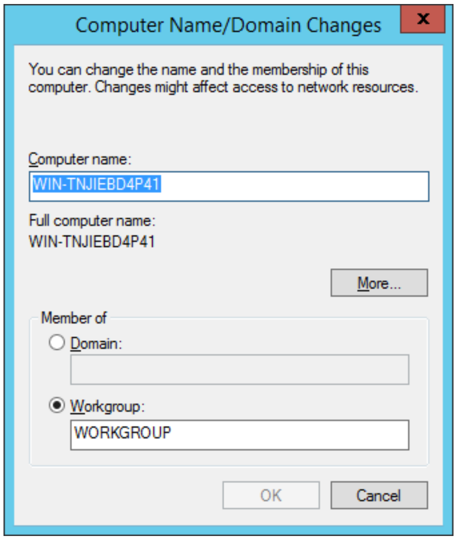
Full computer name: WIN-TNJIEBD4P41

Workgroup: WORKGROUP

To rename this computer or change its domain or workgroup, click Change.

- 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.



Computer Name/Domain Changes

You can change the name and the membership of this computer. Changes might affect access to network resources.

Computer name: WIN-TNJIEBD4P41

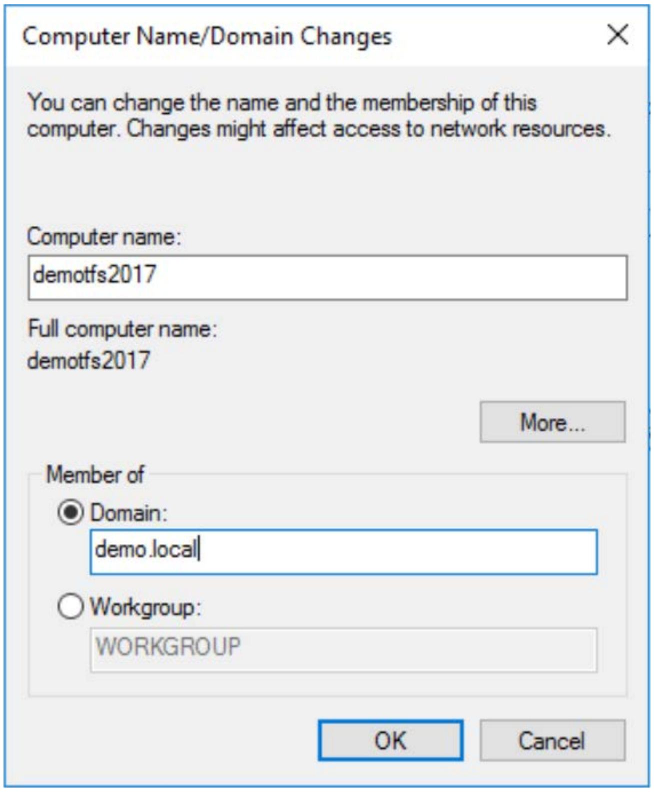
Full computer name:
WIN-TNJIEBD4P41

Member of

○ Domain:

● Workgroup: WORKGROUP

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.



Computer Name/Domain Changes

You can change the name and the membership of this computer. Changes might affect access to network resources.

Computer name: demotfs2017

Full computer name: demotfs2017

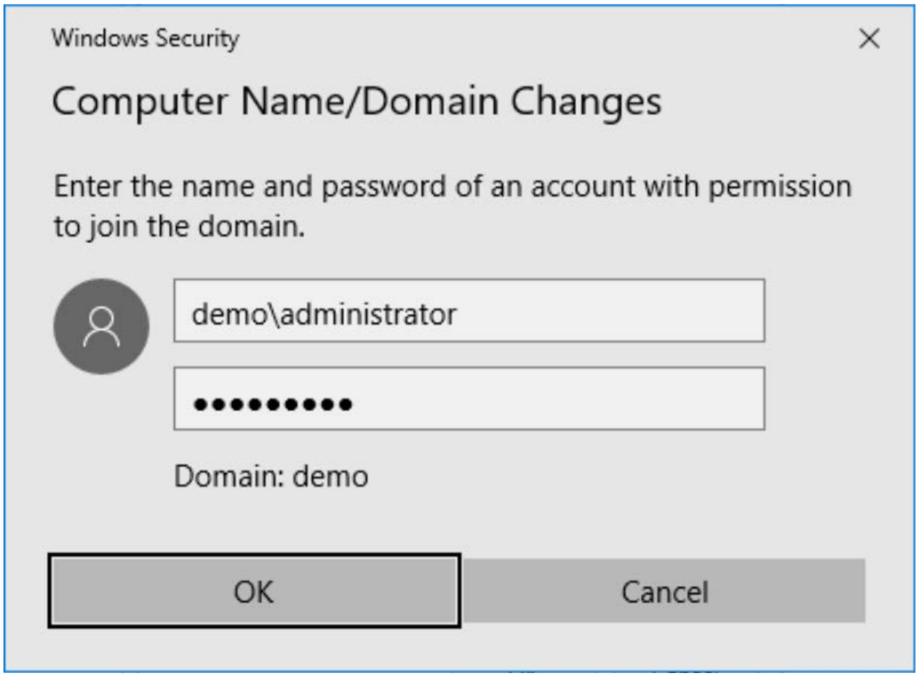
Member of

● Domain: demo.local

○ Workgroup: WORKGROUP

- 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.



Windows Security

Computer Name/Domain Changes

Enter the name and password of an account with permission to join the domain.

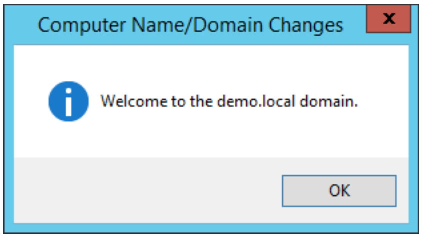
demo\administrator

●●●●●●●●●

Domain: demo

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

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

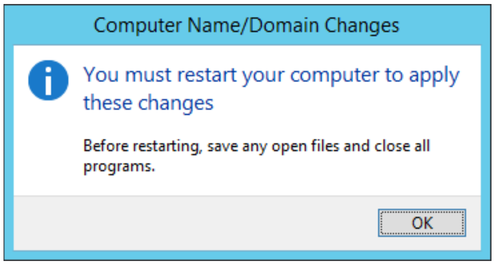


Computer Name/Domain Changes

Welcome to the demo.local domain.

- Click **OK**

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

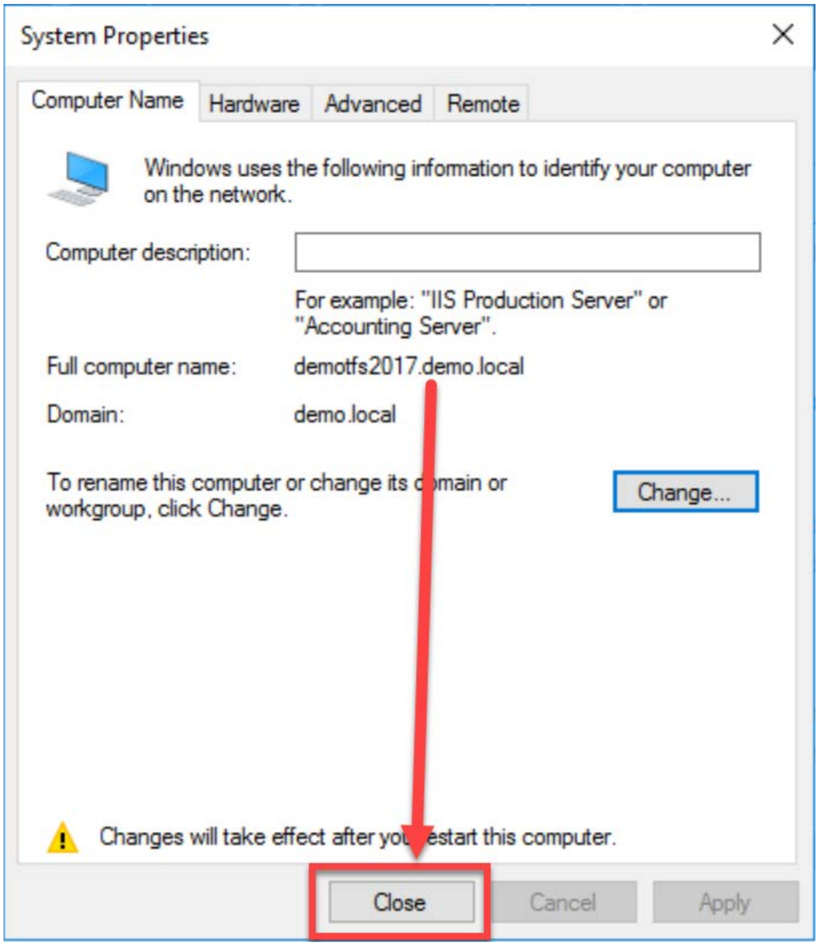


Computer Name/Domain Changes

You must restart your computer to apply these changes

Before restarting, save any open files and close all programs.

- Click the **OK** button



System Properties

Windows uses the following information to identify your computer on the network.

Computer description:

For example: "IIS Production Server" or "Accounting Server".

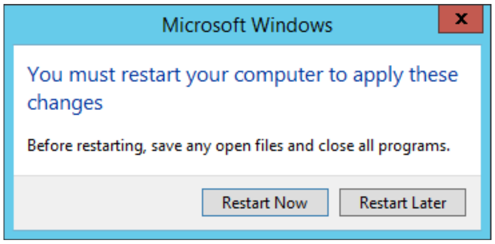
Full computer name: demotfs2017.demo.local

Domain: demo.local

To rename this computer or change its domain or workgroup, click Change.

Changes will take effect after you restart this computer.

- Click the **Close** button



Microsoft Windows

You must restart your computer to apply these changes

Before restarting, save any open files and close all programs.

- 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.

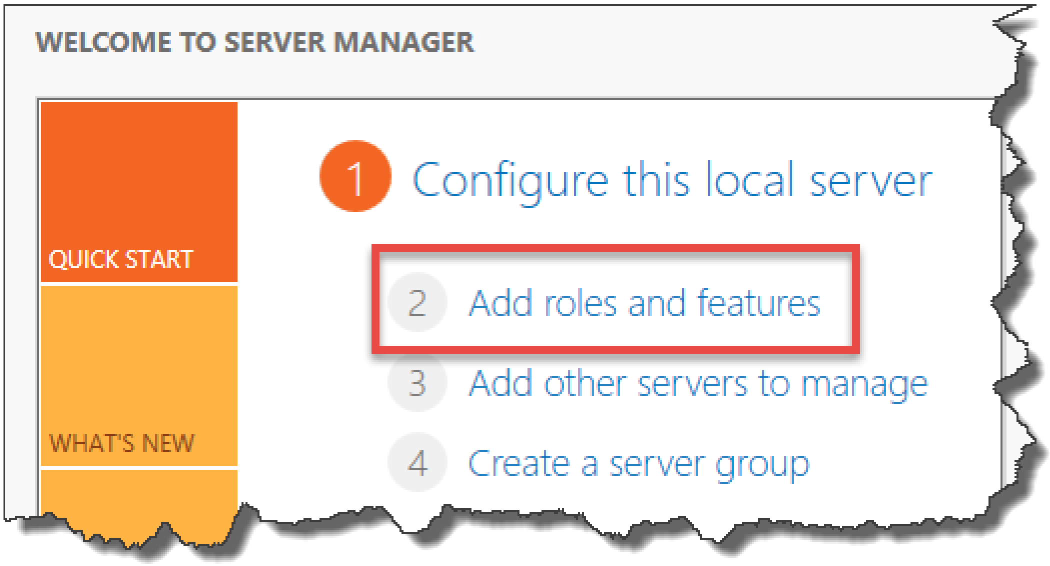
NOTE: It is *optional* but you might find it helpful to configure this server to have a static IP address and a static A record entry in your DNS server.

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.

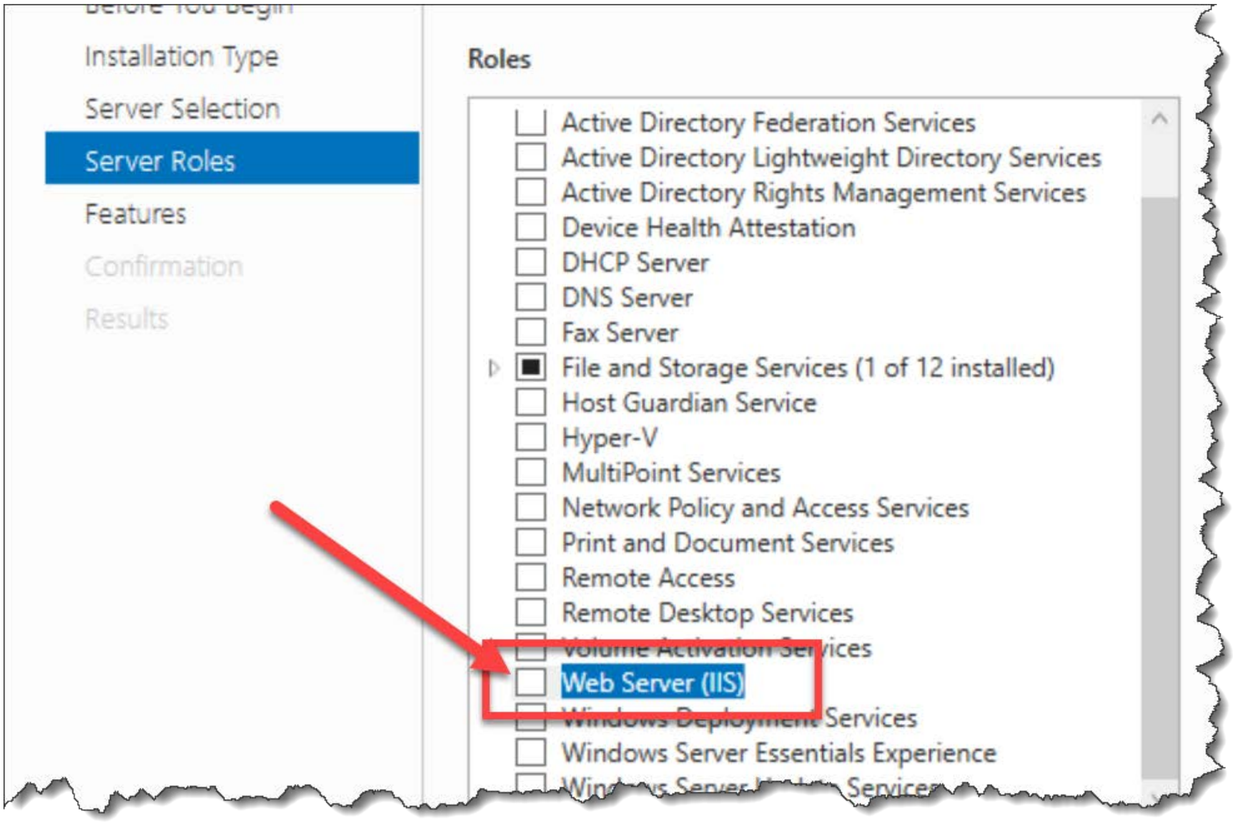
- Log on to the server using an account that is a member of the **Administrators** group
- Run **Server Manager**

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


WELCOME TO SERVER MANAGER
QUICK START
WHAT'S NEW
1 Configure this local server
2 Add roles and features
3 Add other servers to manage
4 Create a server group

- 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.

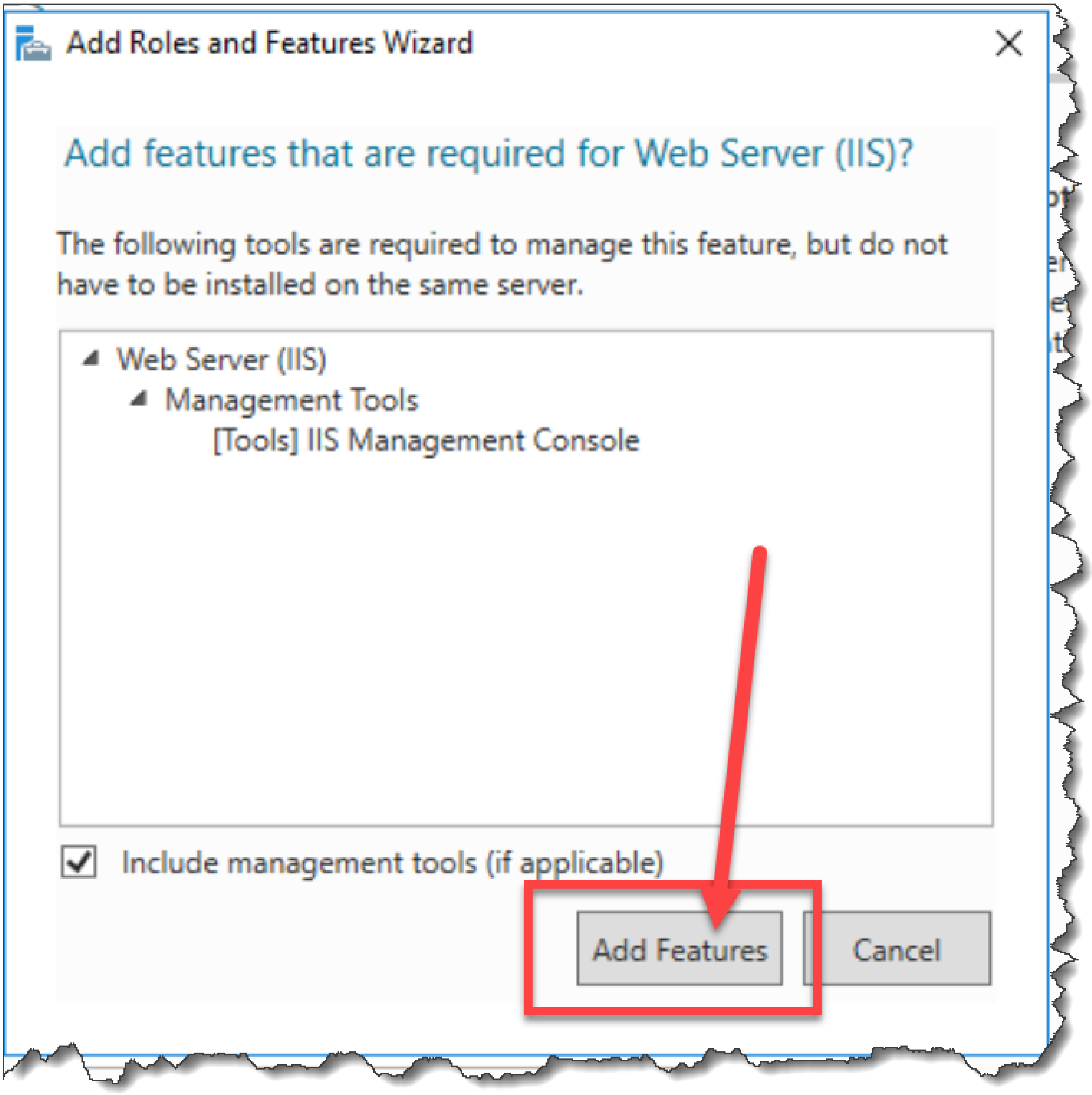


Roles

- □ Active Directory Federation Services
- □ Active Directory Lightweight Directory Services
- □ Active Directory Rights Management Services
- □ Device Health Attestation
- □ DHCP Server
- □ DNS Server
- □ Fax Server
- ■ File and Storage Services (1 of 12 installed)
- □ Host Guardian Service
- □ Hyper-V
- □ MultiPoint Services
- □ Network Policy and Access Services
- □ Print and Document Services
- □ Remote Access
- □ Remote Desktop Services
- □ Volume Activation Services
- □ Web Server (IIS)
- □ Windows Deployment Services
- □ Windows Server Essentials Experience
- □ Windows Server Update Services

- Check **Web Server (IIS)**

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



Add Roles and Features Wizard

Add features that are required for Web Server (IIS)?

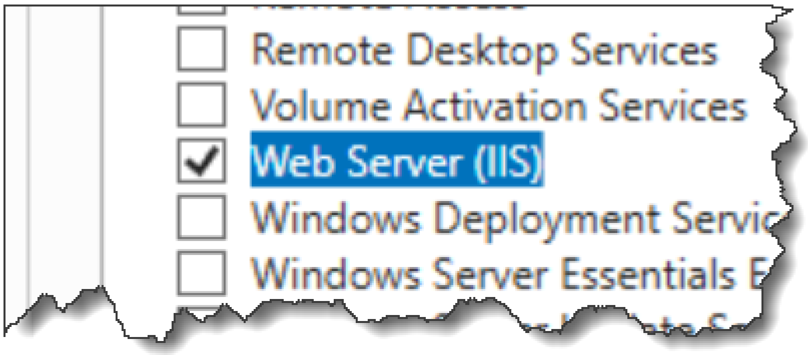
The following tools are required to manage this feature, but do not have to be installed on the same server.

- Web Server (IIS)
  - Management Tools
    - [Tools] IIS Management Console

☑ Include management tools (if applicable)

- Click **Add Features**

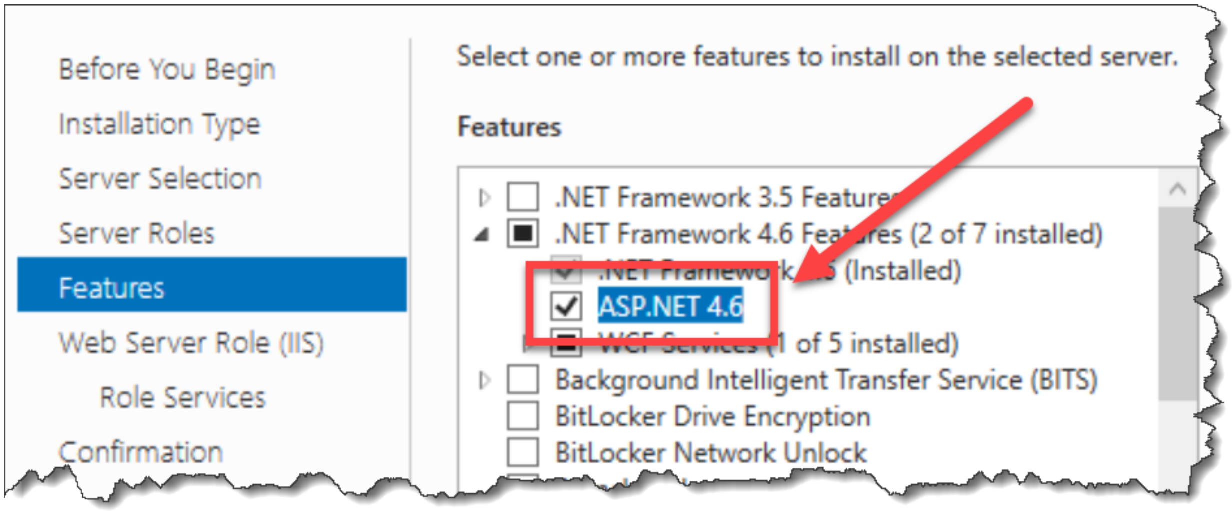
Web Server (IIS) should now be checked.



□ Remote Desktop Services
□ Volume Activation Services
☑ Web Server (IIS)
□ Windows Deployment Servic
□ Windows Server Essentials E

- Click **Next**

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

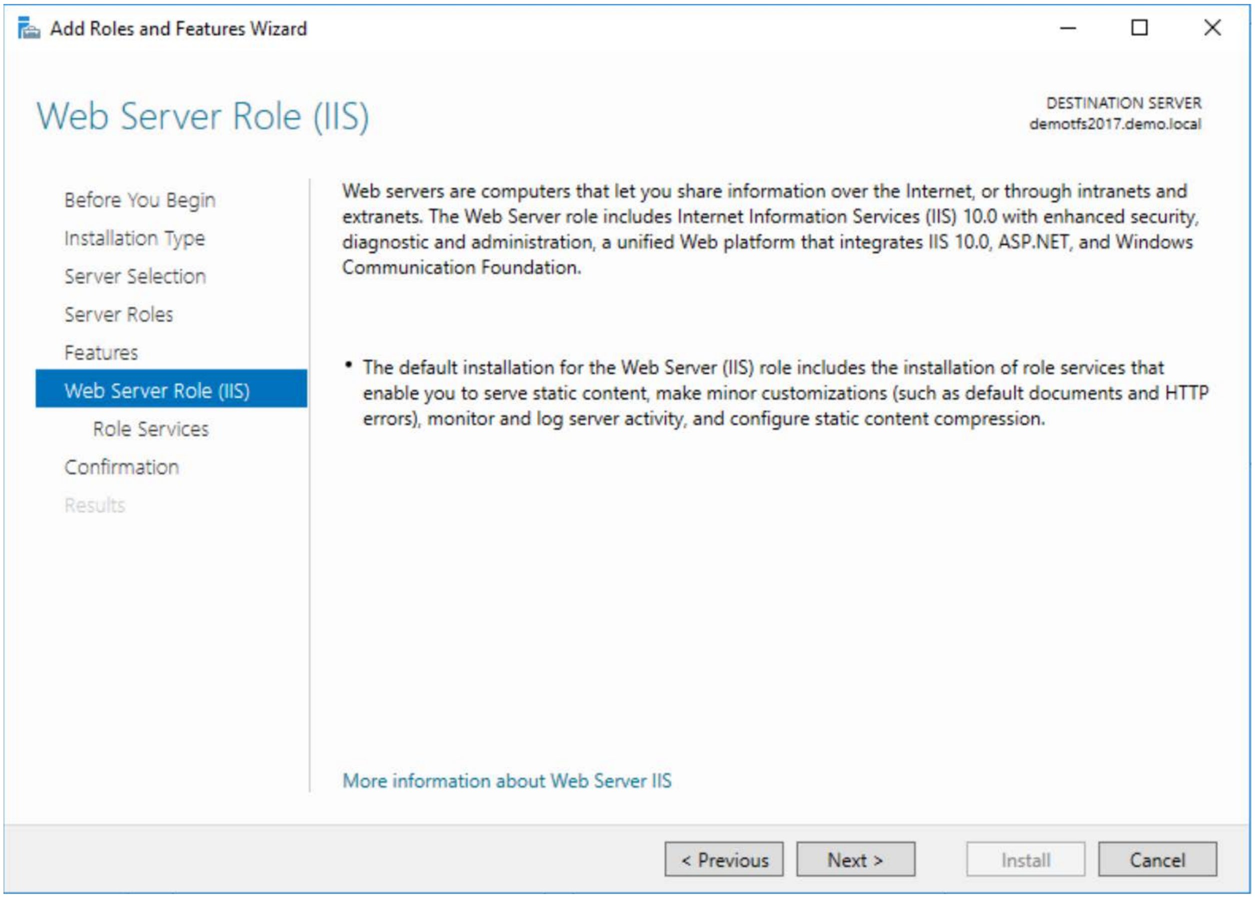


Select one or more features to install on the selected server.

□ .NET Framework 3.5 Features
■ .NET Framework 4.6 Features (2 of 7 installed)
☑ .NET Framework 4.6 (Installed)
☑ ASP.NET 4.6
■ WCF Services (1 of 5 installed)
□ Background Intelligent Transfer Service (BITS)
□ BitLocker Drive Encryption
□ BitLocker Network Unlock

- 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.



Web Server Role (IIS)

DESTINATION SERVER
demotfs2017.demo.local

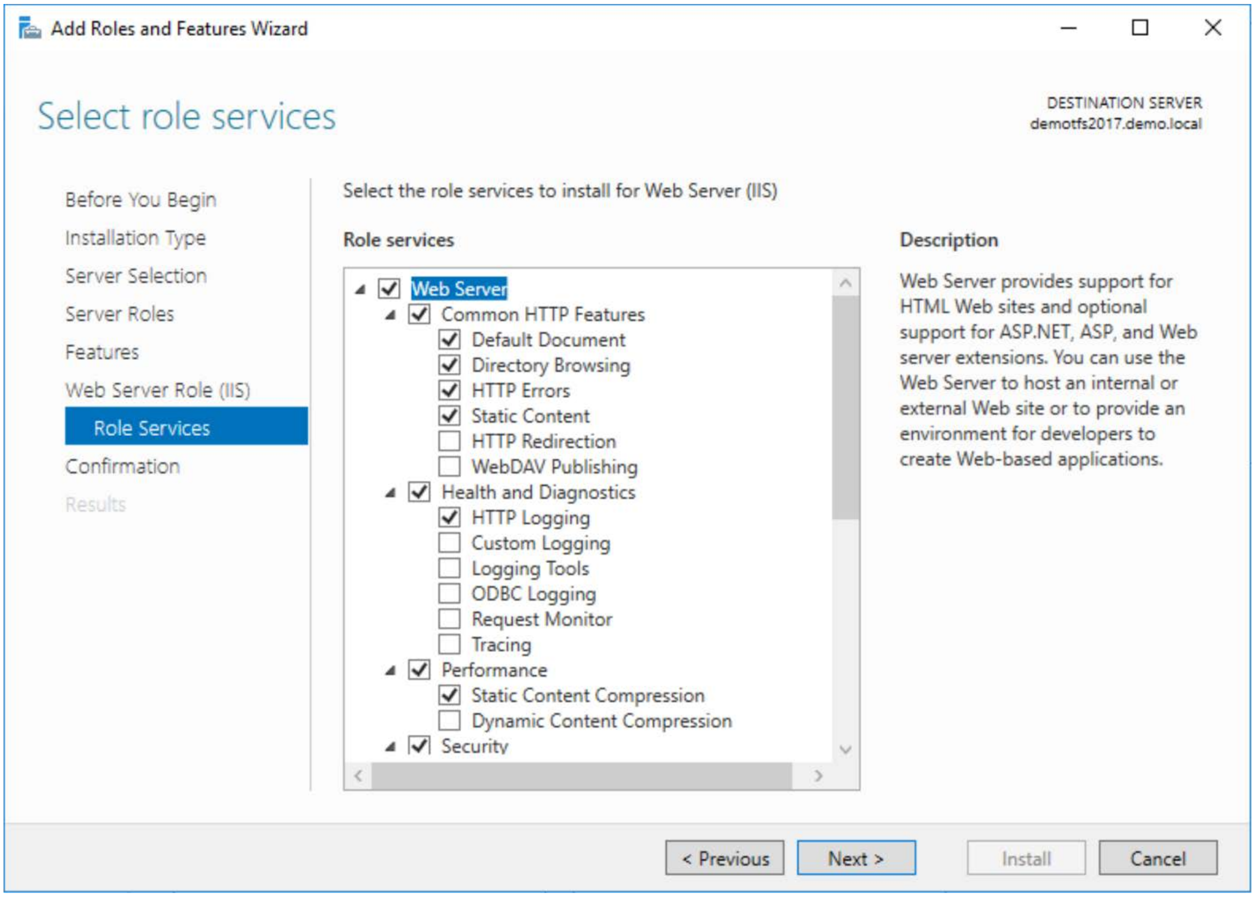
Web servers are computers that let you share information over the Internet, or through intranets and extranets. The Web Server role includes Internet Information Services (IIS) 10.0 with enhanced security, diagnostic and administration, a unified Web platform that integrates IIS 10.0, ASP.NET, and Windows Communication Foundation.

- The default installation for the Web Server (IIS) role includes the installation of role services that enable you to serve static content, make minor customizations (such as default documents and HTTP errors), monitor and log server activity, and configure static content compression.

More information about Web Server IIS

- Click **Next**

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



Select role services

DESTINATION SERVER
demotfs2017.demo.local

Select the role services to install for Web Server (IIS)

Role services

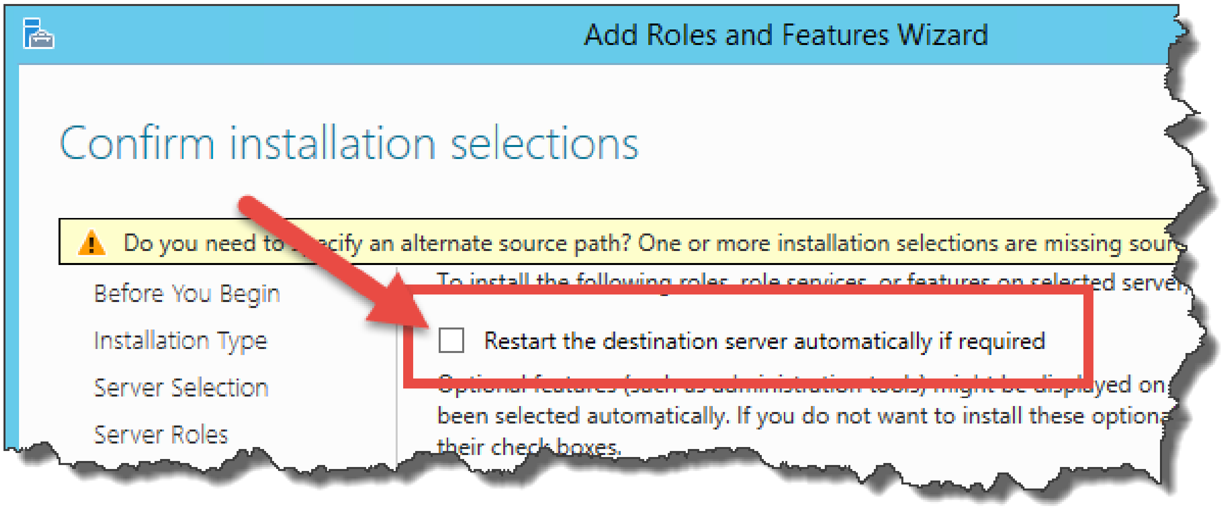
- ☑ Web Server
  - ☑ Common HTTP Features
    - ☑ Default Document
    - ☑ Directory Browsing
    - ☑ HTTP Errors
    - ☑ Static Content
    - □ HTTP Redirection
    - □ WebDAV Publishing
  - ☑ Health and Diagnostics
    - ☑ HTTP Logging
    - □ Custom Logging
    - □ Logging Tools
    - □ ODBC Logging
    - □ Request Monitor
    - □ Tracing
  - ☑ Performance
    - ☑ Static Content Compression
    - □ Dynamic Content Compression
  - ☑ Security

Description

Web Server provides support for HTML Web sites and optional support for ASP.NET, ASP, and Web server extensions. You can use the Web Server to host an internal or external Web site or to provide an environment for developers to create Web-based applications.

- Click the **Next** button

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



Add Roles and Features Wizard

Confirm installation selections

Do you need to specify an alternate source path? One or more installation selections are missing sour

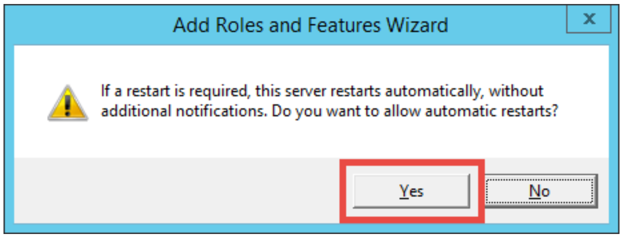
To install the following roles, role services, or features on selected server,

☐ Restart the destination server automatically if required

Optional features (such as administration tools) might be displayed on been selected automatically. If you do not want to install these option their check boxes.

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

You'll be prompted to approve automatic restarts.

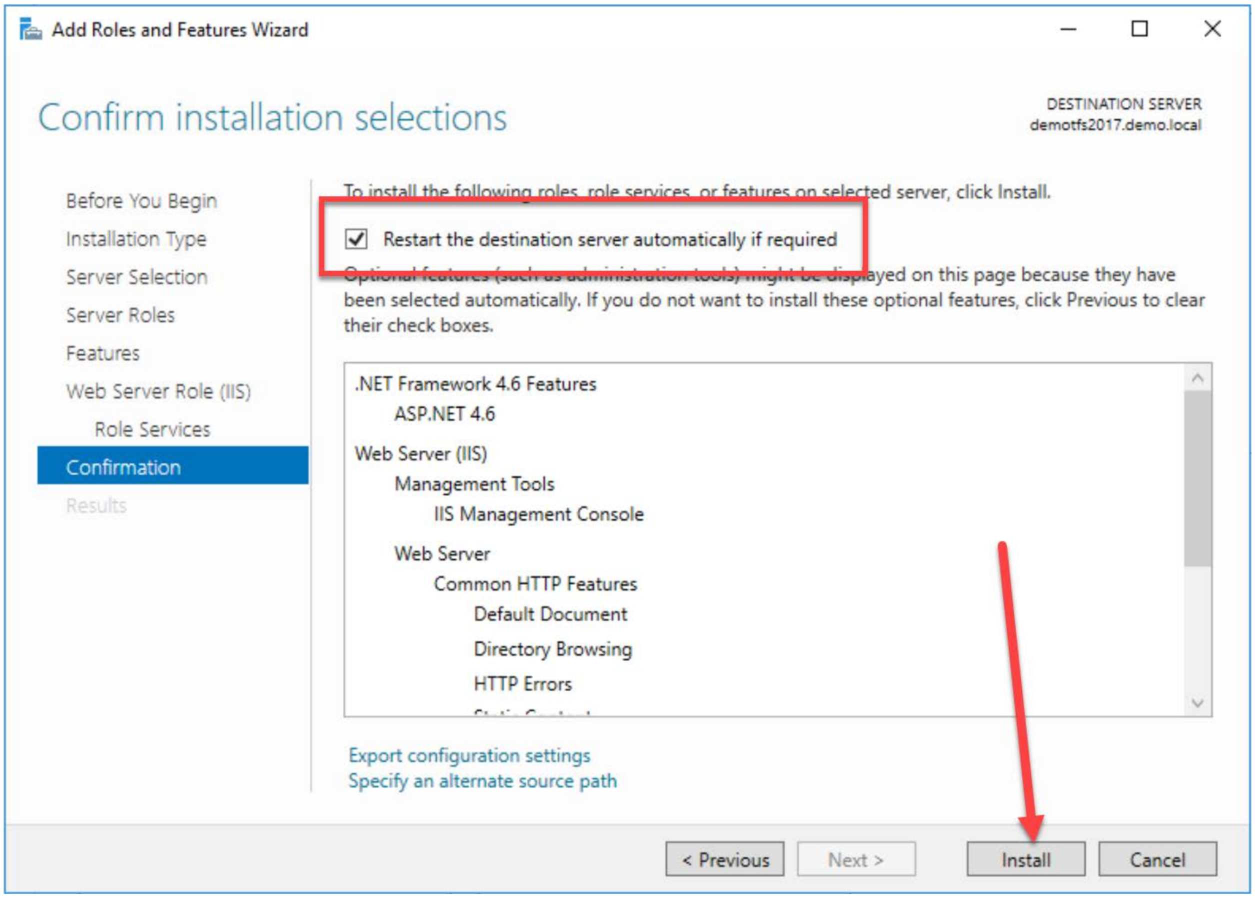


Add Roles and Features Wizard

If a restart is required, this server restarts automatically, without additional notifications. Do you want to allow 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.



To install the following roles, role services, or features on selected server, click Install.

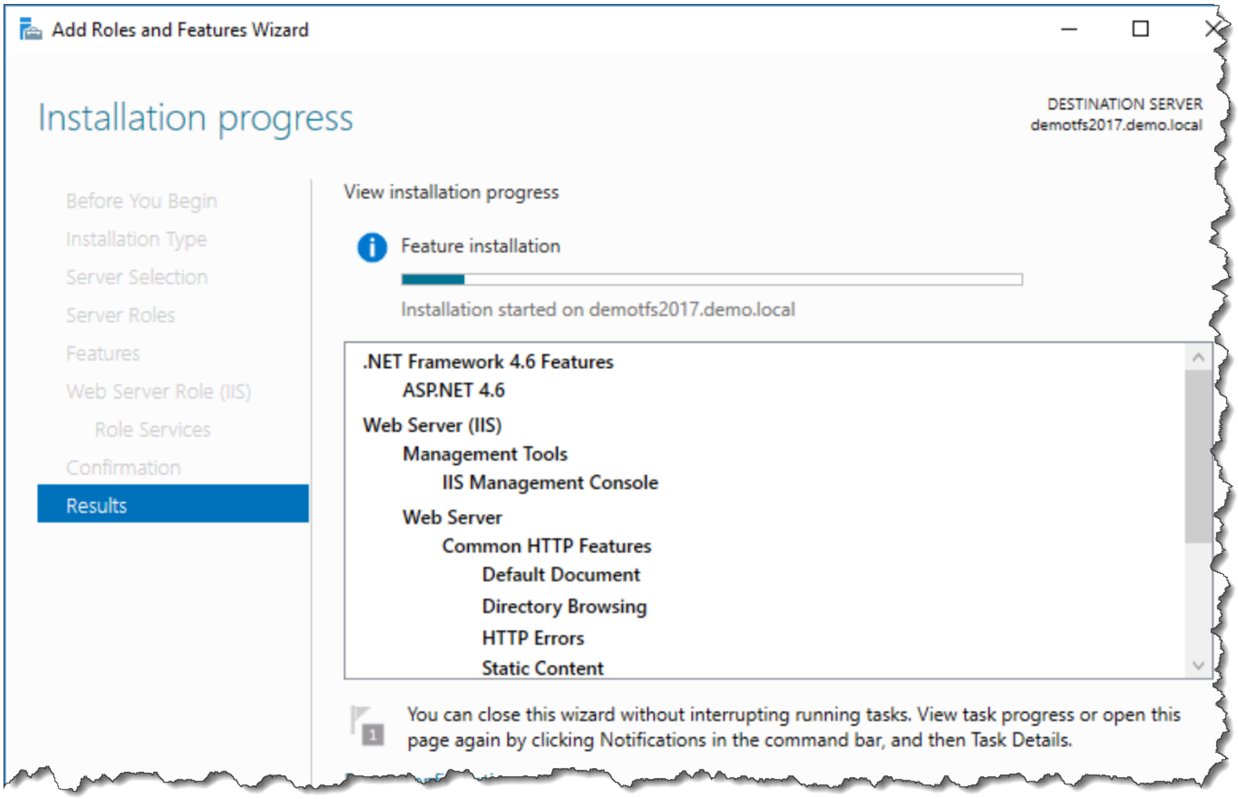
☑ Restart the destination server automatically if required

Optional features (such as administration tools) might be displayed on this page because they have been selected automatically. If you do not want to install these optional features, click Previous to clear their check boxes.

```
.NET Framework 4.6 Features
    ASP.NET 4.6
Web Server (IIS)
    Management Tools
        IIS Management Console
    Web Server
        Common HTTP Features
            Default Document
            Directory Browsing
            HTTP Errors
```

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

The features should now be installing.



View installation progress

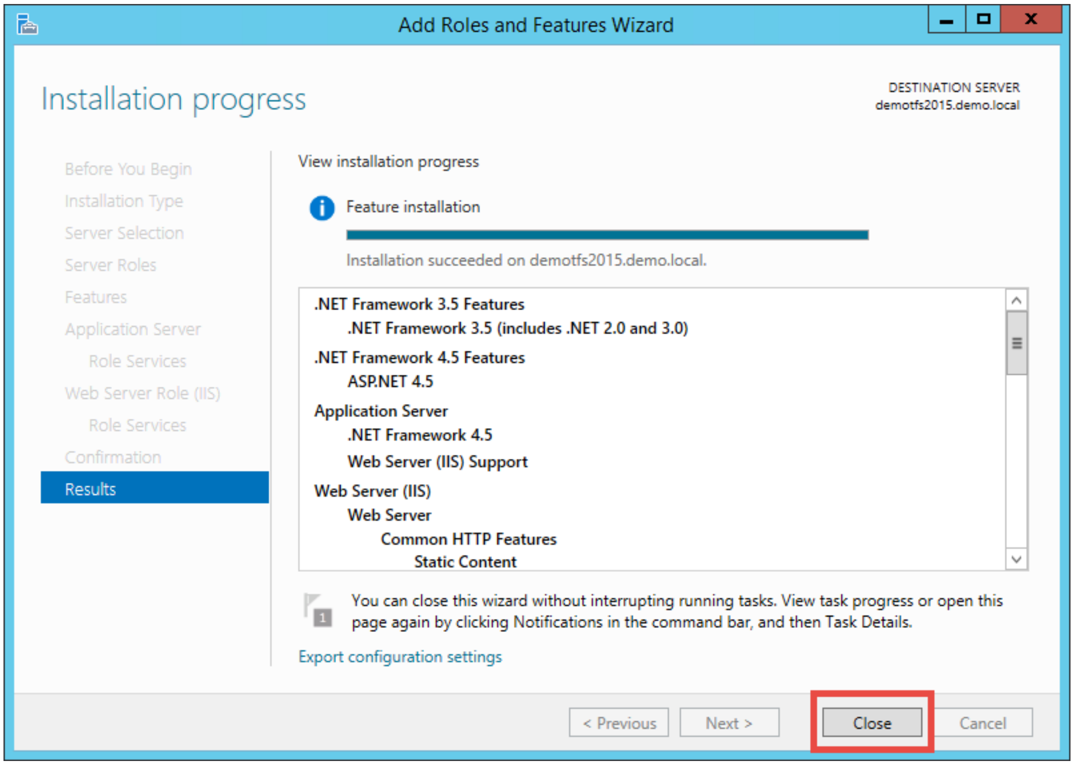
Feature installation

Installation started on demotfs2017.demo.local

.NET Framework 4.6 Features
    ASP.NET 4.6
Web Server (IIS)
    Management Tools
        IIS Management Console
    Web Server
        Common HTTP Features
            Default Document
            Directory Browsing
            HTTP Errors
            Static Content

You can close this wizard without interrupting running tasks. View task progress or open this page again by clicking Notifications in the command bar, and then Task Details.

Eventually, the feature installation should finish.



Feature installation

Installation succeeded on demotfs2015.demo.local.

.NET Framework 3.5 Features
    .NET Framework 3.5 (includes .NET 2.0 and 3.0)
.NET Framework 4.5 Features
    ASP.NET 4.5
Application Server
    .NET Framework 4.5
    Web Server (IIS) Support
Web Server (IIS)
    Web Server
        Common HTTP Features
            Static Content

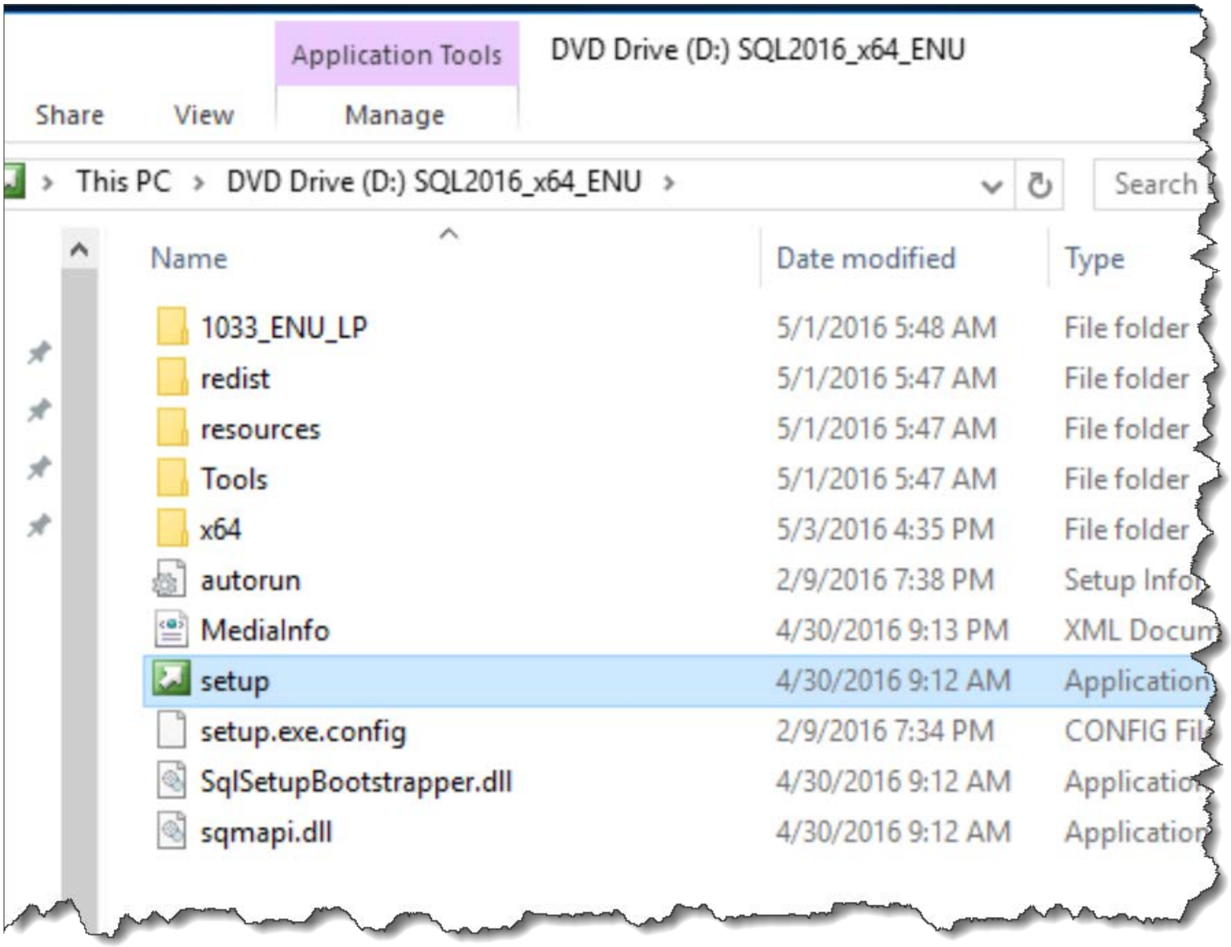
You can close this wizard without interrupting running tasks. View task progress or open this page again by clicking Notifications in the command bar, and then Task Details.

- 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.

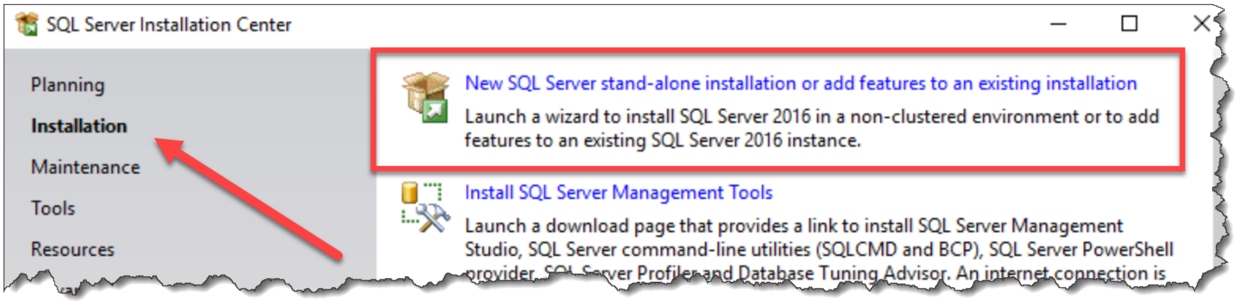
- Log on to the server using an account that is a member of the **Administrators** group
- Insert the SQL Server 2016 DVD or mount the appropriate ISO image
- Open the DVD drive using **Windows Explorer** (**explorer.exe)**


Application Tools
DVD Drive (D:) SQL2016_x64_ENU
Share
View
Manage
This PC › DVD Drive (D:) SQL2016_x64_ENU ›
Search

Name	Date modified	Type
1033_ENU_LP	5/1/2016 5:48 AM	File folder
redist	5/1/2016 5:47 AM	File folder
resources	5/1/2016 5:47 AM	File folder
Tools	5/1/2016 5:47 AM	File folder
x64	5/3/2016 4:35 PM	File folder
autorun	2/9/2016 7:38 PM	Setup Info
MediaInfo	4/30/2016 9:13 PM	XML Docum
setup	4/30/2016 9:12 AM	Application
setup.exe.config	2/9/2016 7:34 PM	CONFIG Fil
SqlSetupBootstrapper.dll	4/30/2016 9:12 AM	Applicatio
sqmapi.dll	4/30/2016 9:12 AM	Application

- 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.



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

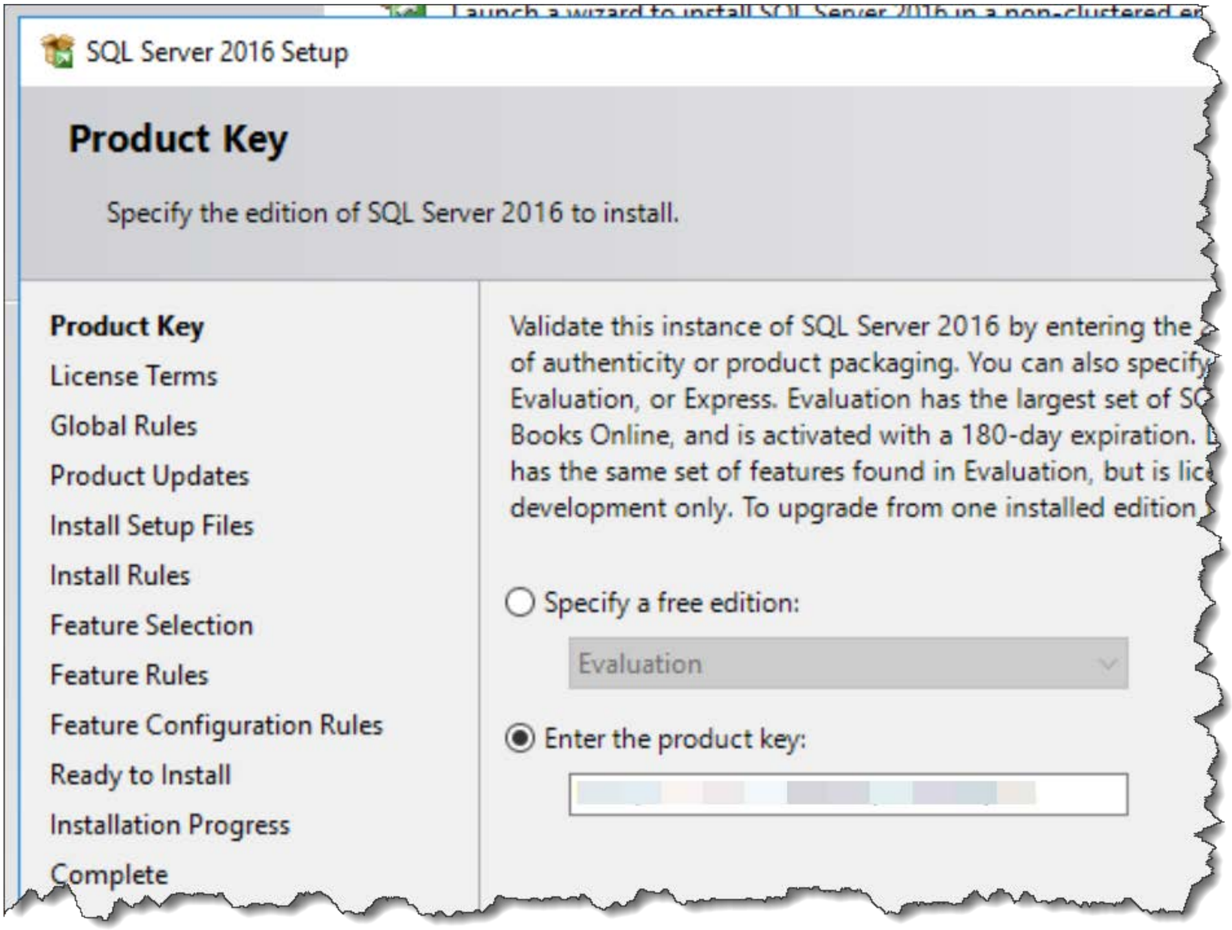
Launch a wizard to install SQL Server 2016 in a non-clustered environment or to add features to an existing SQL Server 2016 instance.

Install SQL Server Management Tools

Launch a download page that provides a link to install SQL Server Management Studio, SQL Server command-line utilities (SQLCMD and BCP), SQL Server PowerShell provider, SQL Server Profiler and Database Tuning Advisor. An internet connection is

- 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.



Launch a wizard to install SQL Server 2016 in a non-clustered en

SQL Server 2016 Setup

Product Key

Specify the edition of SQL Server 2016 to install.

Validate this instance of SQL Server 2016 by entering the
of authenticity or product packaging. You can also specify
Evaluation, or Express. Evaluation has the largest set of SQ
Books Online, and is activated with a 180-day expiration. D
has the same set of features found in Evaluation, but is lic
development only. To upgrade from one installed edition

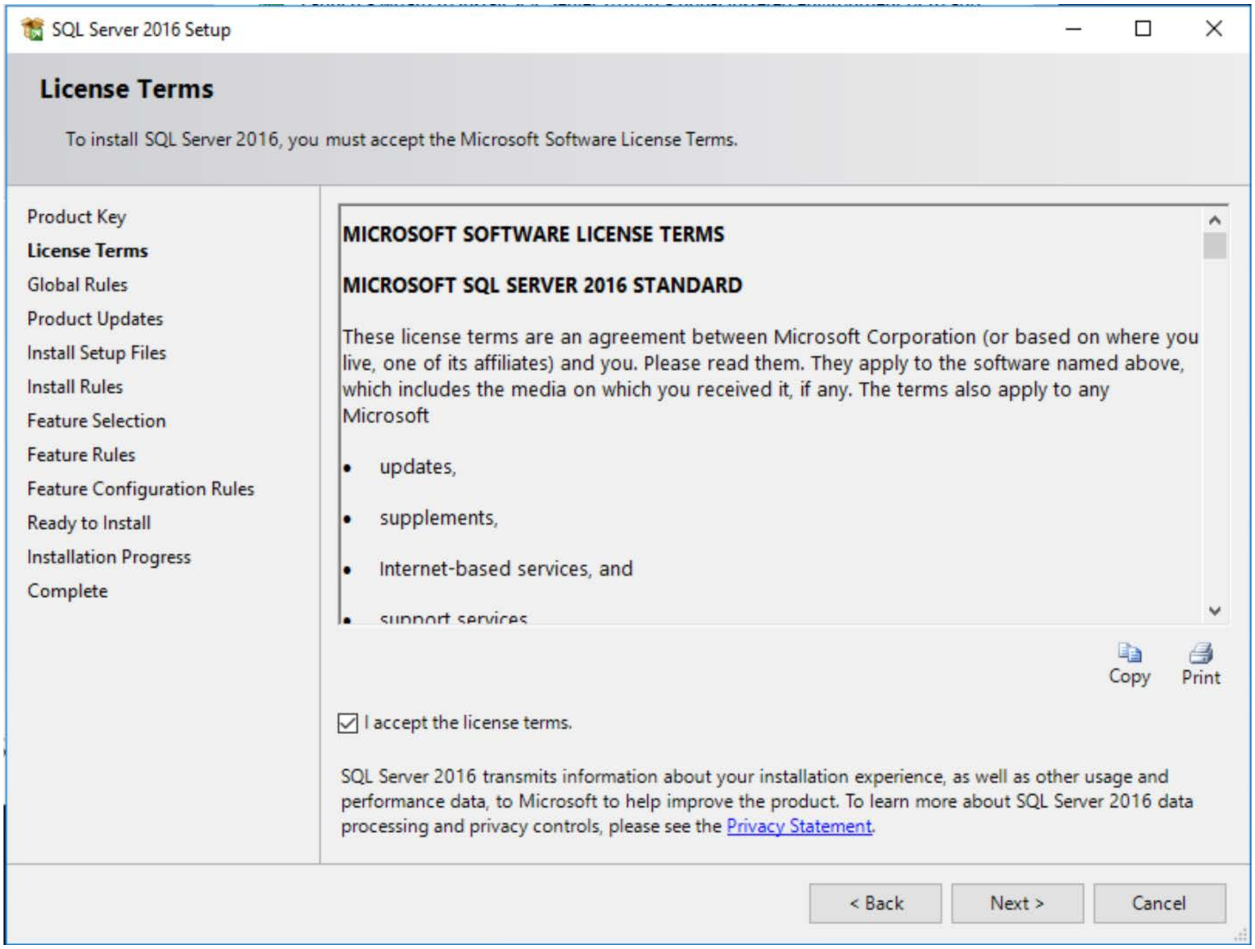
○ Specify a free edition:

Evaluation

● Enter the product key:

[redacted]

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



License Terms

To install SQL Server 2016, you must accept the Microsoft Software License Terms.

MICROSOFT SOFTWARE LICENSE TERMS

MICROSOFT SQL SERVER 2016 STANDARD

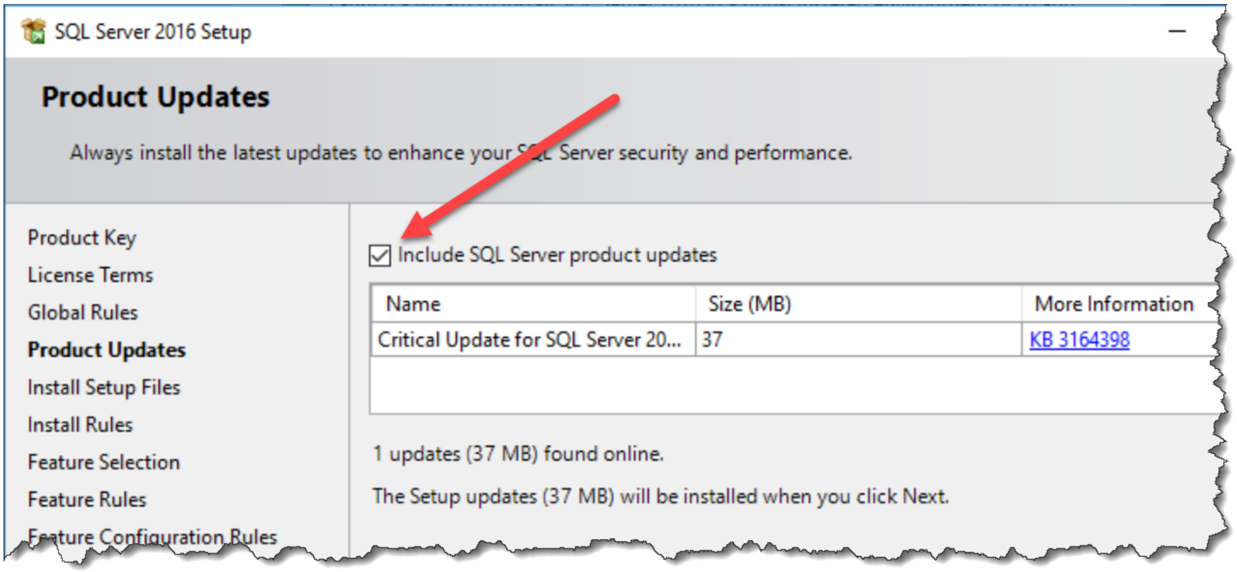
These license terms are an agreement between Microsoft Corporation (or based on where you live, one of its affiliates) and you. Please read them. They apply to the software named above, which includes the media on which you received it, if any. The terms also apply to any Microsoft

- updates,
- supplements,
- Internet-based services, and
- support services

☑ I accept the license terms.

SQL Server 2016 transmits information about your installation experience, as well as other usage and performance data, to Microsoft to help improve the product. To learn more about SQL Server 2016 data processing and privacy controls, please see the Privacy Statement.

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



Product Updates

Always install the latest updates to enhance your SQL Server security and performance.

☑ Include SQL Server product updates

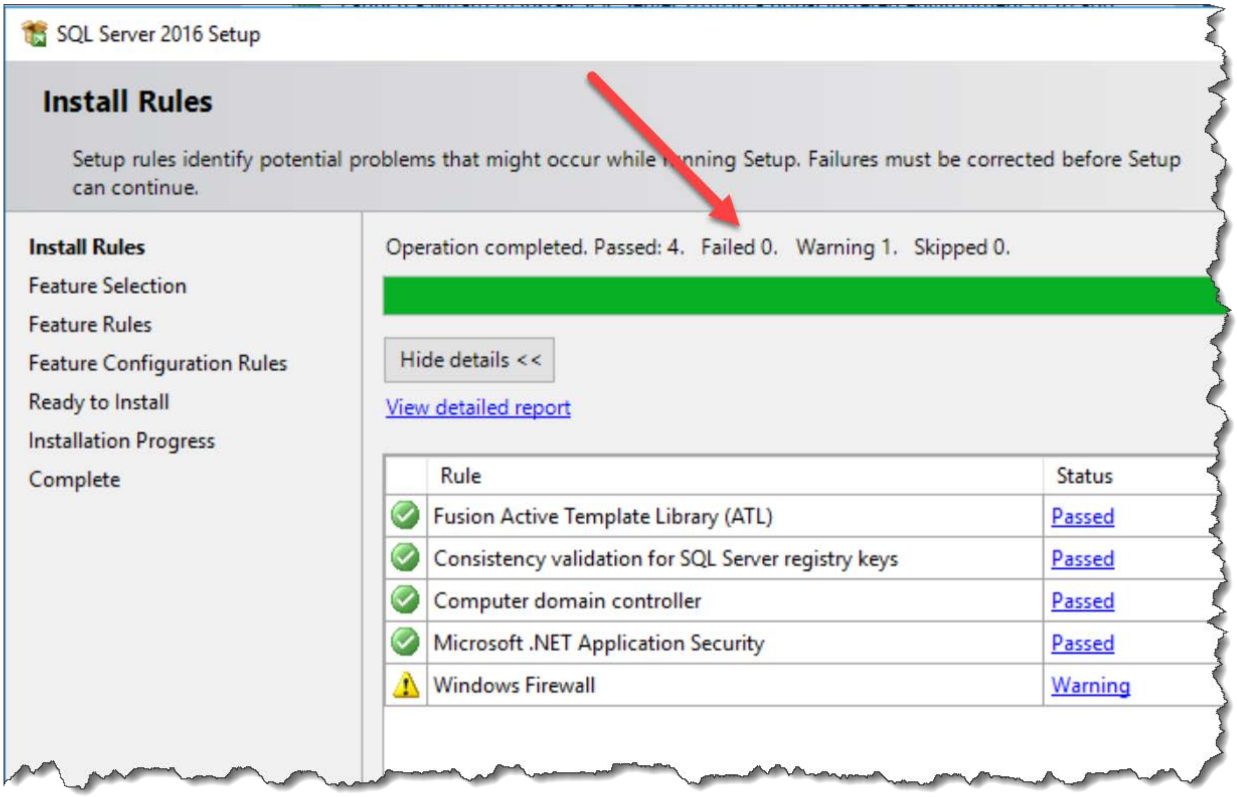
Name	Size (MB)	More Information
Critical Update for SQL Server 20...	37	KB 3164398

1 updates (37 MB) found online.

The Setup updates (37 MB) will be installed when you click Next.

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

Verify that none of the install rule checks have failed.



SQL Server 2016 Setup

Install Rules

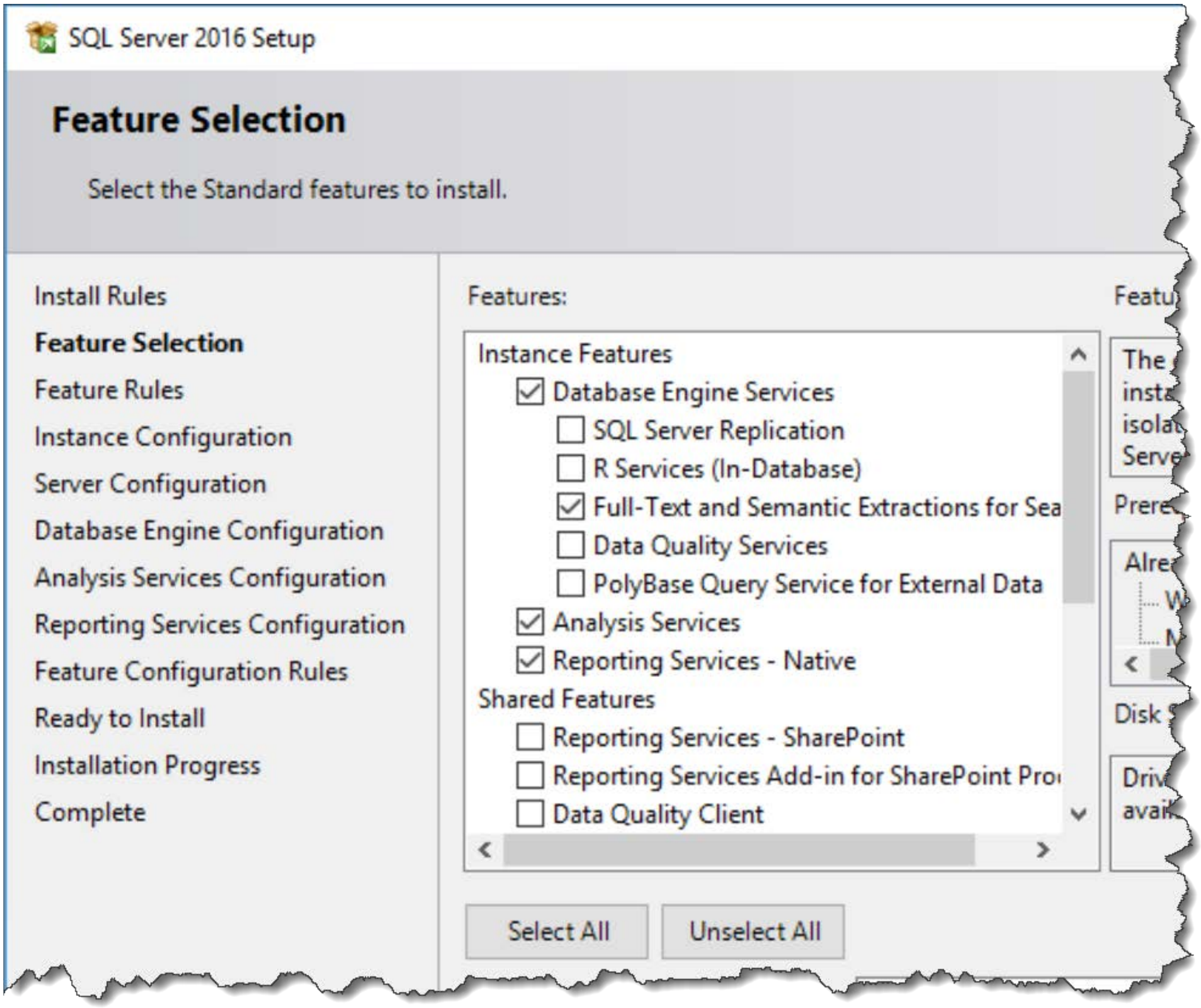
Setup rules identify potential problems that might occur while running Setup. Failures must be corrected before Setup can continue.

Operation completed. Passed: 4. Failed 0. Warning 1. Skipped 0.

	Rule	Status
✓	Fusion Active Template Library (ATL)	Passed
✓	Consistency validation for SQL Server registry keys	Passed
✓	Computer domain controller	Passed
✓	Microsoft .NET Application Security	Passed
⚠	Windows Firewall	Warning

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

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



SQL Server 2016 Setup

Feature Selection

Select the Standard features to install.

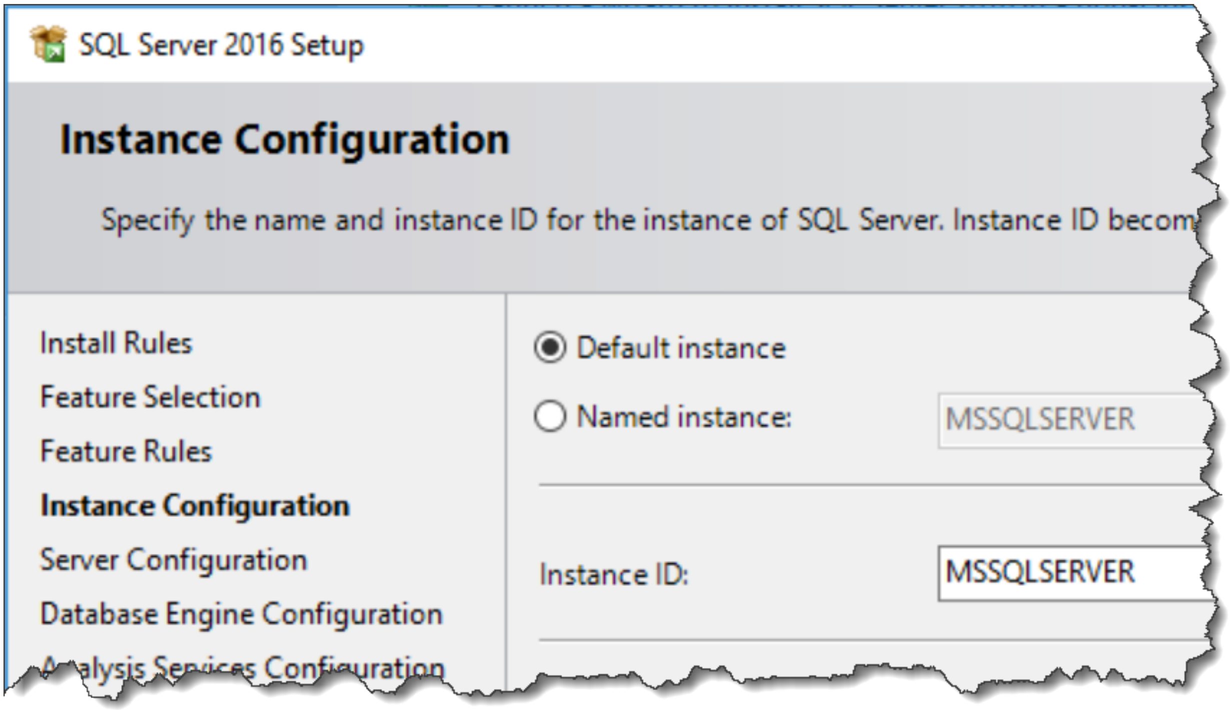
Features:

Instance Features
- ☑ Database Engine Services
  - □ SQL Server Replication
  - □ R Services (In-Database)
  - ☑ Full-Text and Semantic Extractions for Sea
  - □ Data Quality Services
  - □ PolyBase Query Service for External Data
- ☑ Analysis Services
- ☑ Reporting Services - Native

Shared Features
- □ Reporting Services - SharePoint
- □ Reporting Services Add-in for SharePoint Pro
- □ Data Quality Client

- 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.



SQL Server 2016 Setup

Instance Configuration

Specify the name and instance ID for the instance of SQL Server. Instance ID becom

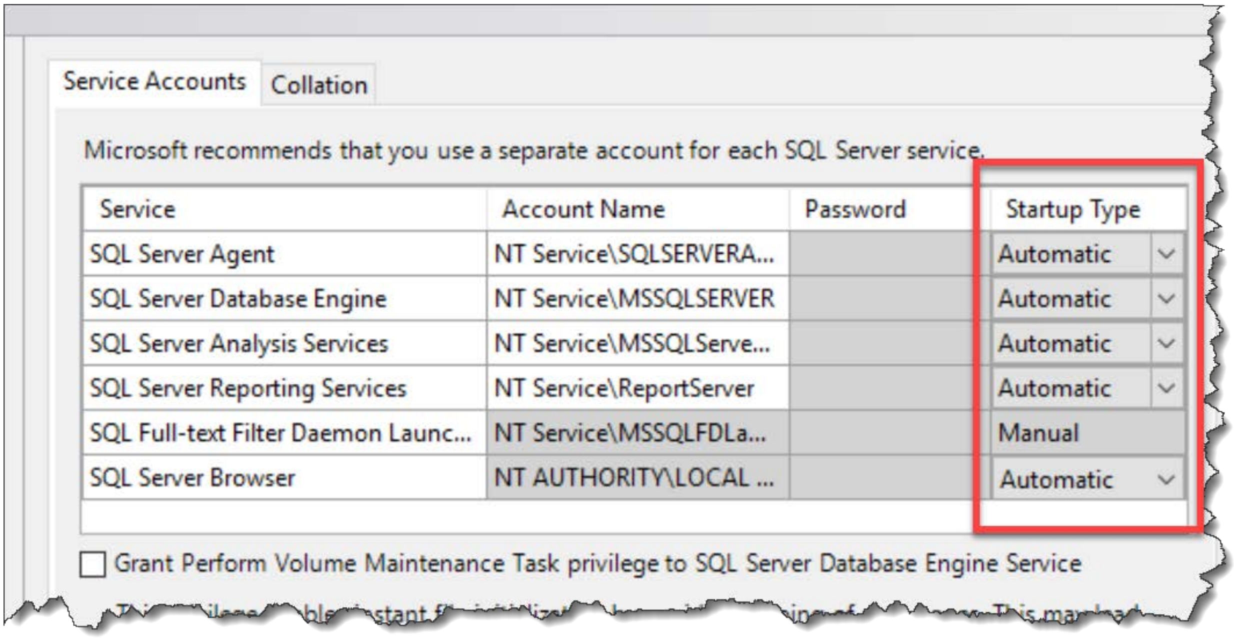
● Default instance

○ Named instance: MSSQLSERVER

Instance ID: MSSQLSERVER

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

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

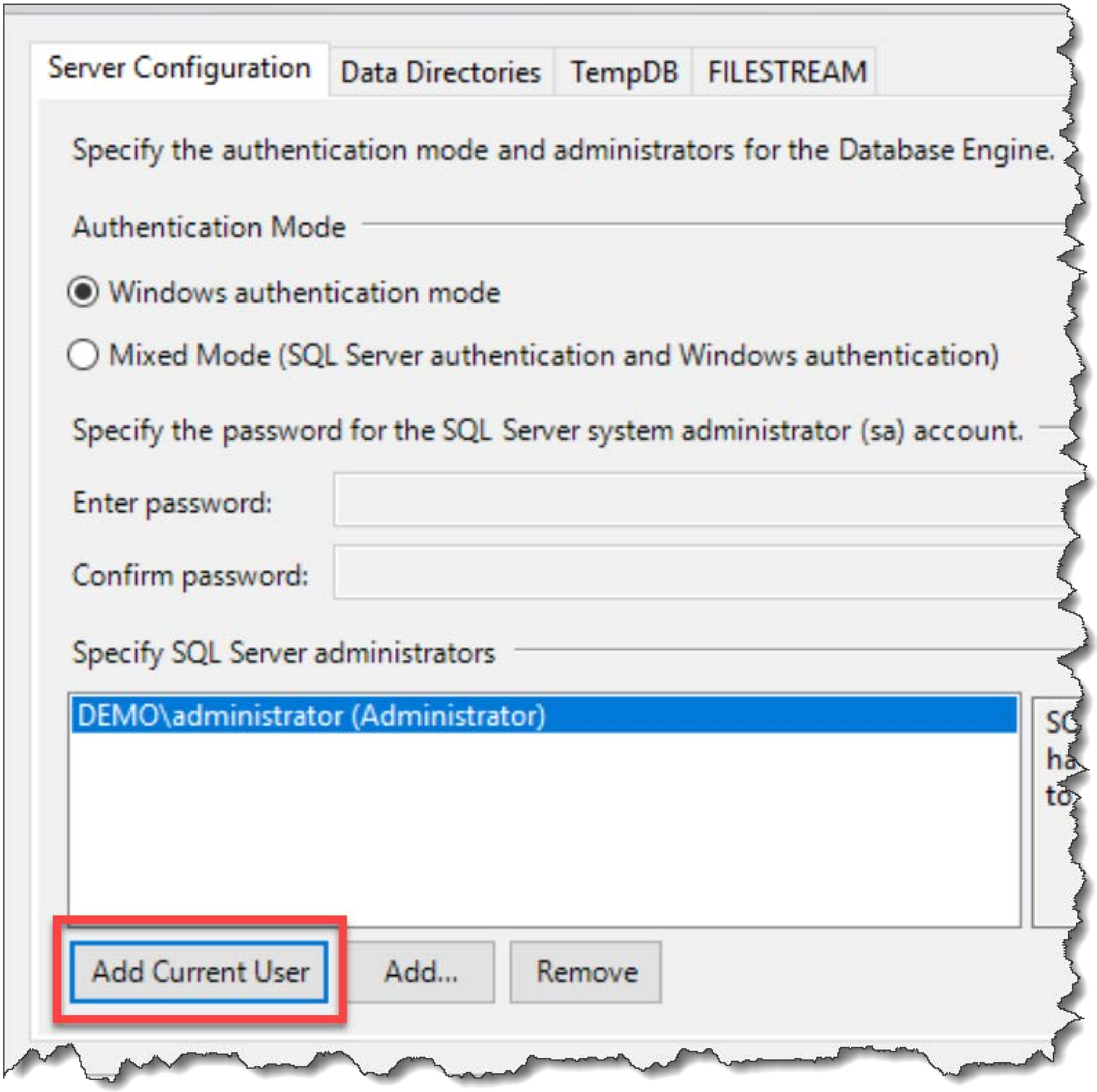


Microsoft recommends that you use a separate account for each SQL Server service.

Service	Account Name	Password	Startup Type
SQL Server Agent	NT Service\SQLSERVERA...		Automatic
SQL Server Database Engine	NT Service\MSSQLSERVER		Automatic
SQL Server Analysis Services	NT Service\MSSQLServe...		Automatic
SQL Server Reporting Services	NT Service\ReportServer		Automatic
SQL Full-text Filter Daemon Launc...	NT Service\MSSQLFDLa...		Manual
SQL Server Browser	NT AUTHORITY\LOCAL ...		Automatic

□ Grant Perform Volume Maintenance Task privilege to SQL Server Database Engine Service

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



Specify the authentication mode and administrators for the Database Engine.

Authentication Mode

● Windows authentication mode

○ Mixed Mode (SQL Server authentication and Windows authentication)

Specify the password for the SQL Server system administrator (sa) account.

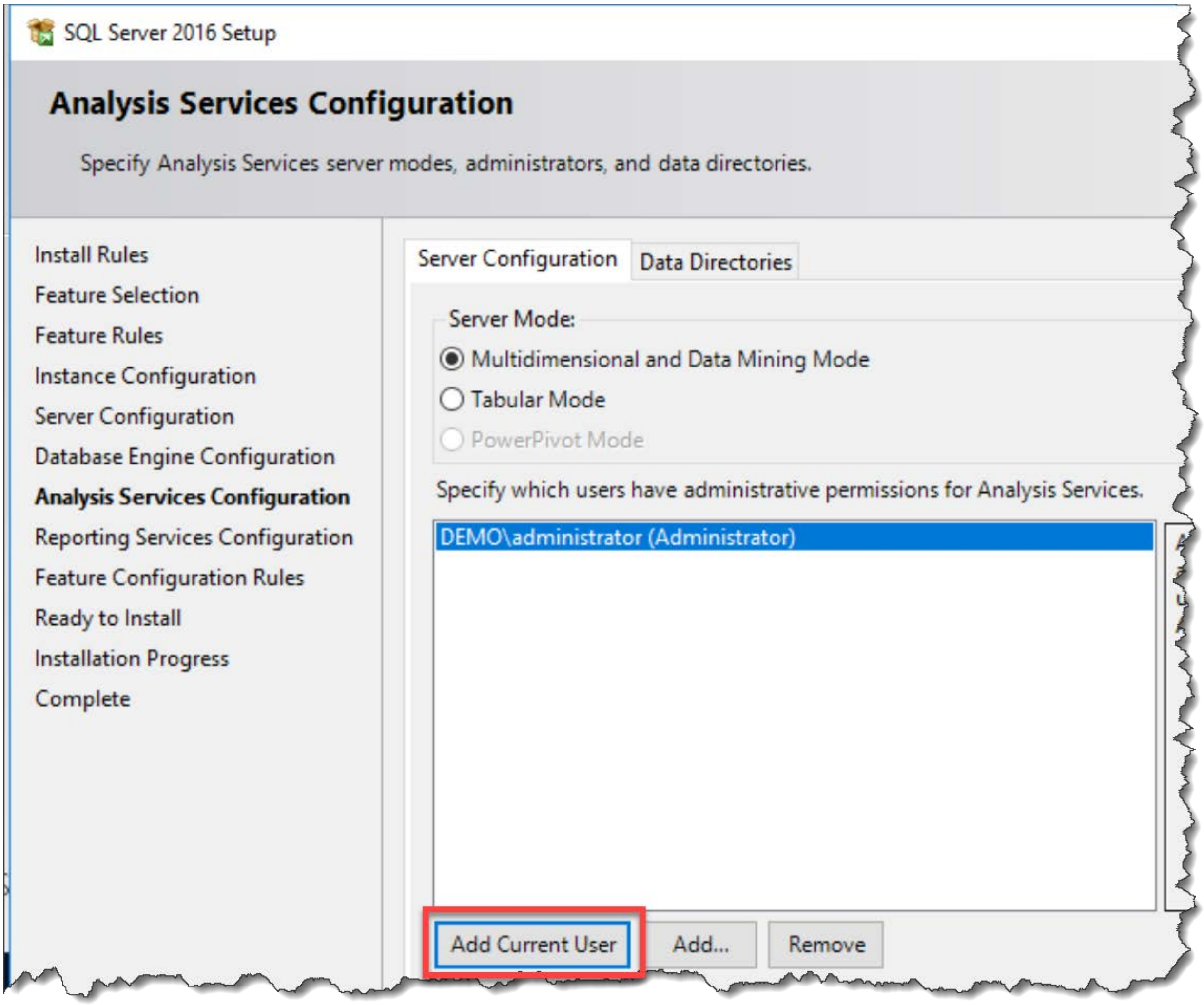
Enter password:

Confirm password:

Specify SQL Server administrators

DEMO\administrator (Administrator)

- 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**



SQL Server 2016 Setup

Analysis Services Configuration

Specify Analysis Services server modes, administrators, and data directories.

Server Mode:

● Multidimensional and Data Mining Mode

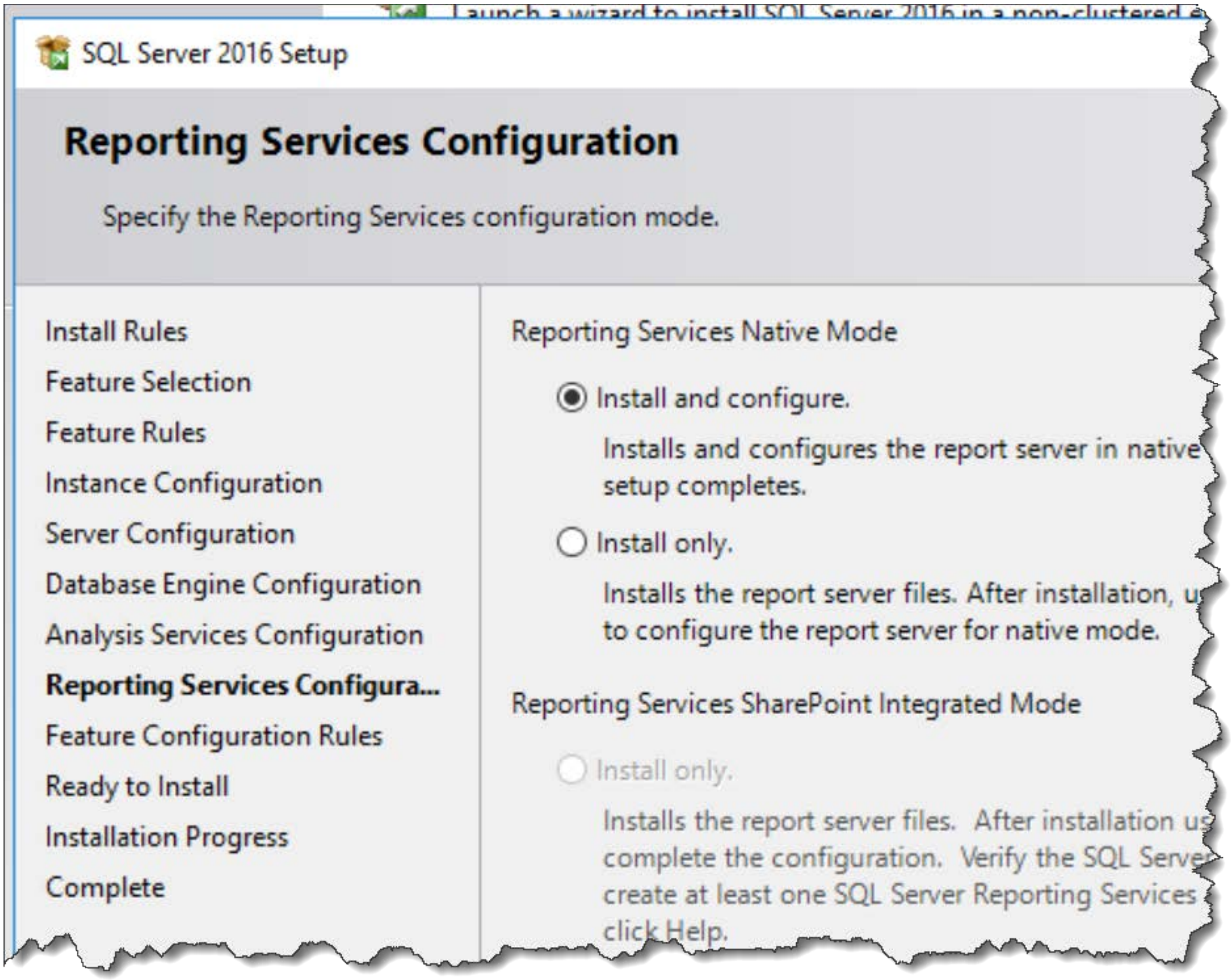
○ Tabular Mode

○ PowerPivot Mode

Specify which users have administrative permissions for Analysis Services.

DEMO\administrator (Administrator)

- 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**



Launch a wizard to install SQL Server 2016 in a non-clustered e

SQL Server 2016 Setup

Reporting Services Configuration

Specify the Reporting Services configuration mode.

Reporting Services Native Mode

● Install and configure.

Installs and configures the report server in native
setup completes.

○ Install only.

Installs the report server files. After installation, u
to configure the report server for native mode.

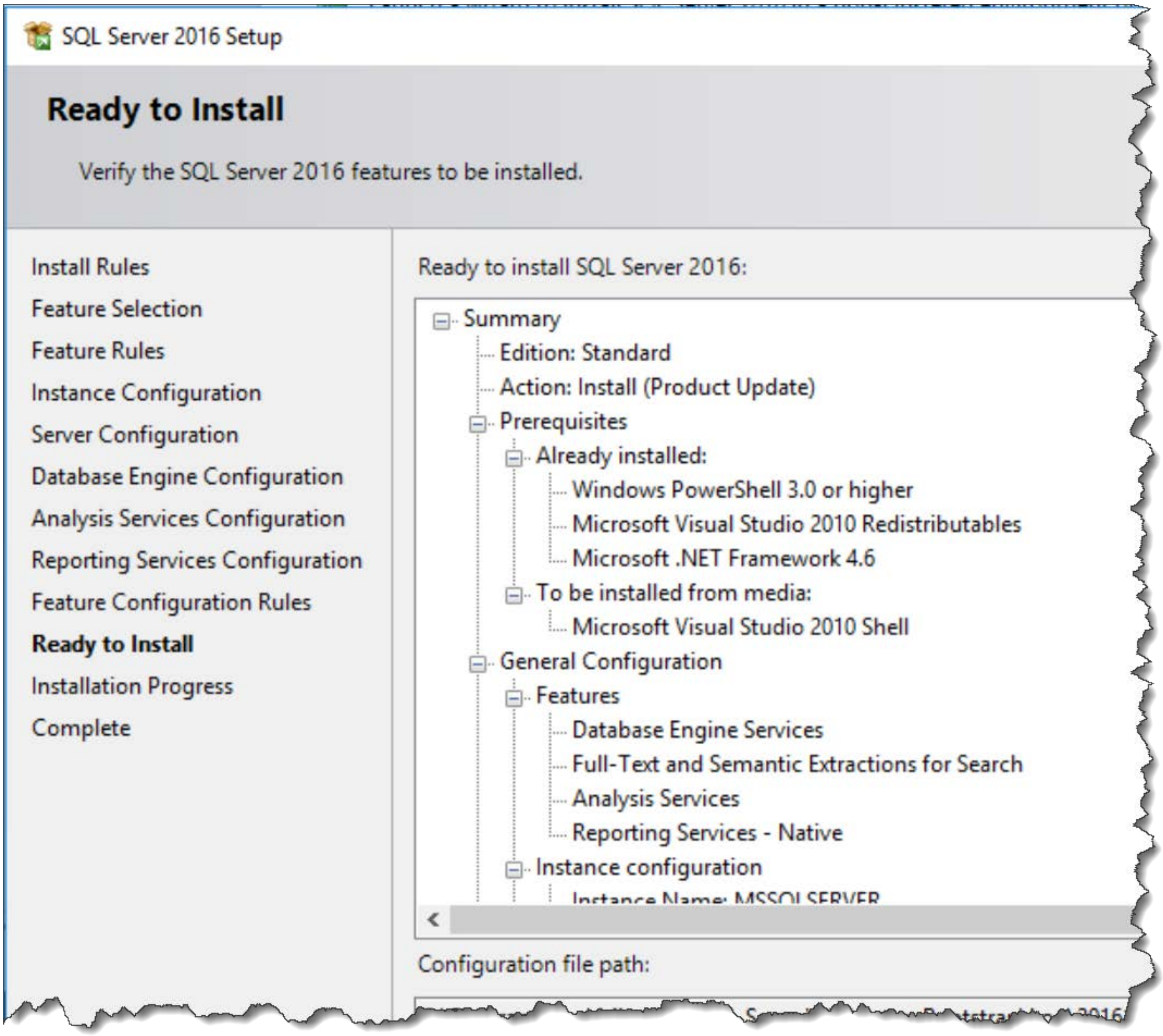
Reporting Services SharePoint Integrated Mode

○ Install only.

Installs the report server files. After installation us
complete the configuration. Verify the SQL Serve
create at least one SQL Server Reporting Services
click Help.

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

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



Ready to Install

Verify the SQL Server 2016 features to be installed.

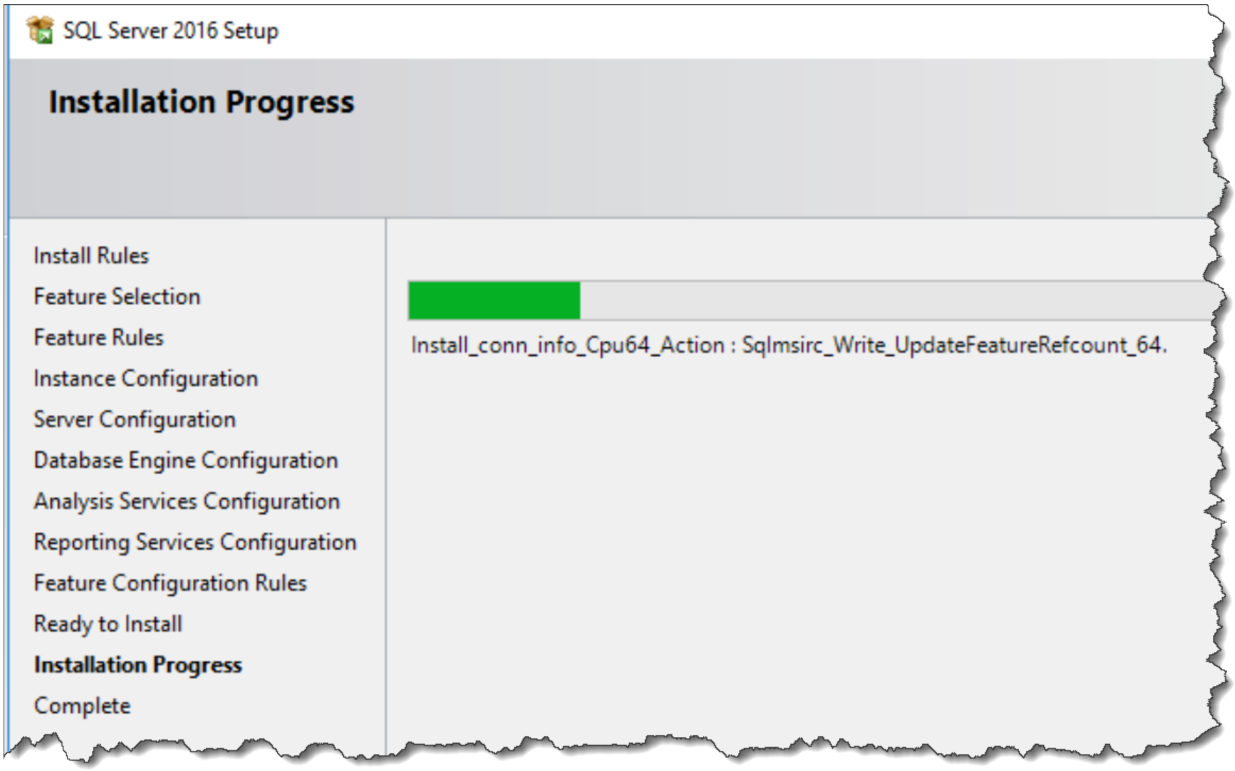
Ready to install SQL Server 2016:

```
Summary
  Edition: Standard
  Action: Install (Product Update)
  Prerequisites
    Already installed:
      Windows PowerShell 3.0 or higher
      Microsoft Visual Studio 2010 Redistributables
      Microsoft .NET Framework 4.6
    To be installed from media:
      Microsoft Visual Studio 2010 Shell
  General Configuration
    Features
      Database Engine Services
      Full-Text and Semantic Extractions for Search
      Analysis Services
      Reporting Services - Native
    Instance configuration
      Instance Name: MSSQLSERVER
```

Configuration file path:

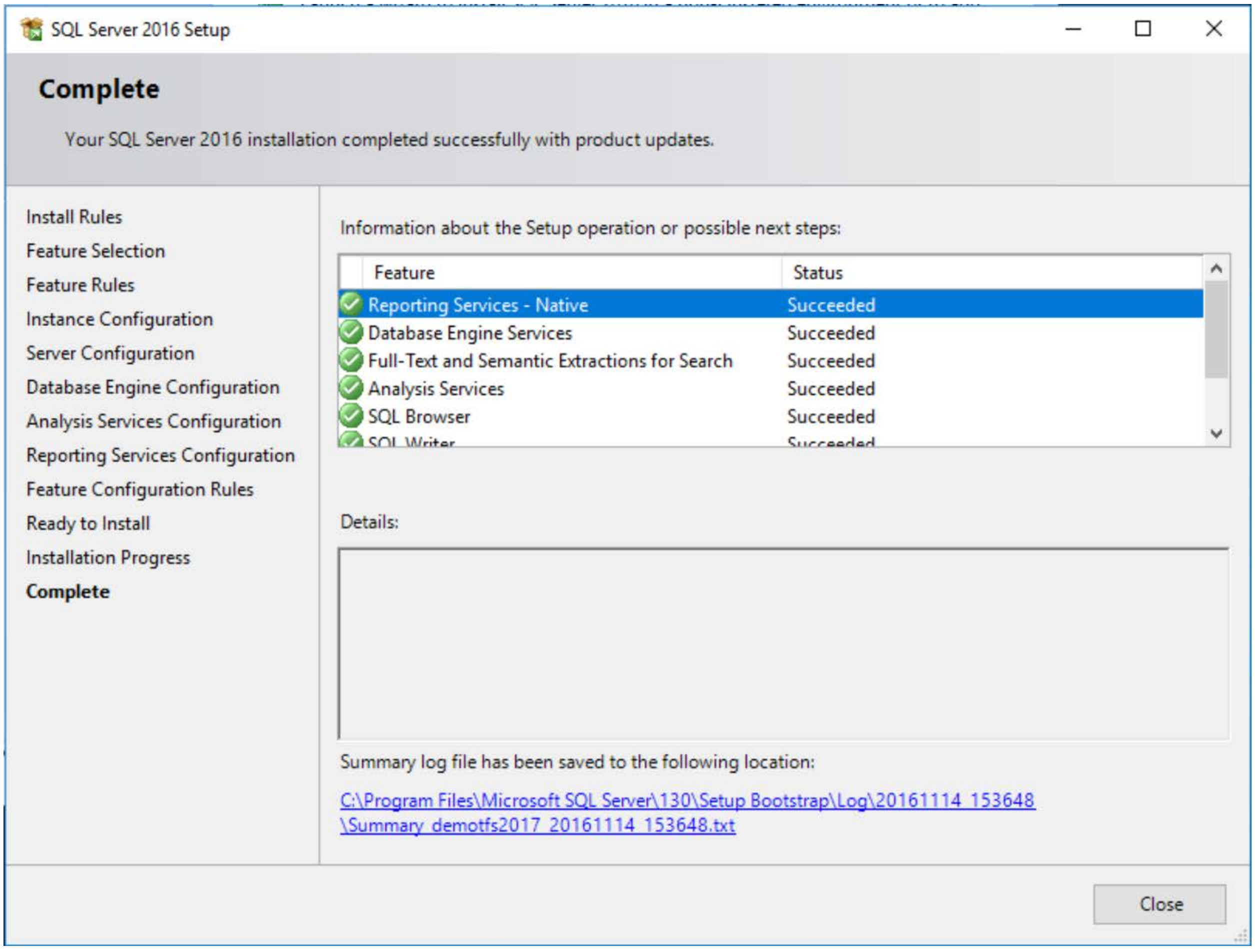
- Click **Install**

The installer should now be running.



Install_conn_info_Cpu64_Action : Sqlmsirc_Write_UpdateFeatureRefcount_64.

Eventually, the installer should finish.



Complete

Your SQL Server 2016 installation completed successfully with product updates.

Information about the Setup operation or possible next steps:

Feature	Status
✓ Reporting Services - Native	Succeeded
✓ Database Engine Services	Succeeded
✓ Full-Text and Semantic Extractions for Search	Succeeded
✓ Analysis Services	Succeeded
✓ SQL Browser	Succeeded
✓ SQL Writer	Succeeded

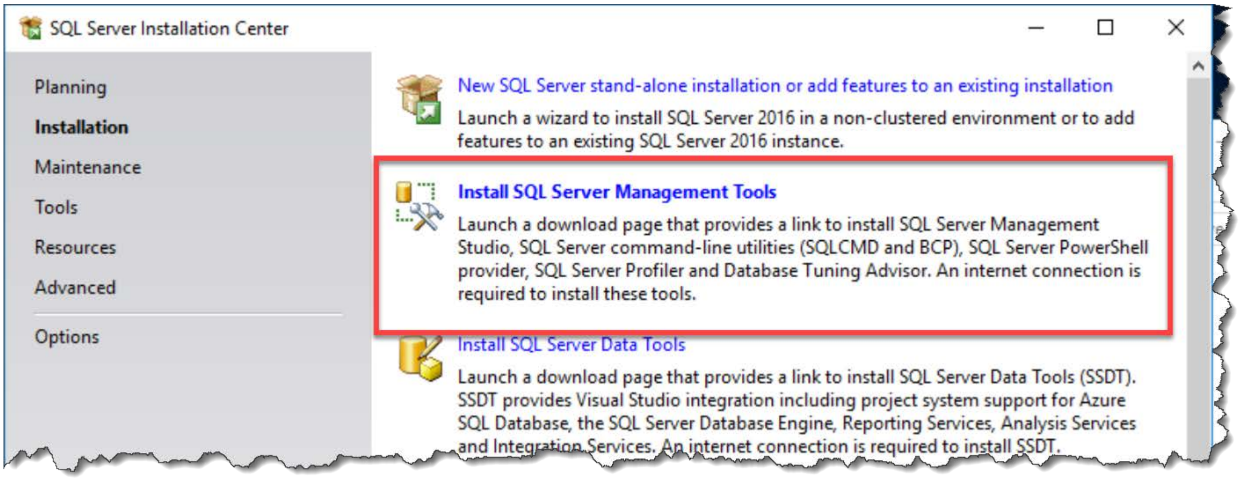
Details:

Summary log file has been saved to the following location:

C:\Program Files\Microsoft SQL Server\130\Setup Bootstrap\Log\20161114_153648\Summary_demotfs2017_20161114_153648.txt

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

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



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

Launch a wizard to install SQL Server 2016 in a non-clustered environment or to add features to an existing SQL Server 2016 instance.

Install SQL Server Management Tools

Launch a download page that provides a link to install SQL Server Management Studio, SQL Server command-line utilities (SQLCMD and BCP), SQL Server PowerShell provider, SQL Server Profiler and Database Tuning Advisor. An internet connection is required to install these tools.

Install SQL Server Data Tools

Launch a download page that provides a link to install SQL Server Data Tools (SSDT). SSDT provides Visual Studio integration including project system support for Azure SQL Database, the SQL Server Database Engine, Reporting Services, Analysis Services and Integration Services. An internet connection is required to install SSDT.

- (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

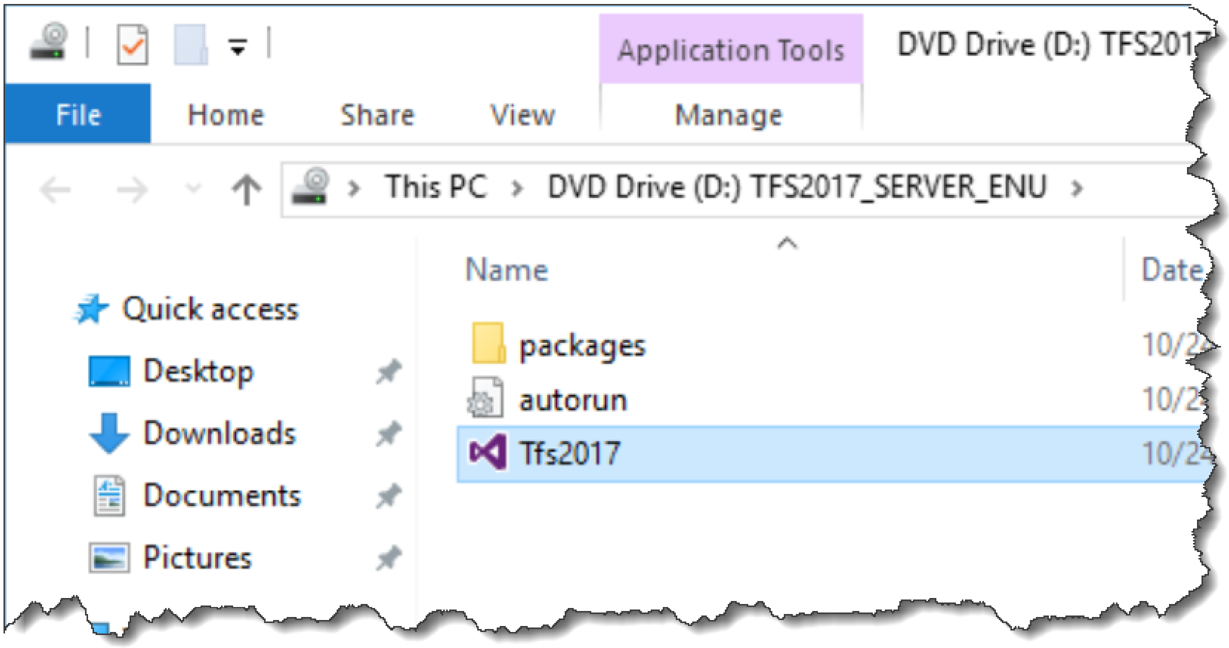
Introduction

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

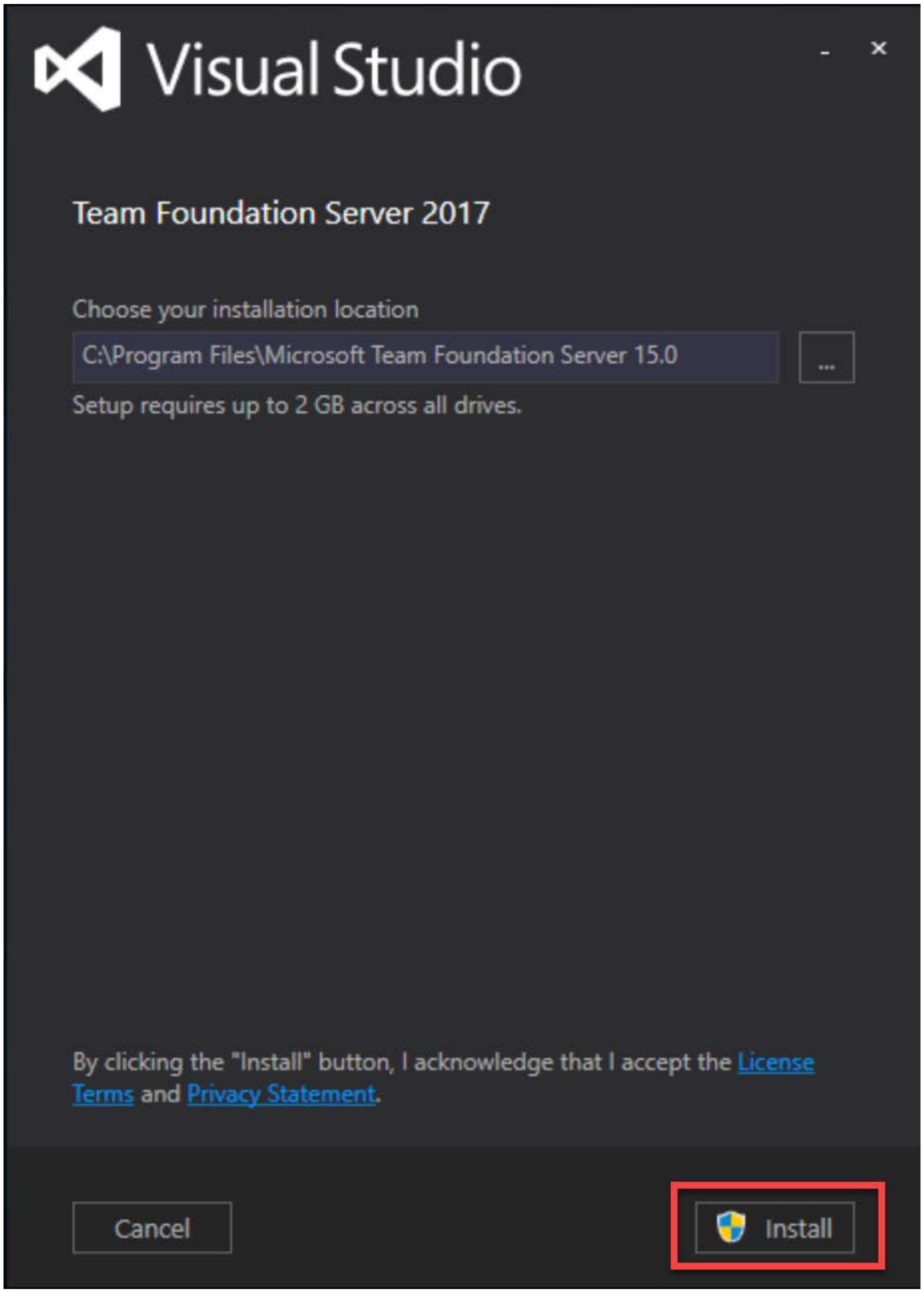
Run the Installer

- 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.



Visual Studio

Team Foundation Server 2017

Choose your installation location

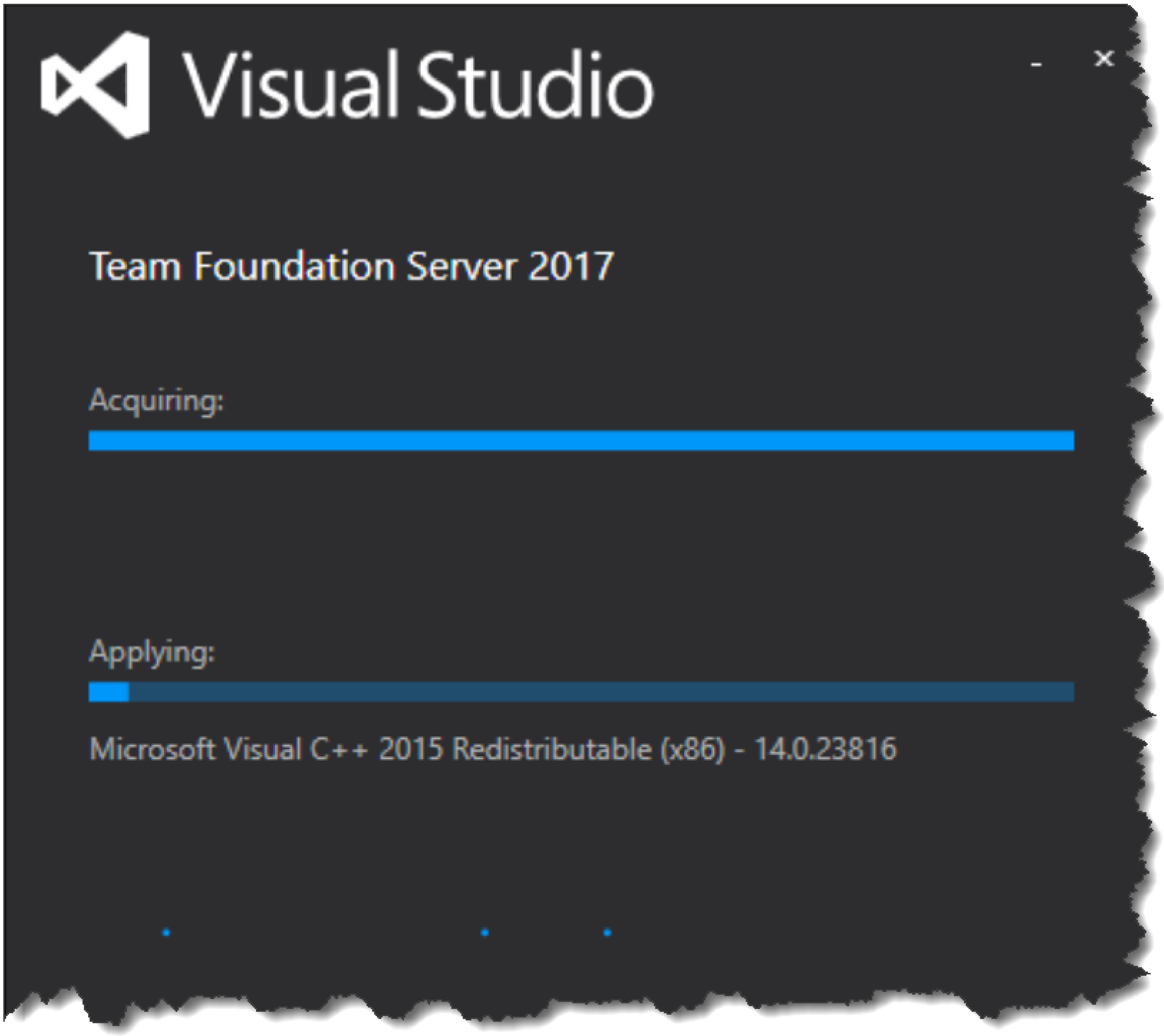
C:\Program Files\Microsoft Team Foundation Server 15.0

Setup requires up to 2 GB across all drives.

By clicking the "Install" button, I acknowledge that I accept the License Terms and Privacy Statement.

- Click **Install**

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



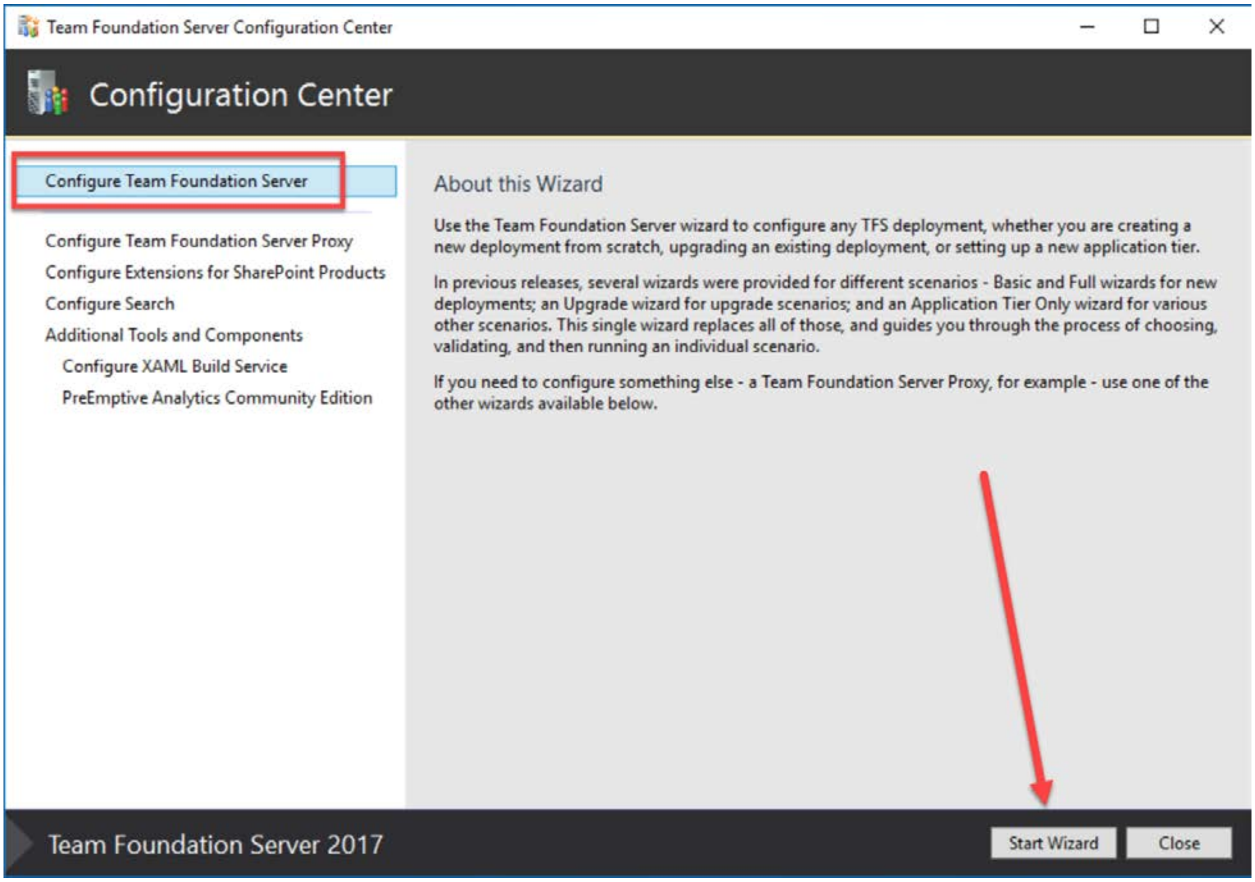
Team Foundation Server 2017

Acquiring:

Applying:

Microsoft Visual C++ 2015 Redistributable (x86) - 14.0.23816

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



Team Foundation Server Configuration Center
Configuration Center
Configure Team Foundation Server
Configure Team Foundation Server Proxy
Configure Extensions for SharePoint Products
Configure Search
Additional Tools and Components
Configure XAML Build Service
PreEmptive Analytics Community Edition
Team Foundation Server 2017
Start Wizard
Close

About this Wizard

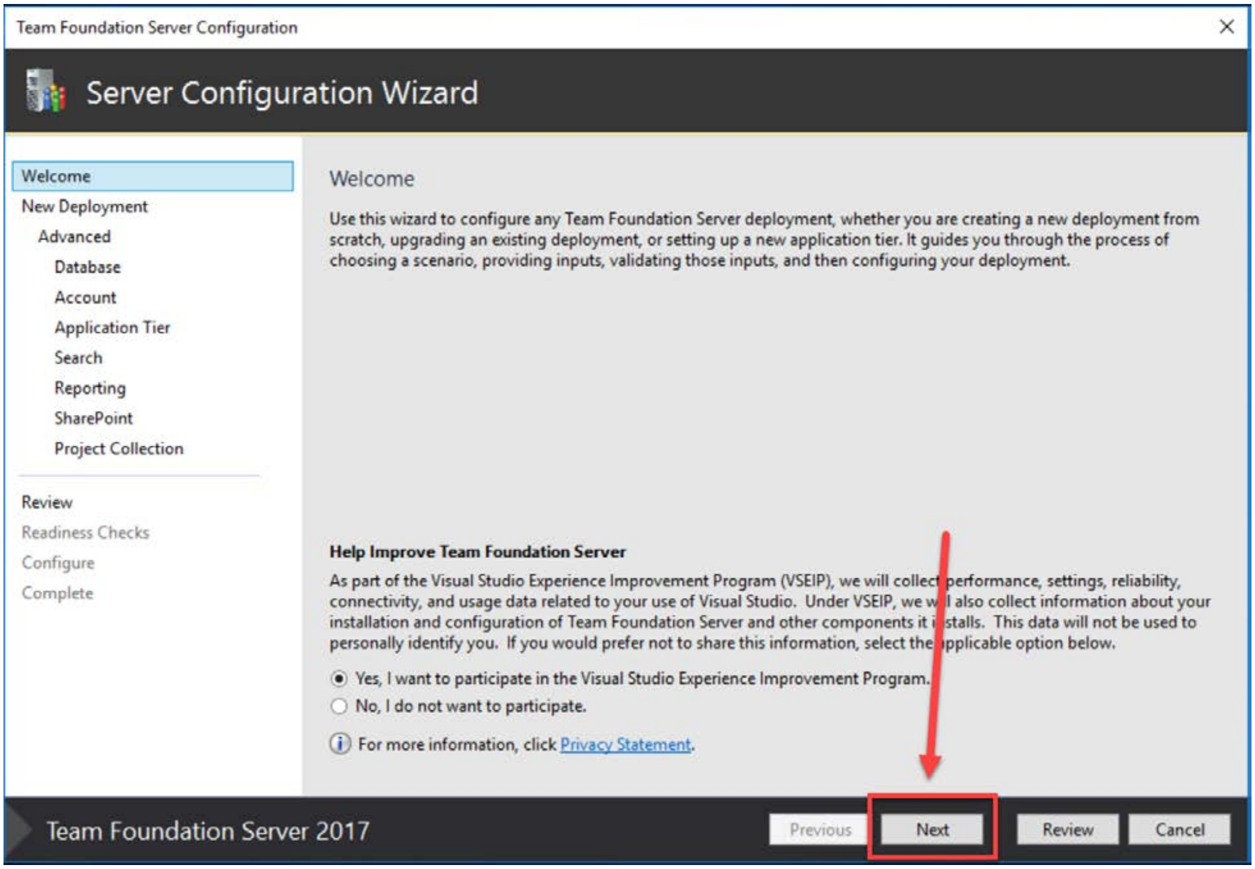
Use the Team Foundation Server wizard to configure any TFS deployment, whether you are creating a new deployment from scratch, upgrading an existing deployment, or setting up a new application tier.

In previous releases, several wizards were provided for different scenarios - Basic and Full wizards for new deployments; an Upgrade wizard for upgrade scenarios; and an Application Tier Only wizard for various other scenarios. This single wizard replaces all of those, and guides you through the process of choosing, validating, and then running an individual scenario.

If you need to configure something else - a Team Foundation Server Proxy, for example - use one of the other wizards available below.

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

You should now be on the welcome page.



Team Foundation Server Configuration

Server Configuration Wizard

Welcome

Use this wizard to configure any Team Foundation Server deployment, whether you are creating a new deployment from scratch, upgrading an existing deployment, or setting up a new application tier. It guides you through the process of choosing a scenario, providing inputs, validating those inputs, and then configuring your deployment.

Help Improve Team Foundation Server

As part of the Visual Studio Experience Improvement Program (VSEIP), we will collect performance, settings, reliability, connectivity, and usage data related to your use of Visual Studio. Under VSEIP, we will also collect information about your installation and configuration of Team Foundation Server and other components it installs. This data will not be used to personally identify you. If you would prefer not to share this information, select the applicable option below.

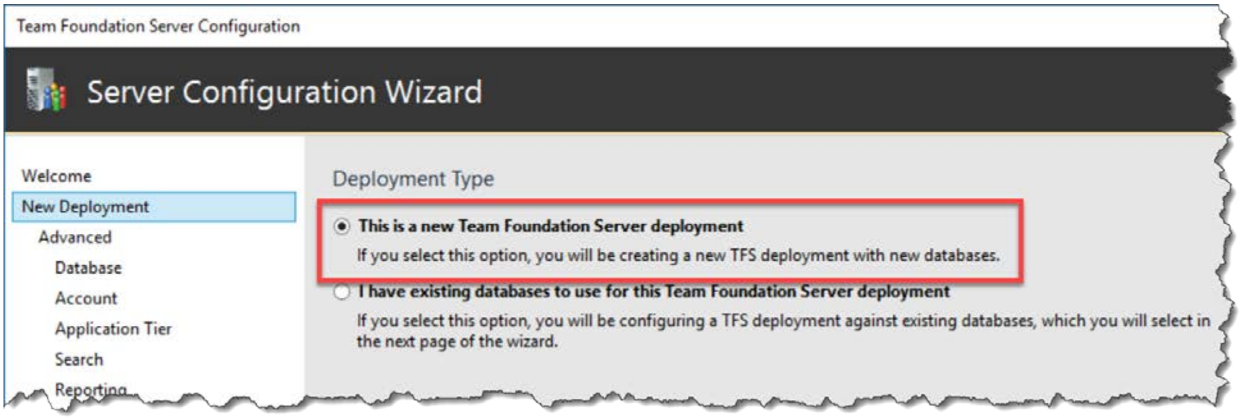
● Yes, I want to participate in the Visual Studio Experience Improvement Program.

○ No, I do not want to participate.

For more information, click Privacy Statement.

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

You should now be on the Deployment Type page.



Deployment Type

● **This is a new Team Foundation Server deployment**

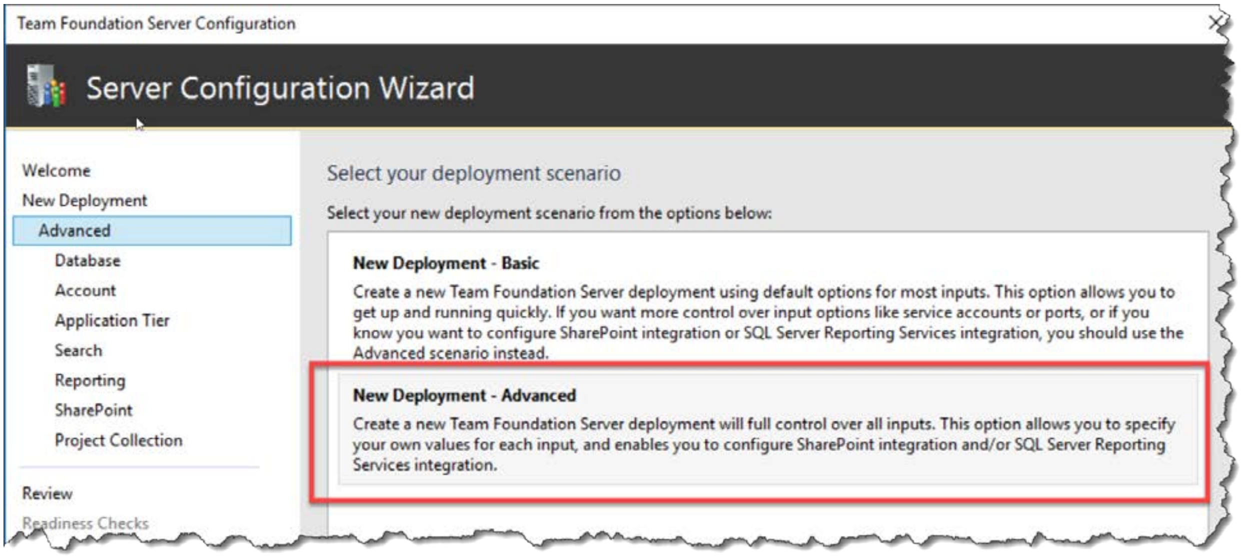
If you select this option, you will be creating a new TFS deployment with new databases.

○ **I have existing databases to use for this Team Foundation Server deployment**

If you select this option, you will be configuring a TFS deployment against existing databases, which you will select in the next page of the wizard.

- 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.



Select your deployment scenario

Select your new deployment scenario from the options below:

New Deployment - Basic

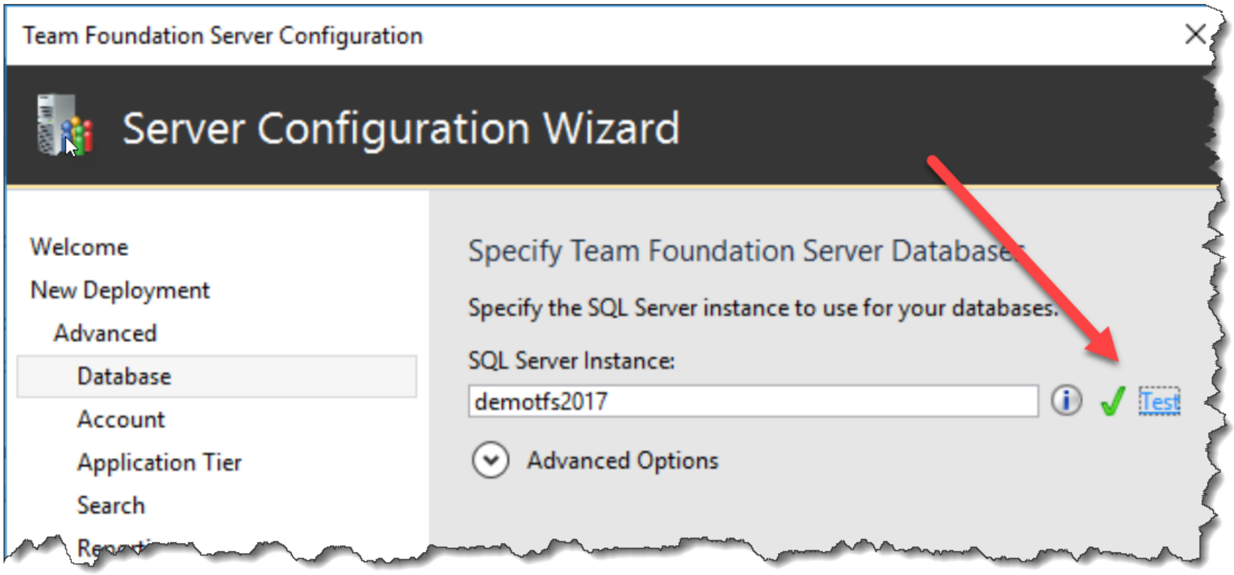
Create a new Team Foundation Server deployment using default options for most inputs. This option allows you to get up and running quickly. If you want more control over input options like service accounts or ports, or if you know you want to configure SharePoint integration or SQL Server Reporting Services integration, you should use the Advanced scenario instead.

New Deployment - Advanced

Create a new Team Foundation Server deployment will full control over all inputs. This option allows you to specify your own values for each input, and enables you to configure SharePoint integration and/or SQL Server Reporting Services integration.

- 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.


Team Foundation Server Configuration

Server Configuration Wizard

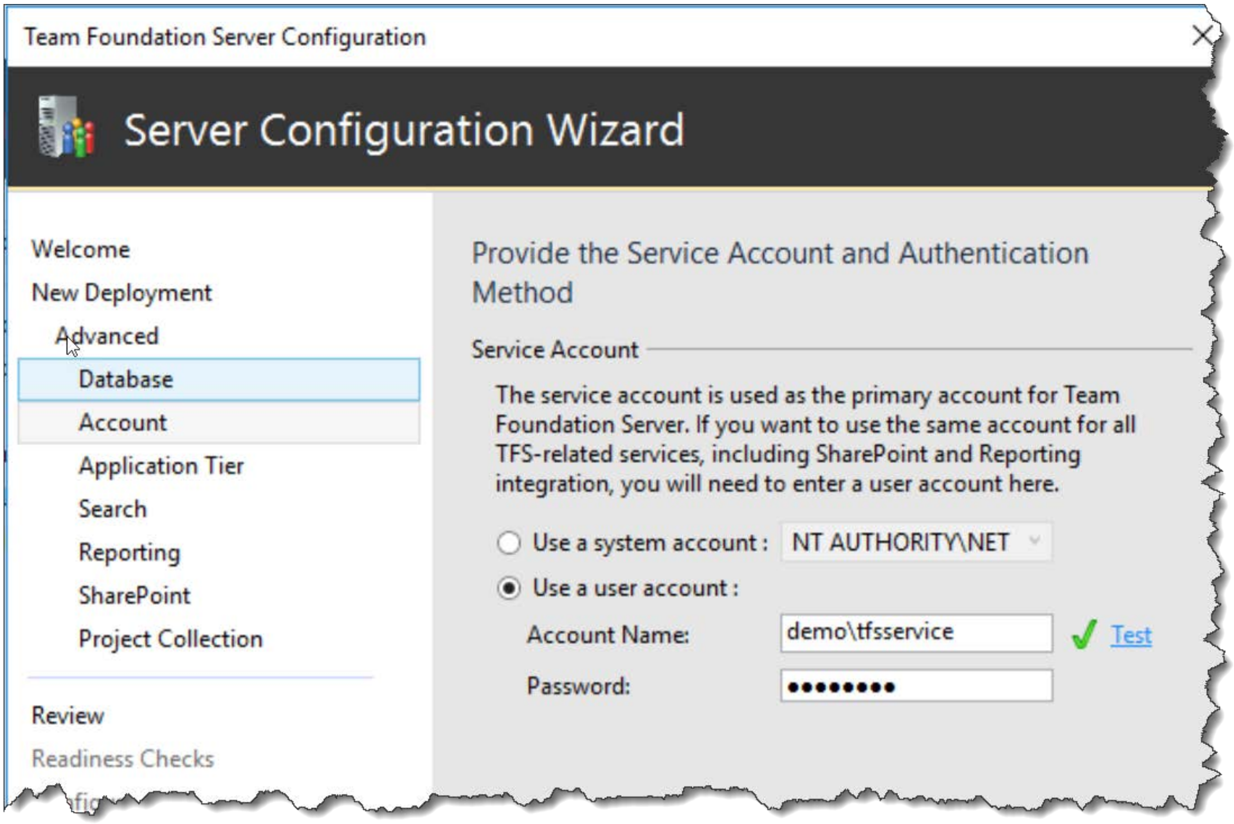
Specify Team Foundation Server Databases

Specify the SQL Server instance to use for your databases.

SQL Server Instance: demotfs2017

- 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.



Provide the Service Account and Authentication Method

Service Account

The service account is used as the primary account for Team Foundation Server. If you want to use the same account for all TFS-related services, including SharePoint and Reporting integration, you will need to enter a user account here.

○ Use a system account : NT AUTHORITY\NET

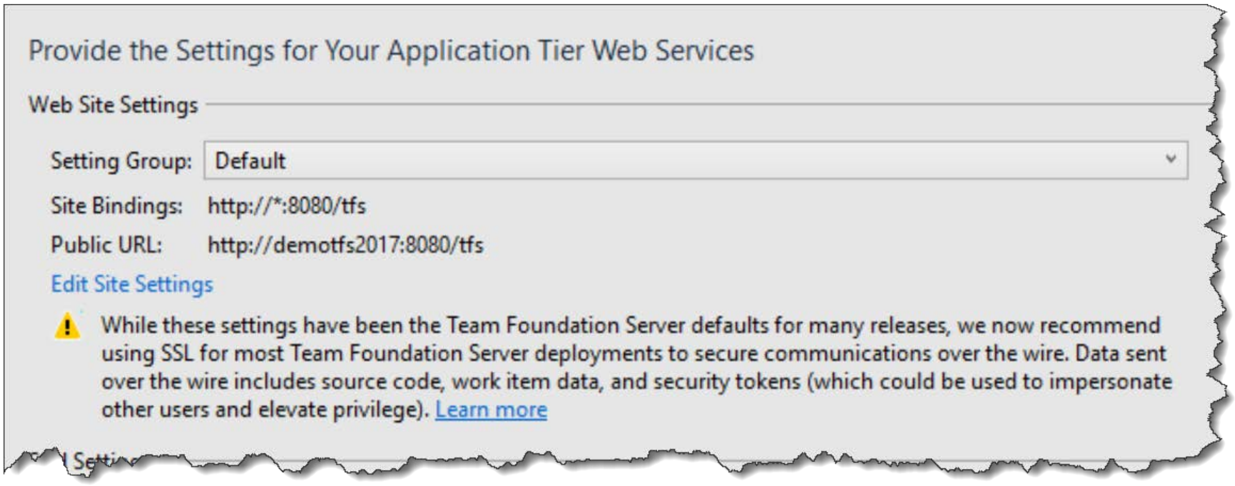
● Use a user account :

Account Name: demo\tfsservice ✓

Password: ●●●●●●●●

- 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.



Provide the Settings for Your Application Tier Web Services

Web Site Settings

Setting Group: Default

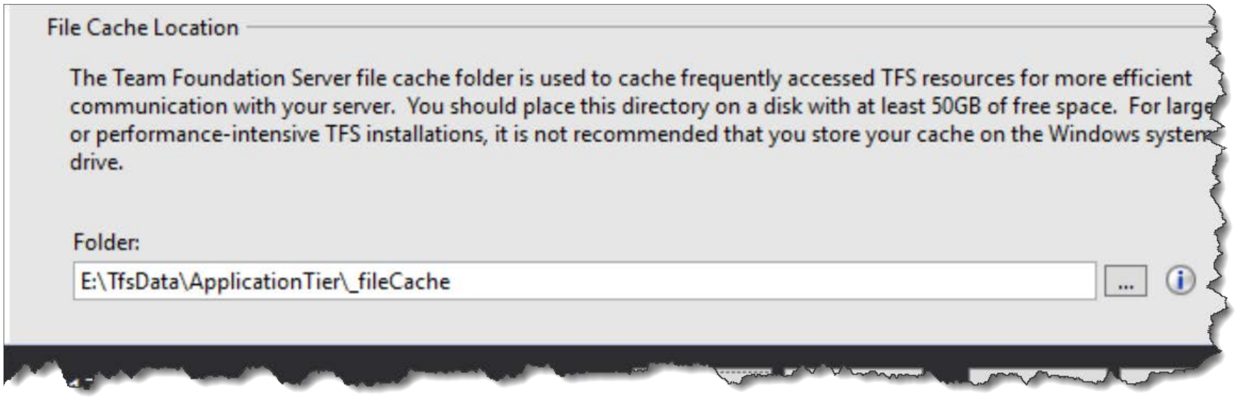
Site Bindings: http://*:8080/tfs

Public URL: http://demotfs2017:8080/tfs

Edit Site Settings

⚠ While these settings have been the Team Foundation Server defaults for many releases, we now recommend using SSL for most Team Foundation Server deployments to secure communications over the wire. Data sent over the wire includes source code, work item data, and security tokens (which could be used to impersonate other users and elevate privilege). Learn more

(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.



File Cache Location

The Team Foundation Server file cache folder is used to cache frequently accessed TFS resources for more efficient communication with your server. You should place this directory on a disk with at least 50GB of free space. For large or performance-intensive TFS installations, it is not recommended that you store your cache on the Windows system drive.

Folder: E:\TfsData\ApplicationTier_fileCache

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

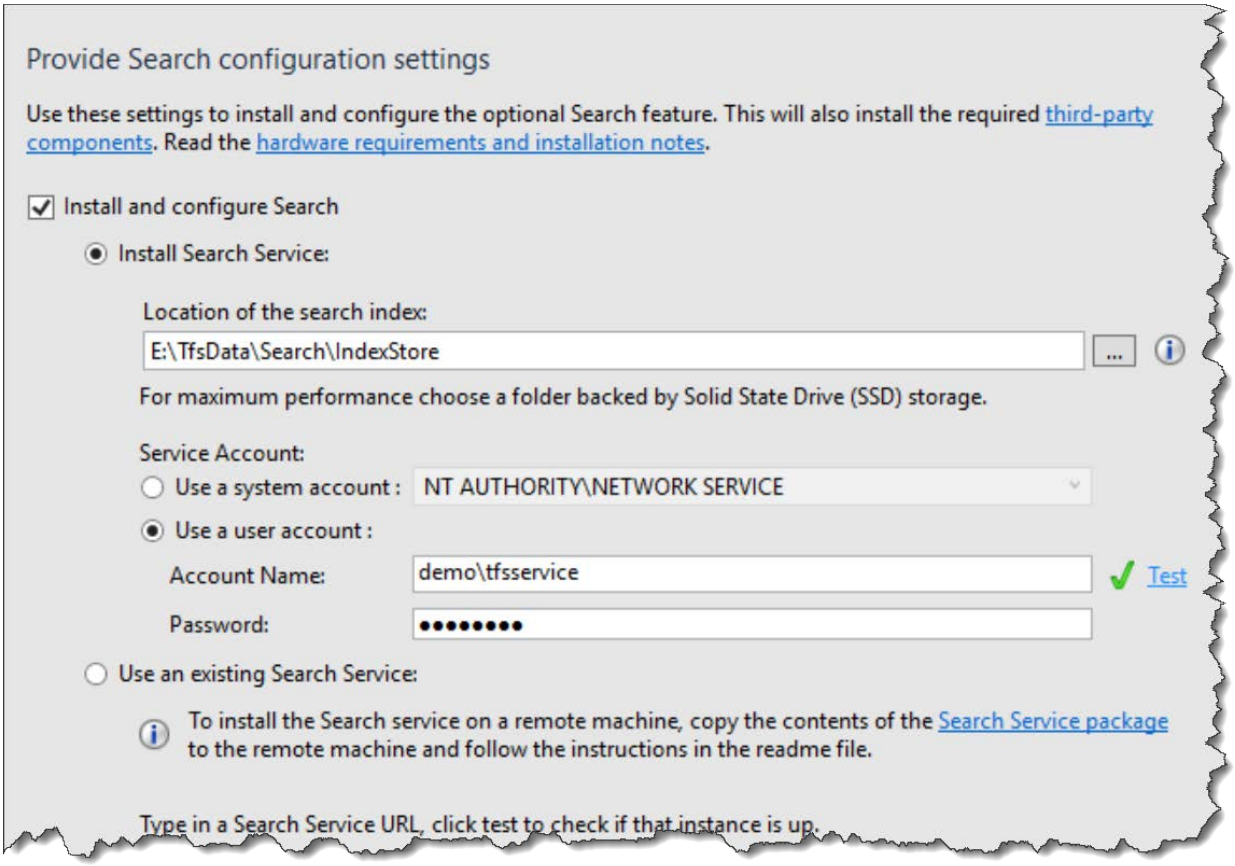
TFS2017 adds a bunch of new features to help you search the contents of your team projects. This is an optional feature.

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**



Provide Search configuration settings

Use these settings to install and configure the optional Search feature. This will also install the required third-party components. Read the hardware requirements and installation notes.

☑ Install and configure Search

● Install Search Service:

Location of the search index:

E:\TfsData\Search\IndexStore

For maximum performance choose a folder backed by Solid State Drive (SSD) storage.

Service Account:

○ Use a system account : NT AUTHORITY\NETWORK SERVICE

● Use a user account :

Account Name: demo\tfsservice ✓ Test

Password: ••••••••

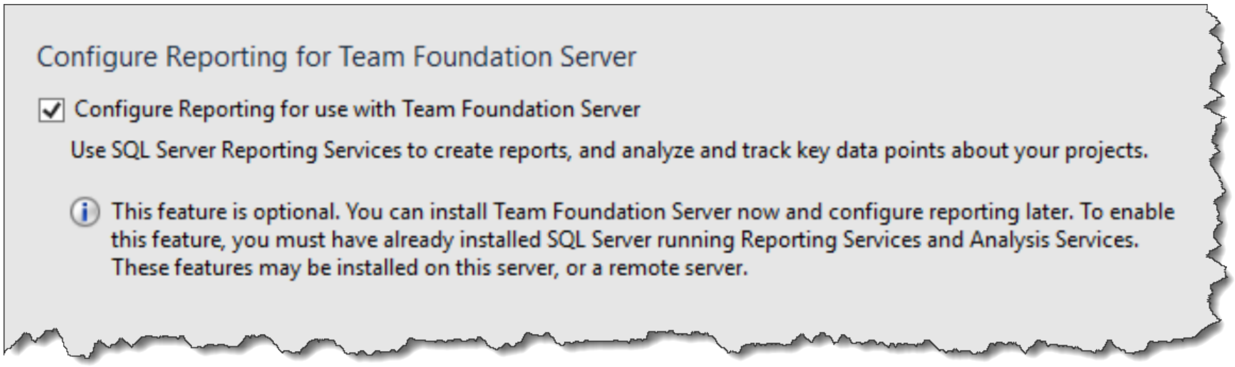
○ Use an existing Search Service:

To install the Search service on a remote machine, copy the contents of the Search Service package to the remote machine and follow the instructions in the readme file.

Type in a Search Service URL, click test to check if that instance is up.

- 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.



Configure Reporting for Team Foundation Server

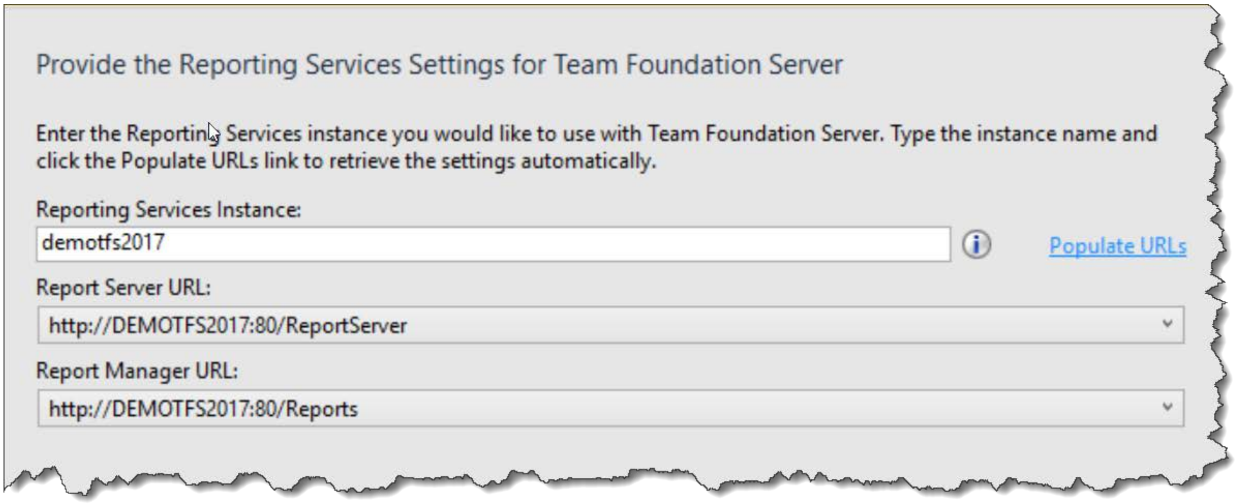
☑ Configure Reporting for use with Team Foundation Server

Use SQL Server Reporting Services to create reports, and analyze and track key data points about your projects.

ⓘ This feature is optional. You can install Team Foundation Server now and configure reporting later. To enable this feature, you must have already installed SQL Server running Reporting Services and Analysis Services. These features may be installed on this server, or a remote server.

- 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.



Provide the Reporting Services Settings for Team Foundation Server

Enter the Reporting Services instance you would like to use with Team Foundation Server. Type the instance name and click the Populate URLs link to retrieve the settings automatically.

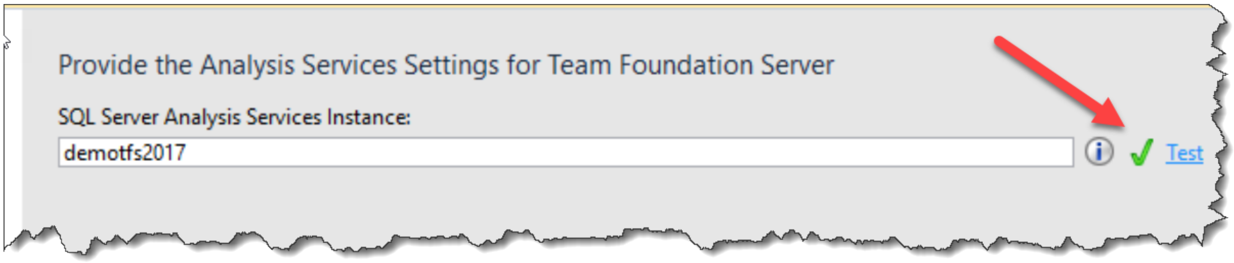
Reporting Services Instance: demotfs2017

Report Server URL: http://DEMOTFS2017:80/ReportServer

Report Manager URL: http://DEMOTFS2017:80/Reports

- Click **Next**

You should now see the Analysis Services settings page.

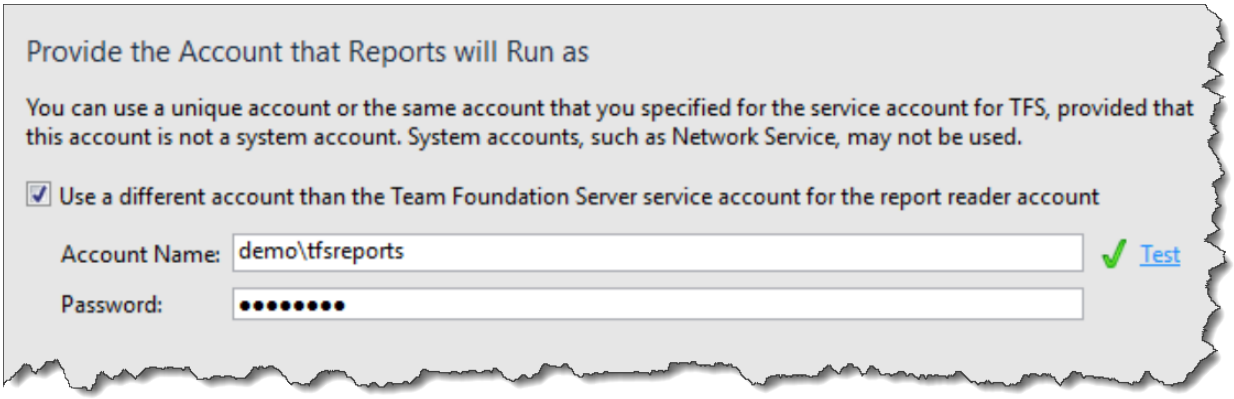


Provide the Analysis Services Settings for Team Foundation Server

SQL Server Analysis Services Instance: demotfs2017

- 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.



Provide the Account that Reports will Run as

You can use a unique account or the same account that you specified for the service account for TFS, provided that this account is not a system account. System accounts, such as Network Service, may not be used.

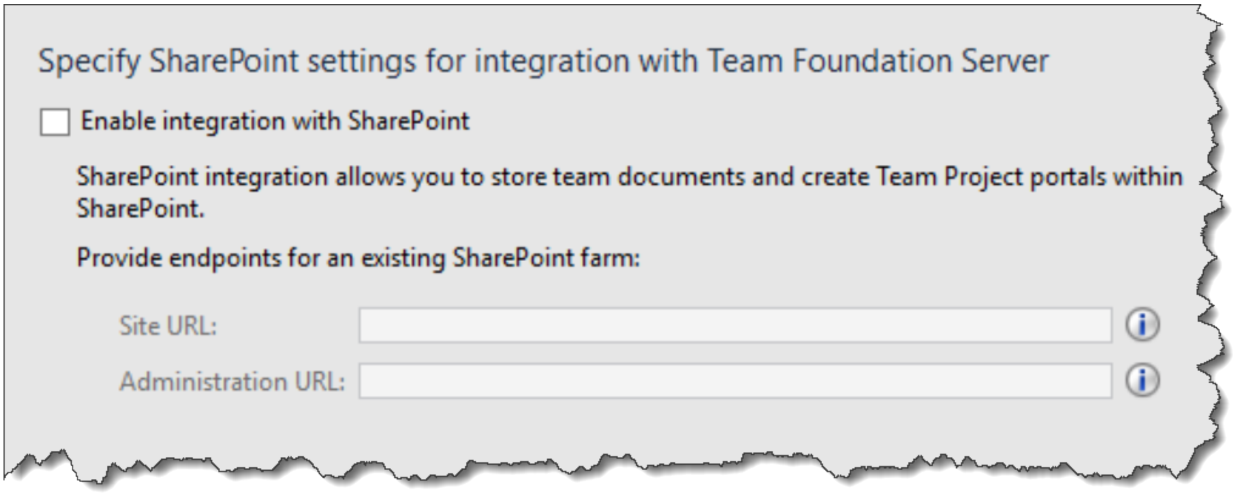
☑ Use a different account than the Team Foundation Server service account for the report reader account

Account Name: demo\tfsreports ✓ Test

Password: ••••••••

- 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.



Specify SharePoint settings for integration with Team Foundation Server

☐ Enable integration with SharePoint

SharePoint integration allows you to store team documents and create Team Project portals within SharePoint.

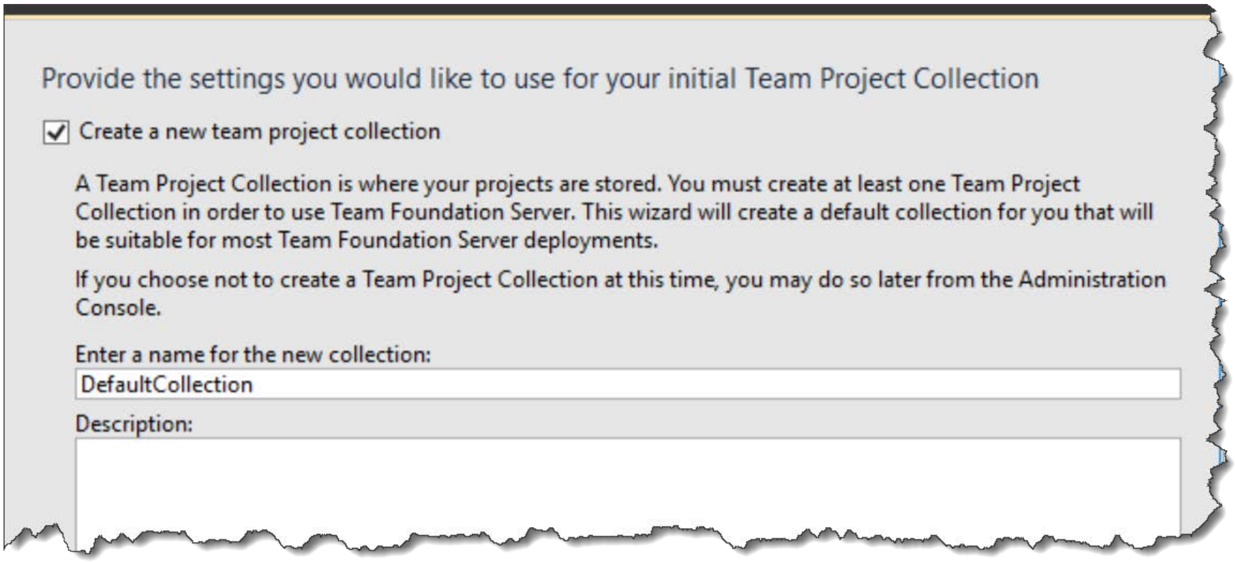
Provide endpoints for an existing SharePoint farm:

Site URL:

Administration URL:

- 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.



Provide the settings you would like to use for your initial Team Project Collection

☑ Create a new team project collection

A Team Project Collection is where your projects are stored. You must create at least one Team Project Collection in order to use Team Foundation Server. This wizard will create a default collection for you that will be suitable for most Team Foundation Server deployments.

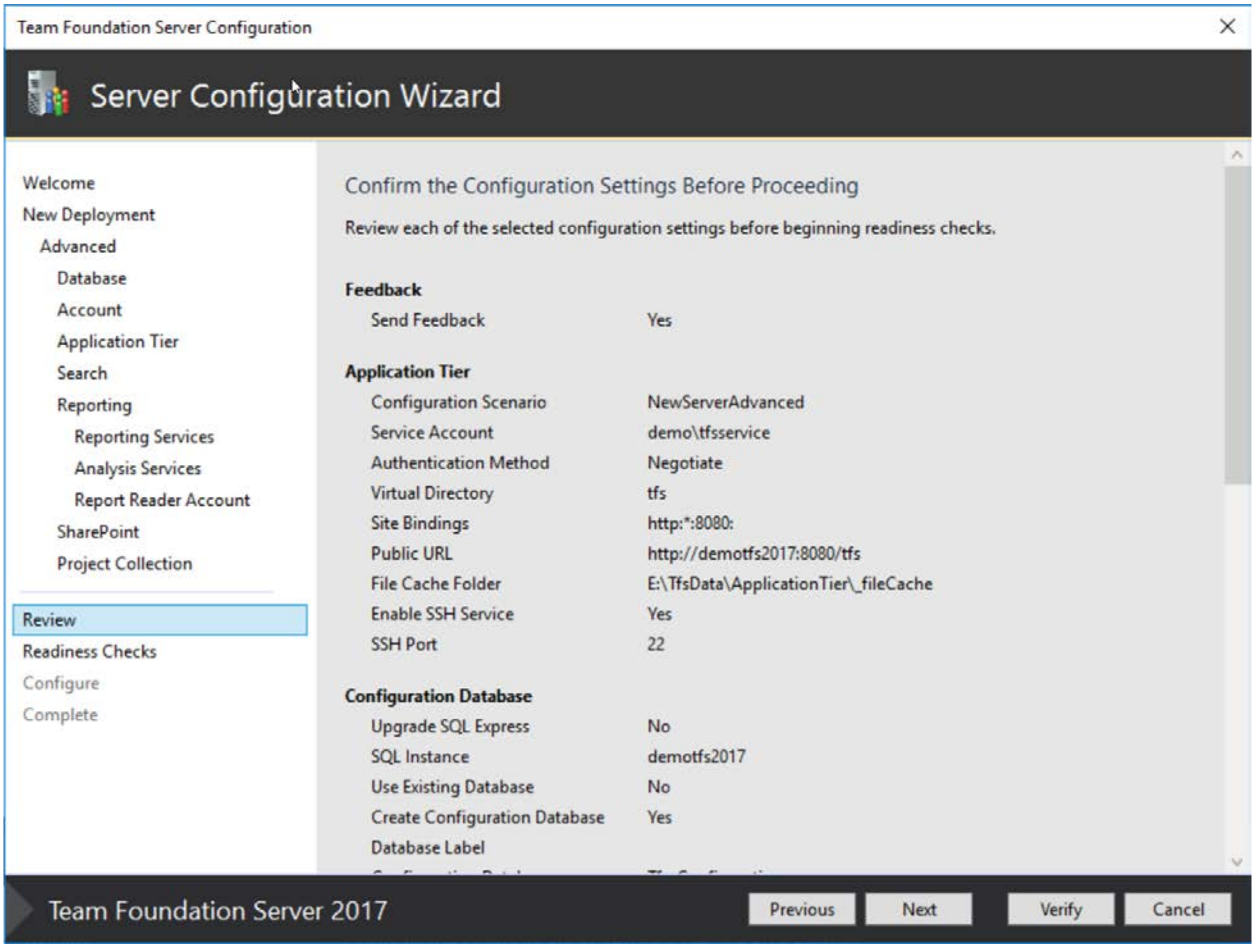
If you choose not to create a Team Project Collection at this time, you may do so later from the Administration Console.

Enter a name for the new collection: DefaultCollection

Description:

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

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



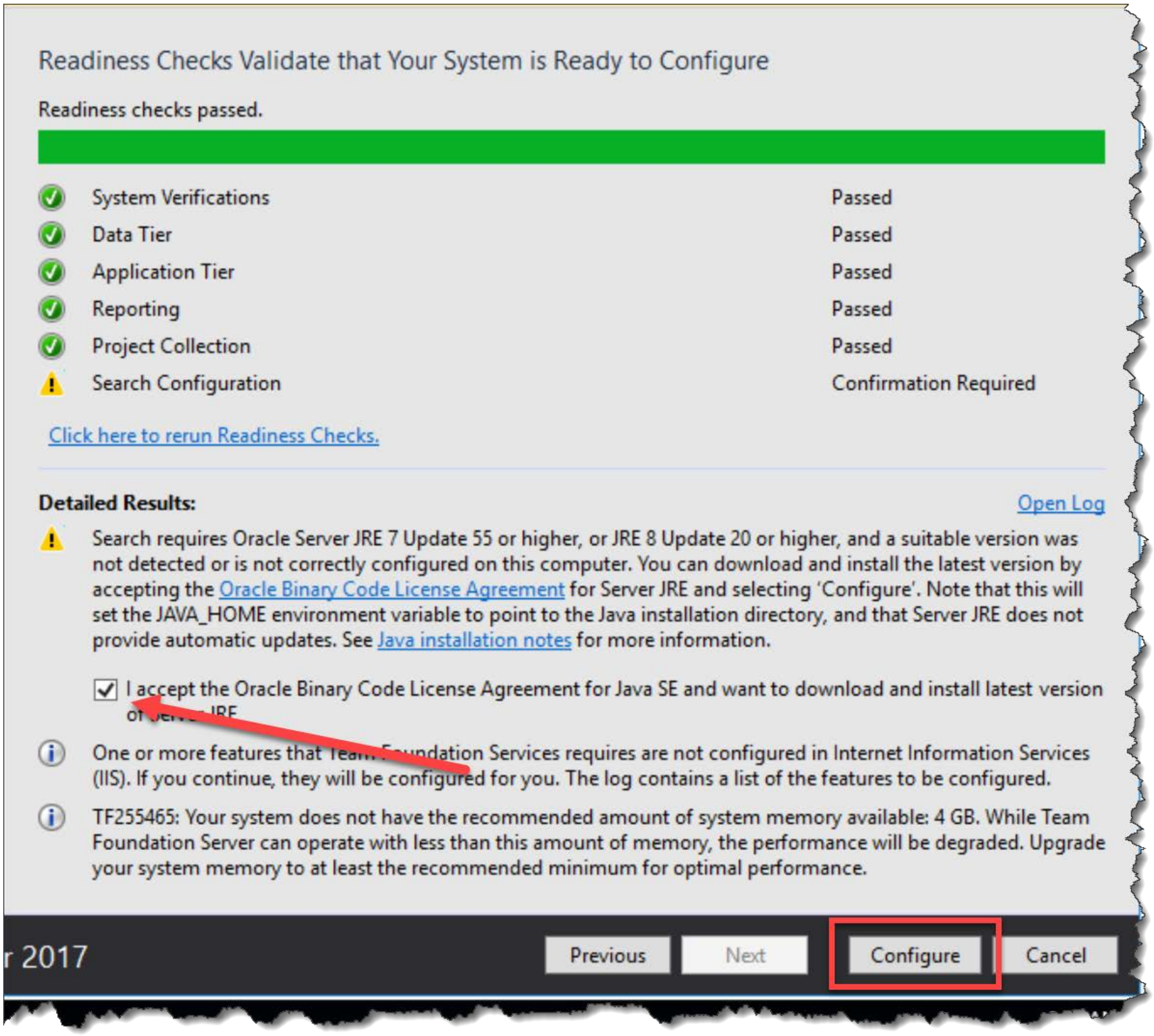
Confirm the Configuration Settings Before Proceeding

Review each of the selected configuration settings before beginning readiness checks.

Feedback	
Send Feedback	Yes
Application Tier	
Configuration Scenario	NewServerAdvanced
Service Account	demo\tfsservice
Authentication Method	Negotiate
Virtual Directory	tfs
Site Bindings	http:*:8080:
Public URL	http://demotfs2017:8080/tfs
File Cache Folder	E:\TfsData\ApplicationTier_fileCache
Enable SSH Service	Yes
SSH Port	22
Configuration Database	
Upgrade SQL Express	No
SQL Instance	demotfs2017
Use Existing Database	No
Create Configuration Database	Yes
Database Label	

- 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.



Readiness Checks Validate that Your System is Ready to Configure

Readiness checks passed.

✓	System Verifications	Passed
✓	Data Tier	Passed
✓	Application Tier	Passed
✓	Reporting	Passed
✓	Project Collection	Passed
⚠	Search Configuration	Confirmation Required

Click here to rerun Readiness Checks.

Detailed Results: Open Log

⚠ Search requires Oracle Server JRE 7 Update 55 or higher, or JRE 8 Update 20 or higher, and a suitable version was not detected or is not correctly configured on this computer. You can download and install the latest version by accepting the Oracle Binary Code License Agreement for Server JRE and selecting 'Configure'. Note that this will set the JAVA_HOME environment variable to point to the Java installation directory, and that Server JRE does not provide automatic updates. See Java installation notes for more information.

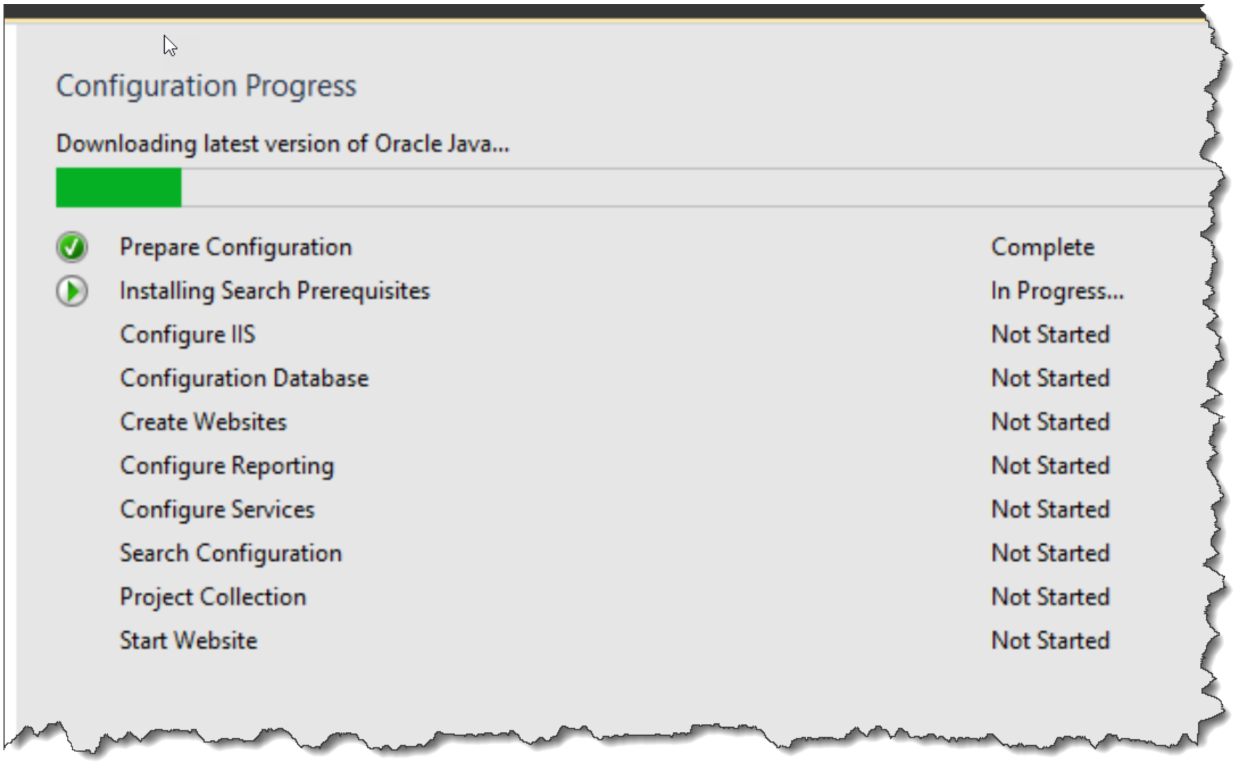
☑ I accept the Oracle Binary Code License Agreement for Java SE and want to download and install latest version of Server JRE

ⓘ One or more features that Team Foundation Services requires are not configured in Internet Information Services (IIS). If you continue, they will be configured for you. The log contains a list of the features to be configured.

ⓘ TF255465: Your system does not have the recommended amount of system memory available: 4 GB. While Team Foundation Server can operate with less than this amount of memory, the performance will be degraded. Upgrade your system memory to at least the recommended minimum for optimal performance.

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

The configuration process should now be running.

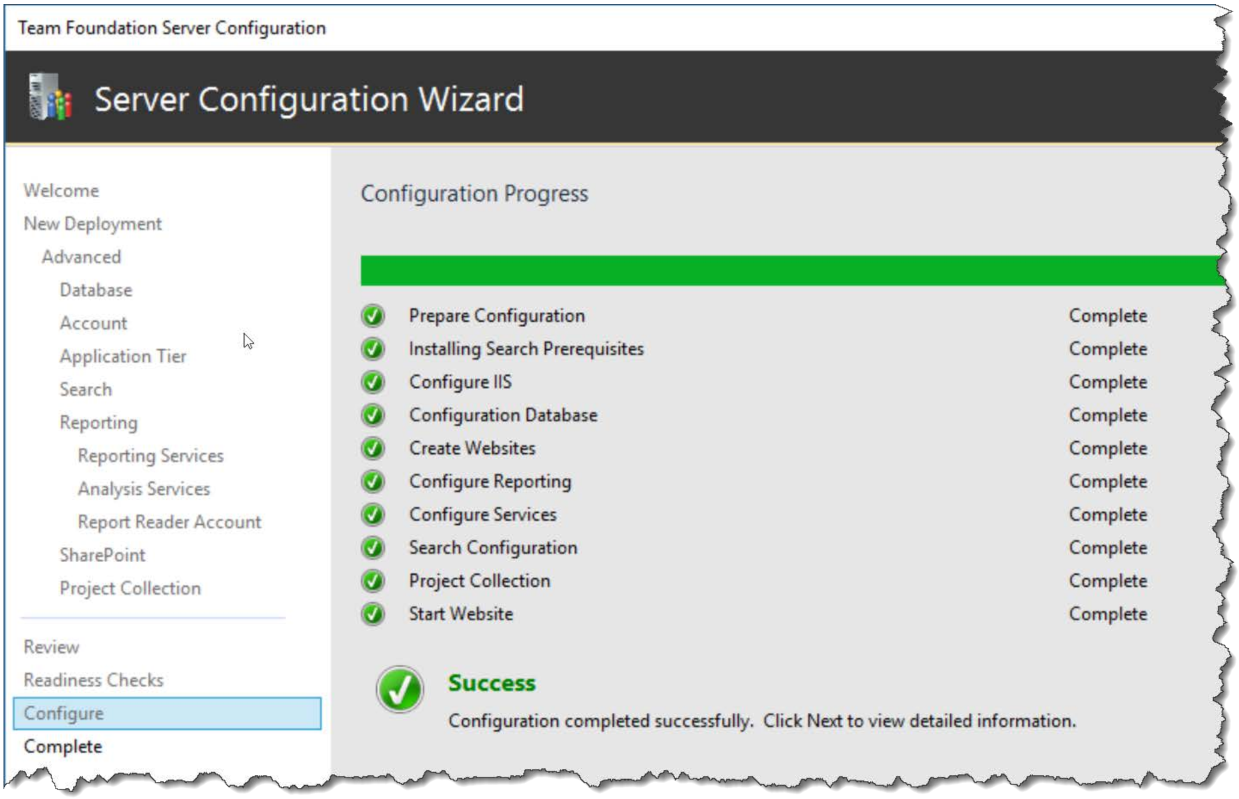


Configuration Progress

Downloading latest version of Oracle Java...

✓	Prepare Configuration	Complete
▶	Installing Search Prerequisites	In Progress...
	Configure IIS	Not Started
	Configuration Database	Not Started
	Create Websites	Not Started
	Configure Reporting	Not Started
	Configure Services	Not Started
	Search Configuration	Not Started
	Project Collection	Not Started
	Start Website	Not Started

The configuration process should end with a message saying Success.



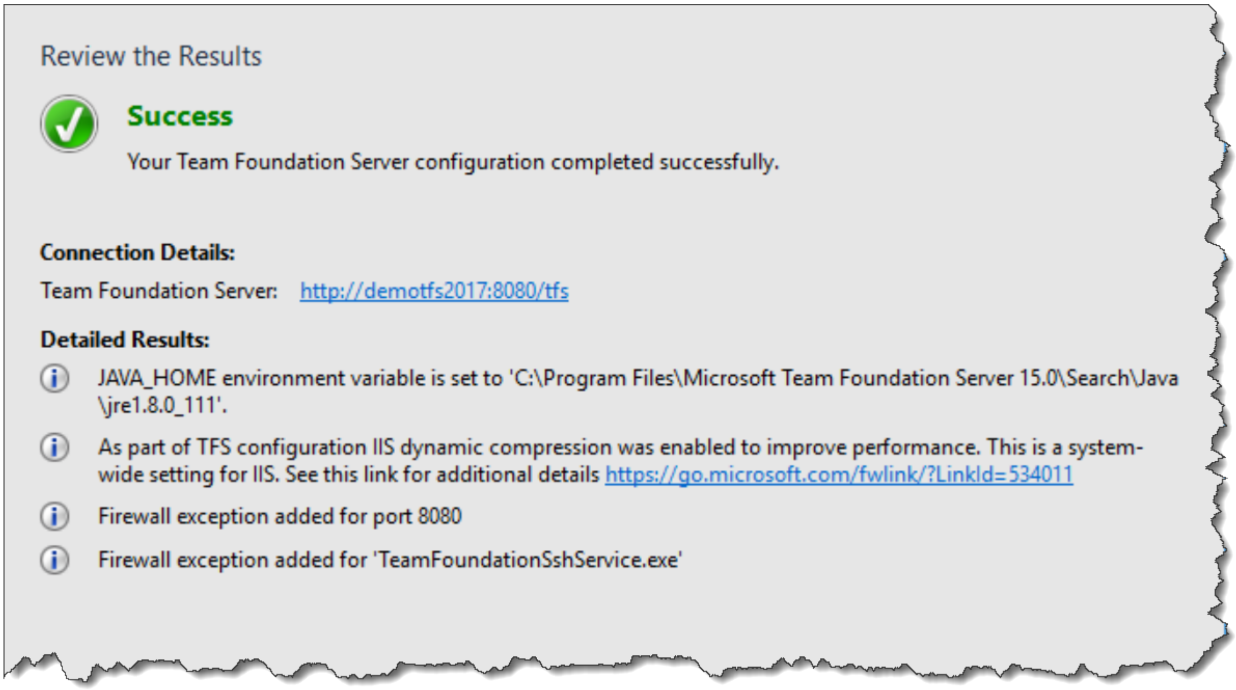
✓ Prepare Configuration	Complete
✓ Installing Search Prerequisites	Complete
✓ Configure IIS	Complete
✓ Configuration Database	Complete
✓ Create Websites	Complete
✓ Configure Reporting	Complete
✓ Configure Services	Complete
✓ Search Configuration	Complete
✓ Project Collection	Complete
✓ Start Website	Complete

✓ Success

Configuration completed successfully. Click Next to view detailed information.

- Click **Next**

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



Review the Results

Success

Your Team Foundation Server configuration completed successfully.

Connection Details:

Team Foundation Server: http://demotfs2017:8080/tfs

Detailed Results:

ⓘ JAVA_HOME environment variable is set to 'C:\Program Files\Microsoft Team Foundation Server 15.0\Search\Java\jre1.8.0_111'.

ⓘ As part of TFS configuration IIS dynamic compression was enabled to improve performance. This is a system-wide setting for IIS. See this link for additional details https://go.microsoft.com/fwlink/?LinkId=534011

ⓘ Firewall exception added for port 8080

ⓘ Firewall exception added for 'TeamFoundationSshService.exe'

- Click **Close**

Team Foundation Server 2017 is now configured and running.

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

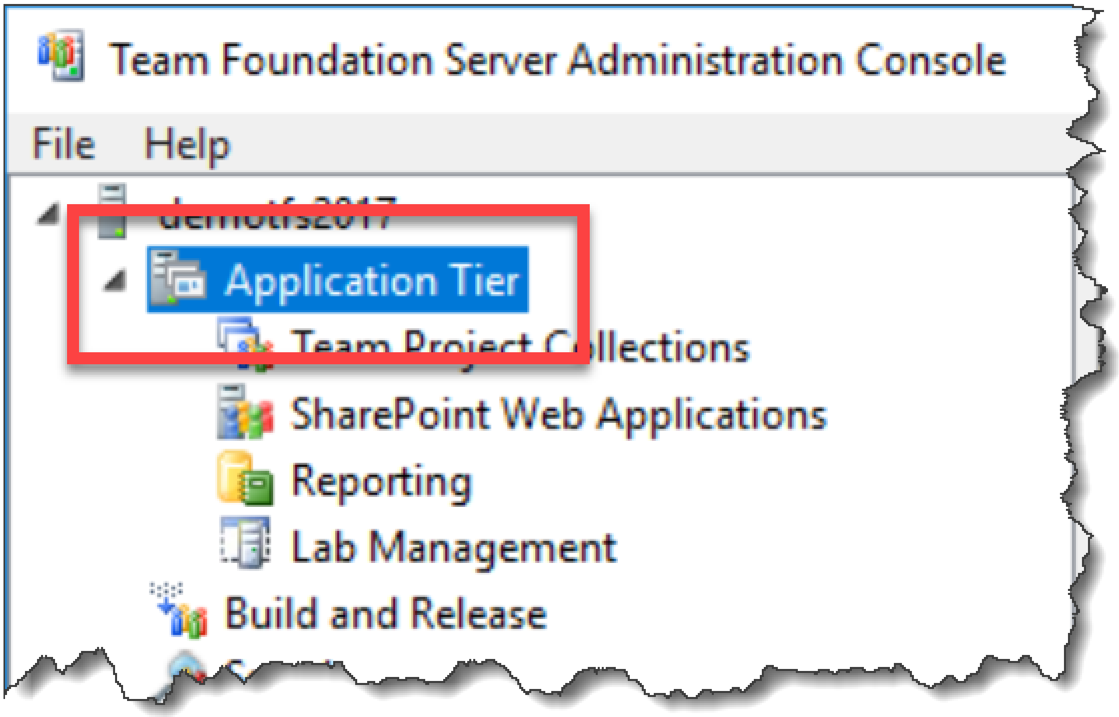
TFS2017 has this great new feature in work item tracking called “Follow”. You open a work item and there’s a button in the upper right corner of the work item that says “Follow” and when you click it, TFS will send you emails regarding activity on this work item. BUT! If you don’t configure an SMTP server 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.

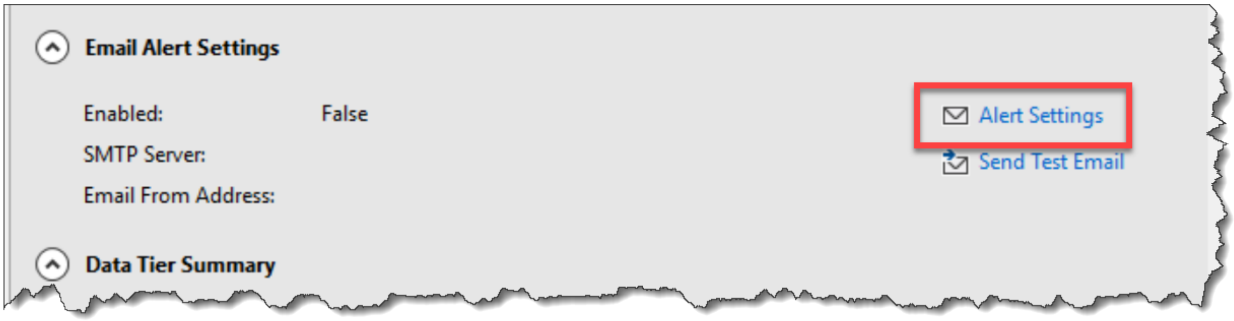
- Log in to your TFS2017 machine as an administrator
- Go to the Start menu
- Search for **Team Foundation Administrator Console**

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.**


Email Alert Settings

Enabled: False

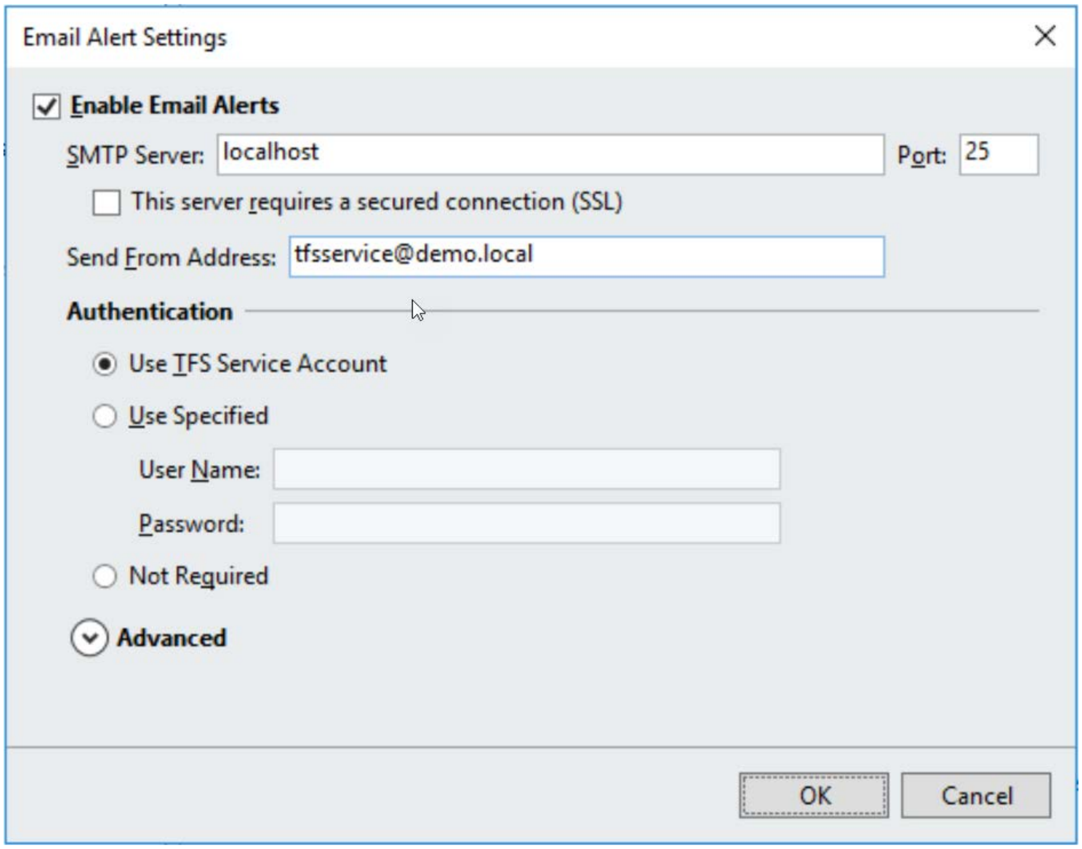
SMTP Server:

Email From Address:

Data Tier Summary

- Click **Alert Settings**

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



Email Alert Settings

☑ Enable Email Alerts

SMTP Server: localhost Port: 25

□ This server requires a secured connection (SSL)

Send From Address: tfsservice@demo.local

Authentication

● Use TFS Service Account

○ Use Specified

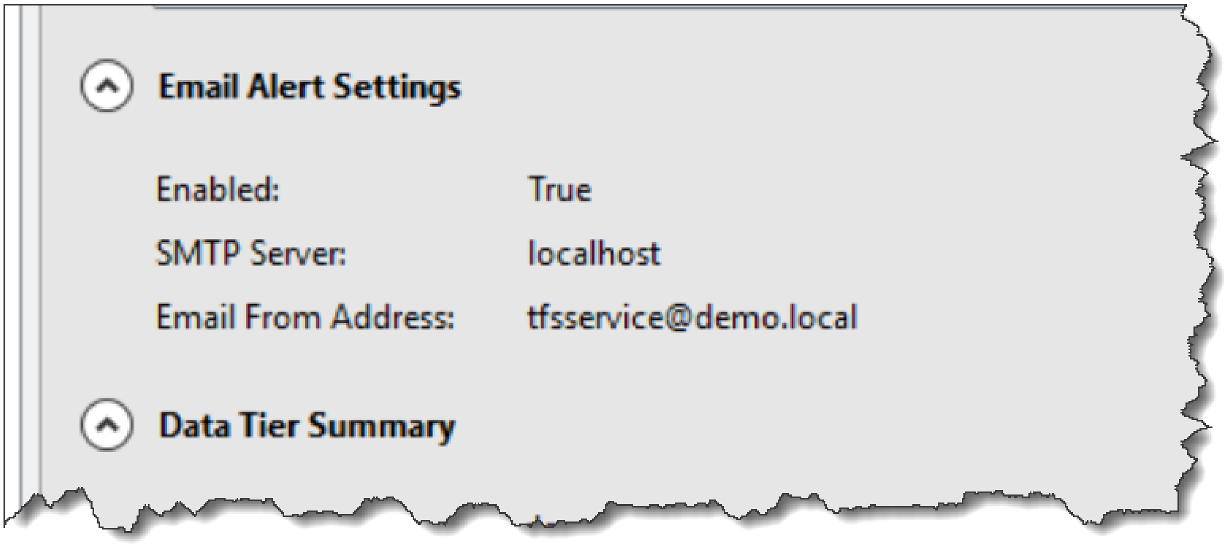
User Name:

Password:

○ Not Required

- 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.



Email Alert Settings

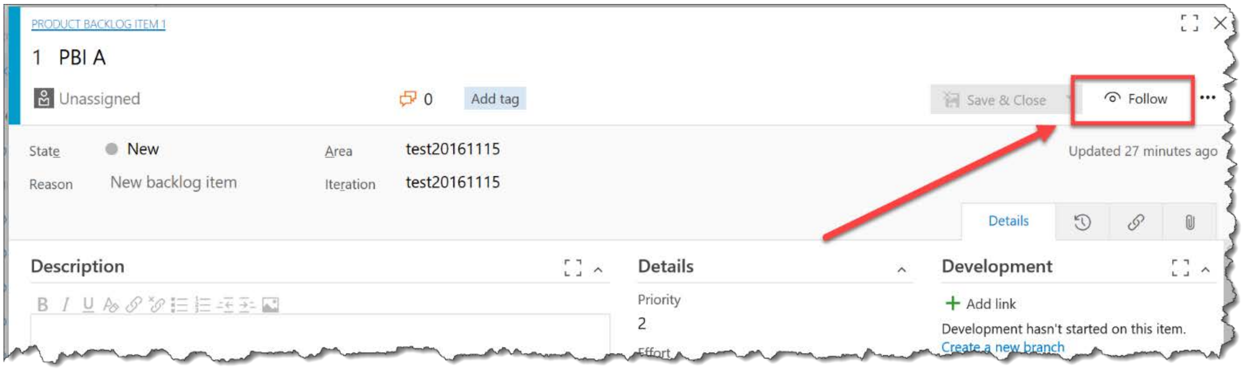
Enabled: True

SMTP Server: localhost

Email From Address: tfsservice@demo.local

Data Tier Summary

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



PRODUCT BACKLOG ITEM 1

1 PBI A

Unassigned

0

State: New

Reason: New backlog item

Area: test20161115

Iteration: test20161115

Updated 27 minutes ago

Priority: 2

Development hasn't started on this item.

Your TFS is ready to send emails.

Chapter 6: Create a TFS Build / Release Server on Windows

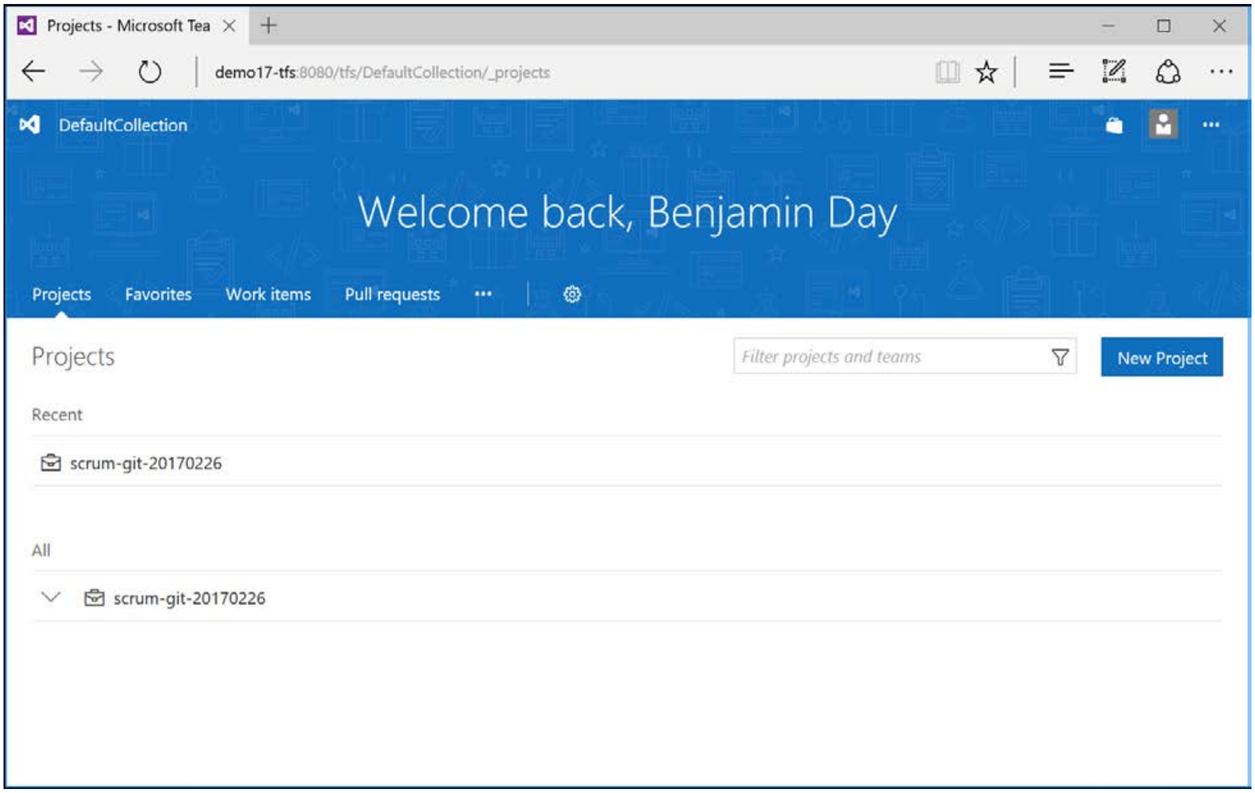
This chapter will walk you through the process of creating a build server on Windows. That's a slightly inaccurate sentence – this chapter will walk you through the process of installing a build & release agent on Windows. The build agent and the release agent are the same installer and process in TFS2017 and a single installation of this agent will allow you to do "build" activities and also "release" activities.

The following steps all happen on the machine that is going to be the build server.

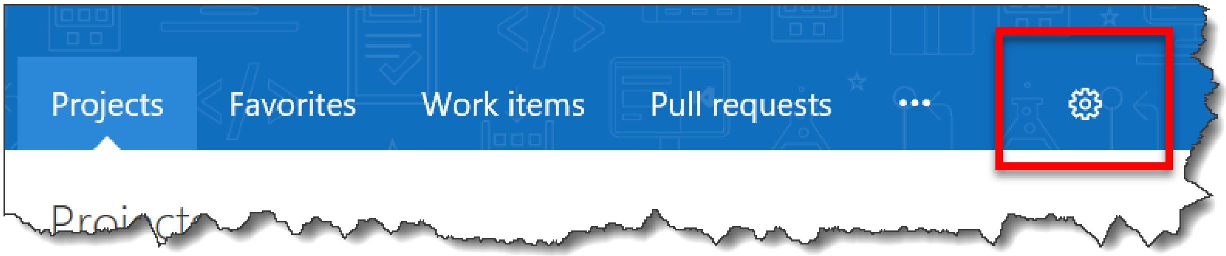
Download the Agent Installer

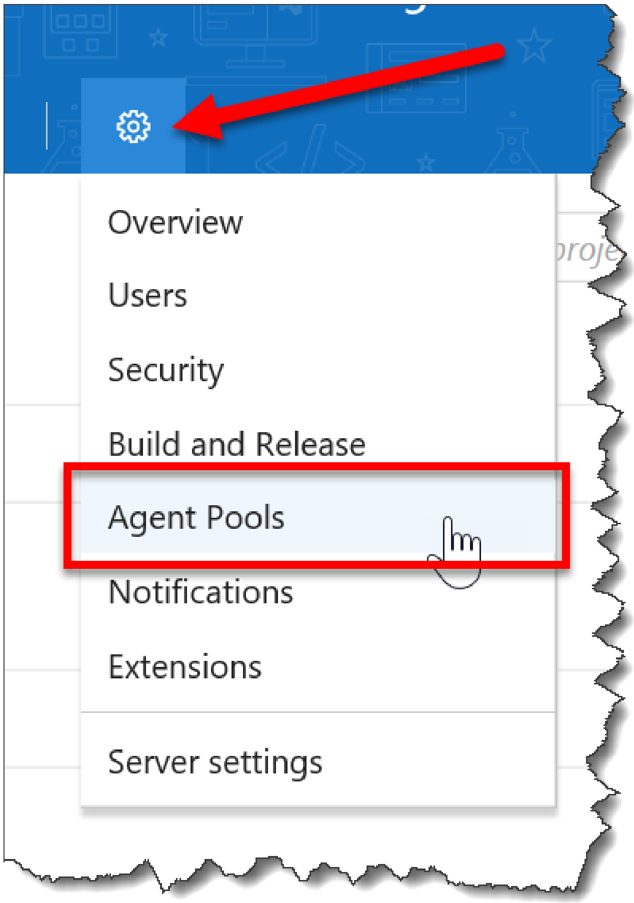
- Log in to the build server machine
- Open a web browser
- Navigate to your TFS web interface. By default this is http://*servername*:8080/tfs.

You should see a screen that looks like this.



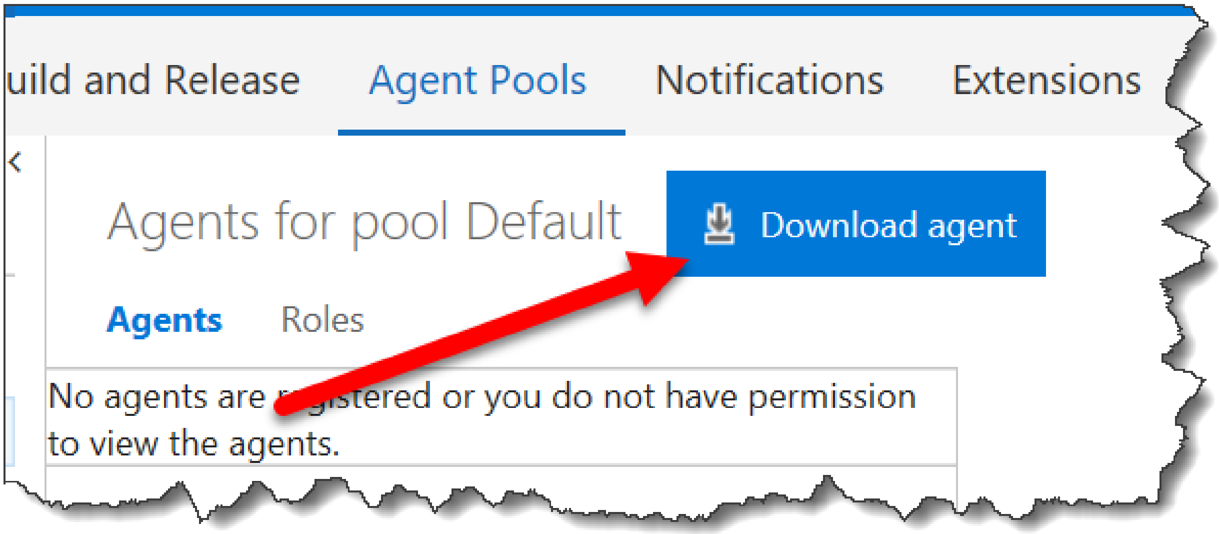
On the right side of the menu bar, there is a gear icon.





- Click the **gear icon** to bring up the **Settings menu**
- Choose **Agent Pools**

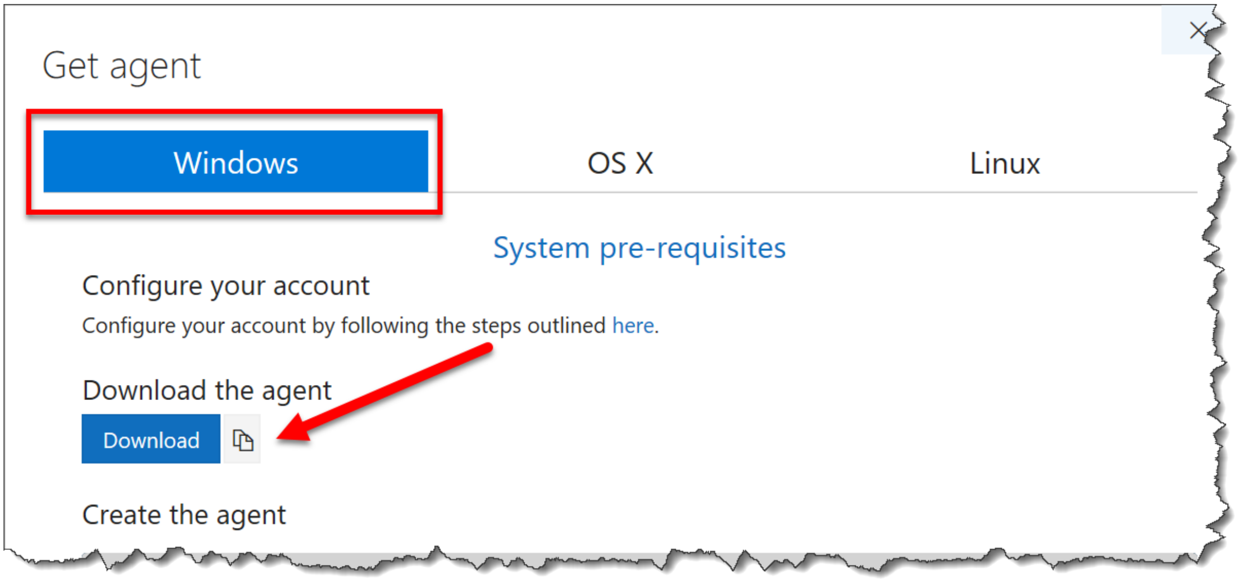
You should now see the admin screen for you team project collection and you should be looking at the Agent Pools tab. There should be a button that says “Download agent”.



No agents are registered or you do not have permission to view the agents.

- Click the **Download agent** button

A dialog should pop up that shows you the download and installation info for Windows, Mac OS / OS X, and Linux.



Configure your account

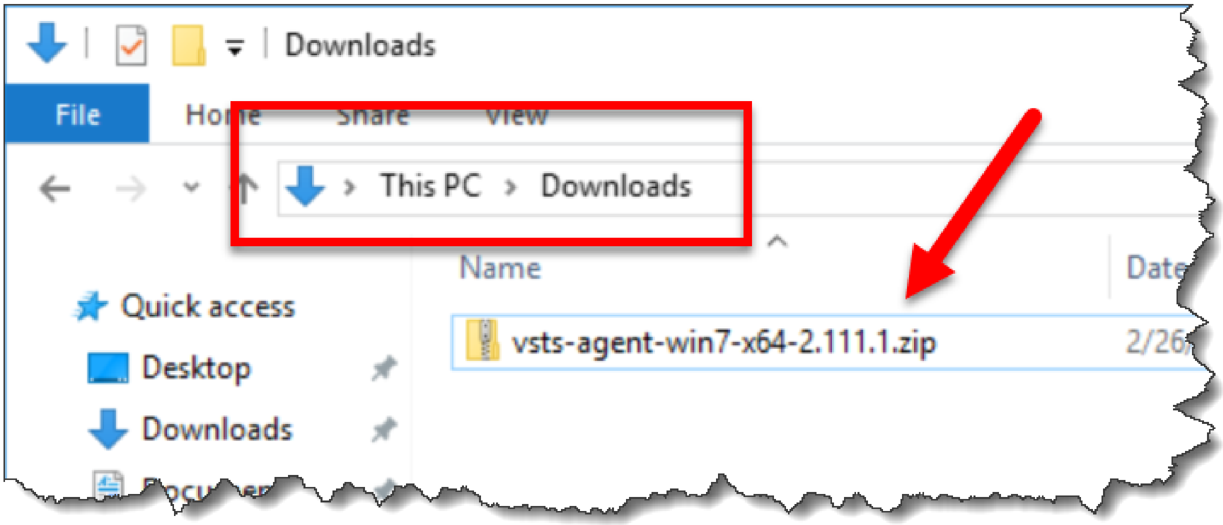
Configure your account by following the steps outlined here.

Download the agent

Create the agent

- Make sure the **Windows tab** is selected
- Click the **Download** button (NOTE: this guide assumes you’re doing the default browser behavior and downloading the agent zip to the download directory for your user profile.)

To verify that you saved this file to the expected location for this guide, open Windows Explorer (explorer.exe) and navigate to the Downloads directory. You should see a zip file that has a name that starts with "vsts-agent-". The actual filename might not be the same as the image below because the agent version may have been updated.

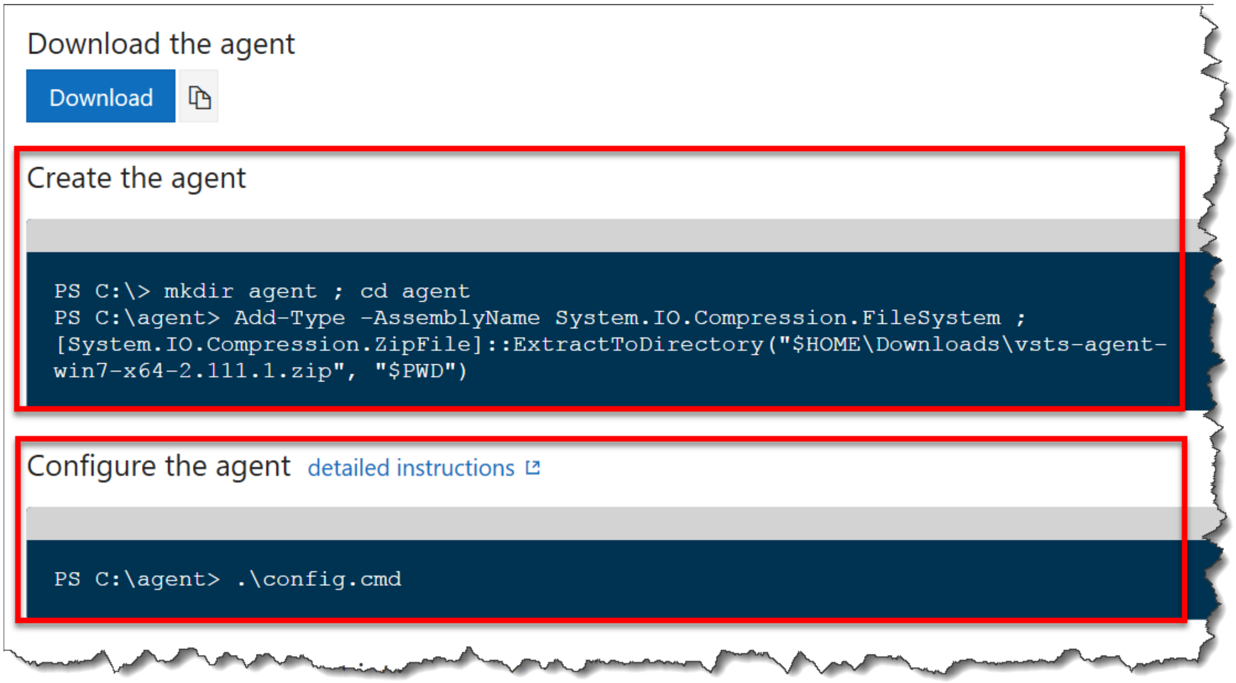


vsts-agent-win7-x64-2.111.1.zip

Extract the Agent

Now that you've downloaded the bits for the agent, you'll do the actual installation using PowerShell. This is actually done in two parts. Part 1: Extract the agent bits from the ZIP. Part 2: Configure the Agent. Let's do the first part.

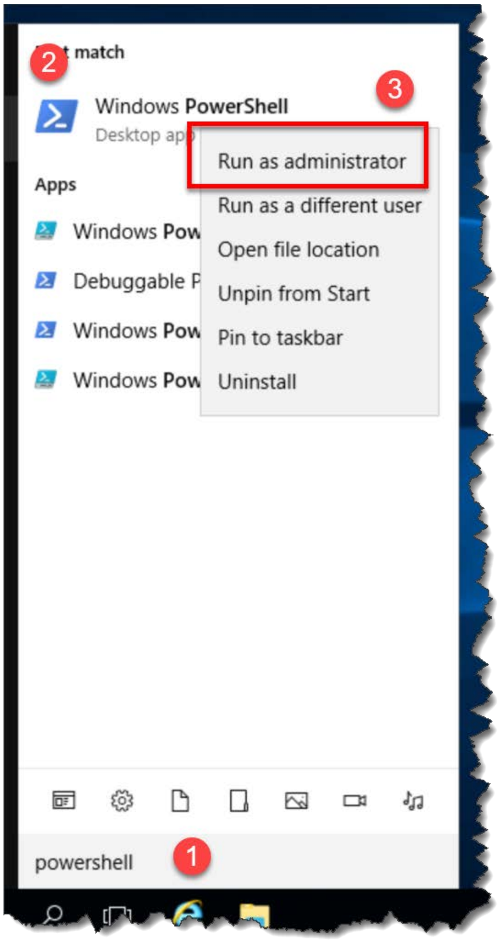
That dialog that you used to download the agent has two different commands: "Create the agent" and "Configure the agent". In an ideal world, you'd be able to just copy and paste the commands and not have to think about anything – but this isn't an ideal world so buckle up. (Actually, it's not that bad…it's just enough friction to be a little bit annoying.)



```
PS C:\> mkdir agent ; cd agent
PS C:\agent> Add-Type -AssemblyName System.IO.Compression.FileSystem ;
[System.IO.Compression.ZipFile]::ExtractToDirectory("$HOME\Downloads\vsts-agent-
win7-x64-2.111.1.zip", "$PWD")
```

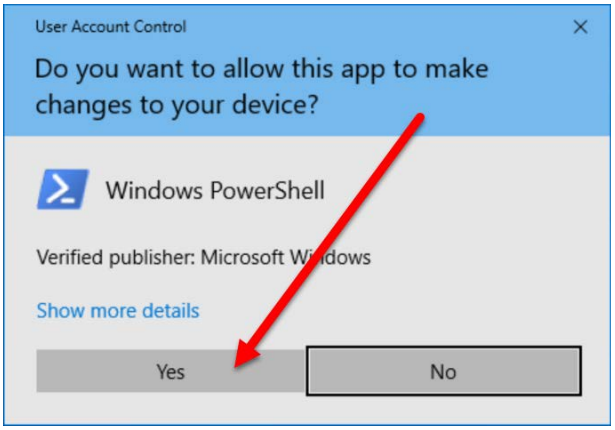
```
PS C:\agent> .\config.cmd
```

First up, it's time to run PowerShell.



- Press the **Windows key** on your keyboard to bring up the search menu and type **PowerShell**
- From the search results, right-click **Windows PowerShell**
- From the context menu for PowerShell, choose **Run as administrator**

You'll see a User Account Control dialog.



User Account Control

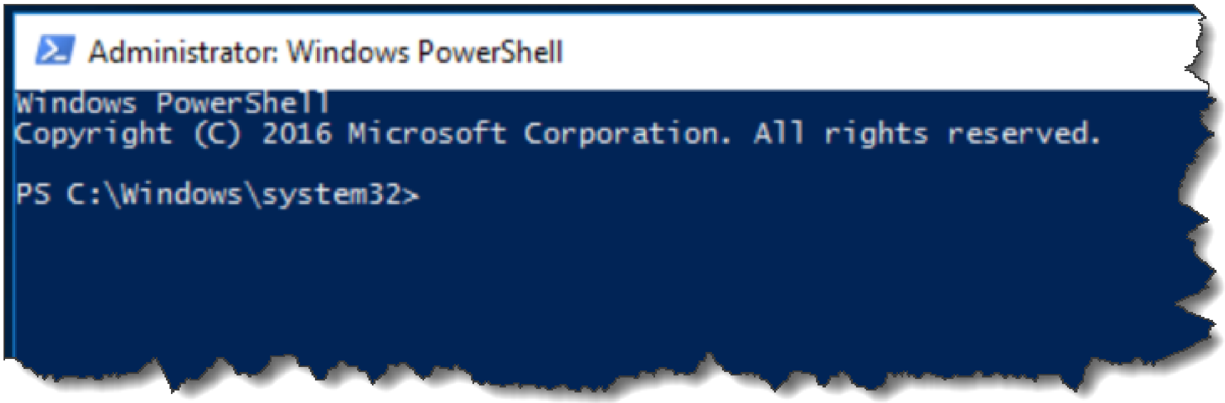
Do you want to allow this app to make changes to your device?

Windows PowerShell

Verified publisher: Microsoft Windows

- Click **Yes**

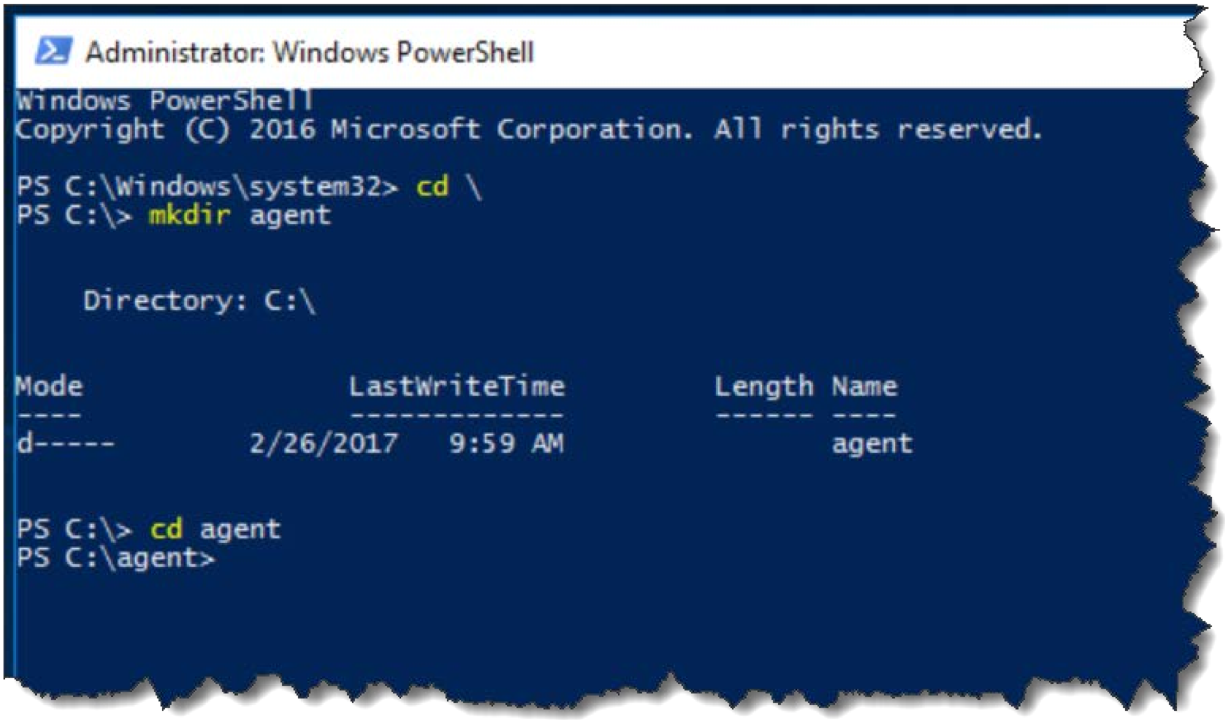
You should now see a Windows PowerShell window with the title "Administrator: Windows PowerShell".



Administrator: Windows PowerShell

```
Windows PowerShell
Copyright (C) 2016 Microsoft Corporation. All rights reserved.

PS C:\Windows\system32>
```

You're now going to run a handful of commands to create the folder structure that you'll be installing the build agent in to.



```
Windows PowerShell
Copyright (C) 2016 Microsoft Corporation. All rights reserved.

PS C:\Windows\system32> cd \
PS C:\> mkdir agent


    Directory: C:\


Mode                LastWriteTime         Length Name
----                -------------         ------ ----
d-----        2/26/2017   9:59 AM                agent


PS C:\> cd agent
PS C:\agent>
```

- Type "cd \" and press Enter
- Type "mkdir agent" and press Enter
- Type "cd agent" and press Enter

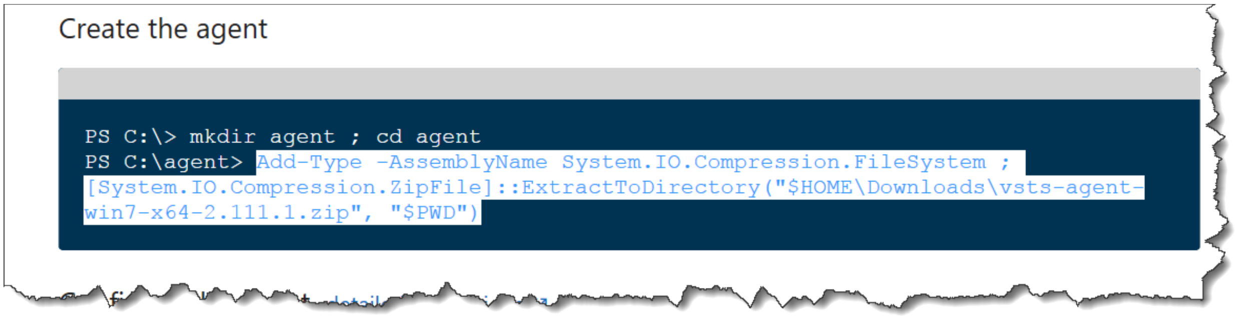
When you're done with these commands, your screen should look almost exactly the same as the image above. It's extremely important that the PowerShell screen is showing you

PS C:\agent>

on the last line because this indicates that you've correctly created a directory called Agent and entered that directory.

If your PowerShell window doesn't show you "PS C:\agent>", abandon all hope and reconsider all of the life choices that you've made to date. ☺

Next, you'll run the PowerShell command that will extract the zip into the agent directory. This is some fiddly typing and the exact text will change as Microsoft updates the build agent install zip filename. It's probably easiest to just copy and paste the value from the **Create the agent** section of the download dialog. You WILL NOT be copying the whole command. You'll only be copying part of the line. In the image below, it's important to notice that I am NOT selecting the portion of the line that starts with "PS C:\agent>".

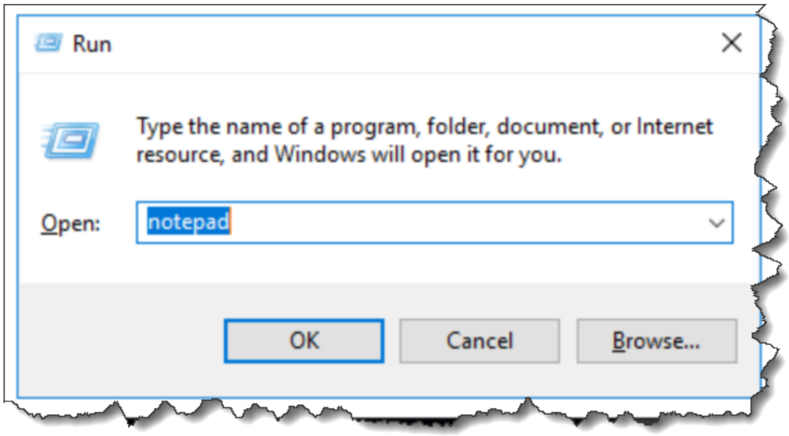


Create the agent

```
PS C:\> mkdir agent ; cd agent
PS C:\agent> Add-Type -AssemblyName System.IO.Compression.FileSystem ;
[System.IO.Compression.ZipFile]::ExtractToDirectory("$HOME\Downloads\vsts-agent-
win7-x64-2.111.1.zip", "$PWD")
```

- In the web browser, copy the text of the command that starts with "Add-Type"

Because nothing is ever easy, the command that you just copied probably has some extra characters in it. Let's use Notepad to fix it.

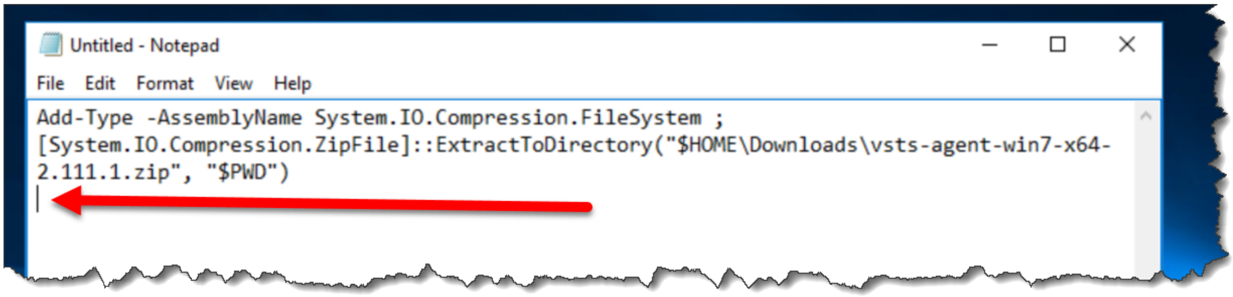


Type the name of a program, folder, document, or Internet resource, and Windows will open it for you.

Open: notepad

- Type Windows-R to bring up the Run dialog
- Type notepad
- Click OK
- Paste the copied command into Notepad

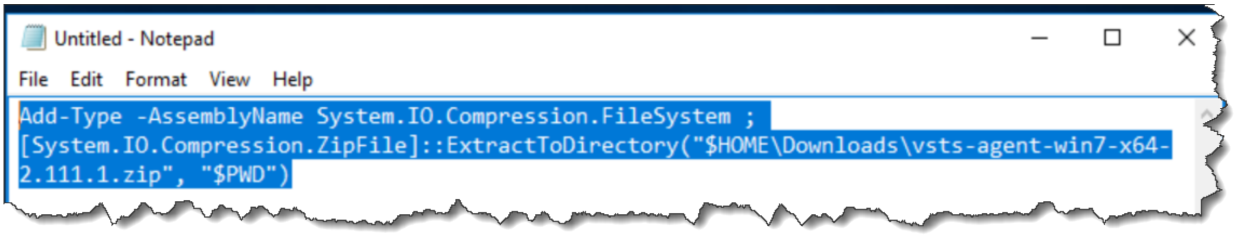
You should now see the command in Notepad. If everything is on one long line, go to the Format menu and choose Word Wrap. You might notice in the image below that my cursor is sitting on an empty line by itself. It's this extra line that's causing us to do this Notepad step.



```
Add-Type -AssemblyName System.IO.Compression.FileSystem ;
[System.IO.Compression.ZipFile]::ExtractToDirectory("$HOME\Downloads\vsts-agent-win7-x64-
2.111.1.zip", "$PWD")

```

- Delete the extra empty blank line at the end
- If there are any whitespace characters before "Add-Type", delete those, too.

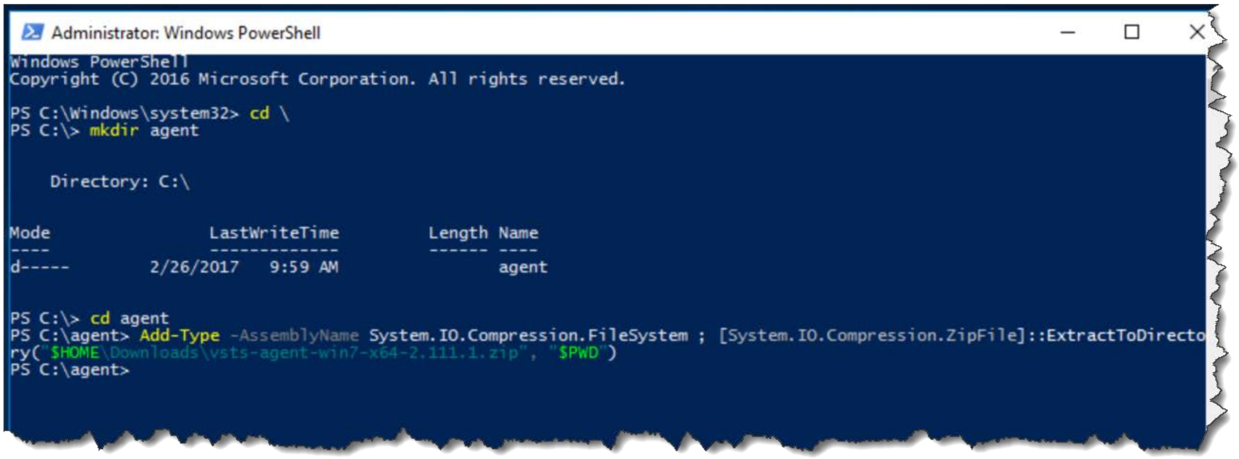
Now that that extra characters are gone, you should have a clean command that you can just paste into PowerShell and run.



```
Add-Type -AssemblyName System.IO.Compression.FileSystem ;
[System.IO.Compression.ZipFile]::ExtractToDirectory("$HOME\Downloads\vsts-agent-win7-x64-
2.111.1.zip", "$PWD")
```

- Select the command
- Press CTRL-C to copy the selected command to the clipboard

Now you'll run the command in PowerShell.

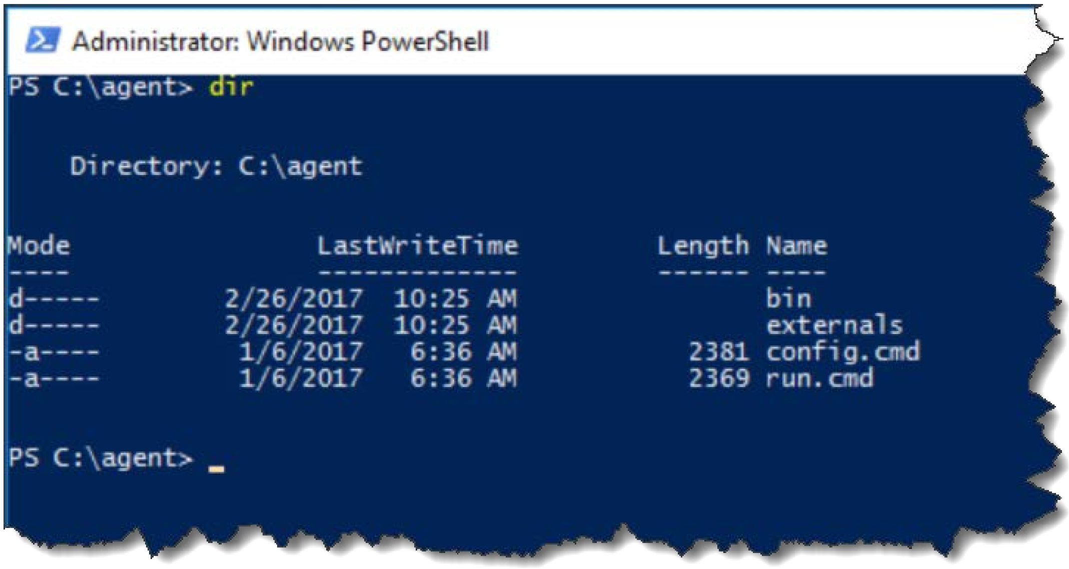


```
Windows PowerShell
Copyright (C) 2016 Microsoft Corporation. All rights reserved.

PS C:\Windows\system32> cd \
PS C:\> mkdir agent


    Directory: C:\


Mode                LastWriteTime         Length Name
----                -------------         ------ ----
d-----        2/26/2017   9:59 AM                agent


PS C:\> cd agent
PS C:\agent> Add-Type -AssemblyName System.IO.Compression.FileSystem ; [System.IO.Compression.ZipFile]::ExtractToDirecto
ry("$HOME\Downloads\vsts-agent-win7-x64-2.111.1.zip", "$PWD")
PS C:\agent>
```

- In the PowerShell window, type **CTRL-V** to paste the command
- Press **Enter** to run the command

When the command is done, you should not see any errors and the prompt should say "PS C:\agent>".

Let's verify that this extracted as expected.



```
PS C:\agent> dir


    Directory: C:\agent


Mode                LastWriteTime         Length Name
----                -------------         ------ ----
d-----        2/26/2017  10:25 AM                bin
d-----        2/26/2017  10:25 AM                externals
-a----         1/6/2017   6:36 AM           2381 config.cmd
-a----         1/6/2017   6:36 AM           2369 run.cmd


PS C:\agent> _
```

- (Optional) To clear the screen, type "cls" and press Enter
- Type "dir" and press Enter

The screen should look something like the image above.

Configure the Agent

Now that the agent bits are deployed to disk, you're ready to start configuring it. This guide assumes that you're planning to run this agent in a Windows domain and that the TFS machine is in the same domain as the agent. I'm also assuming that you intend to run this agent as a service rather than as an interactive process.

Recommendation: The agent can be configured to run as NT AUTHORITY\NETWORK SERVICE but I think that this makes permissions management confusing when you're creating and running builds. I strongly recommend that you run the agent as a service using a known service account that is based on an Active Directory user rather than one of the build-in service accounts like NETWORK SERVICE. This guide will assume that you're following this recommendation.

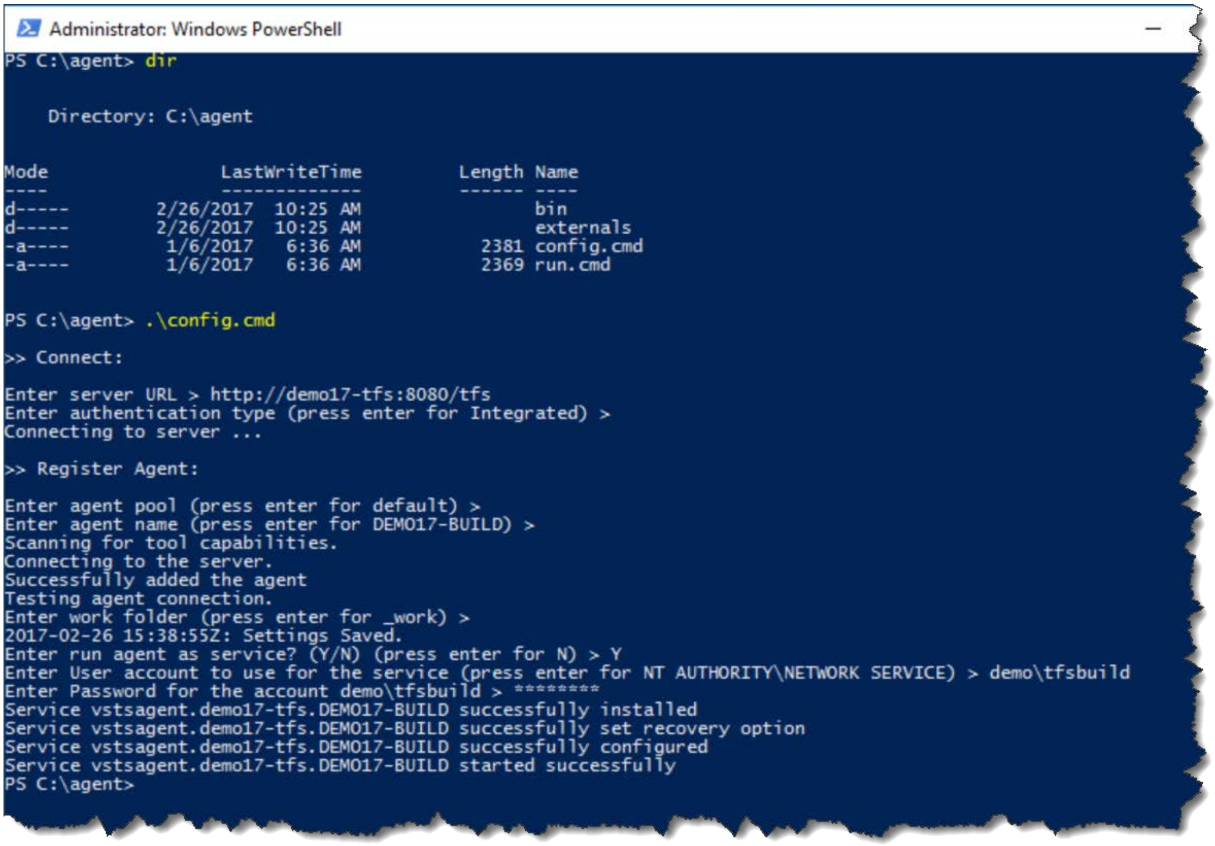
You're going to be prompted for a handful of values during the configuration process:

- **TFS server URL:** This is the same URL that you used to access the TFS web interface. By default this will be something like http://*servername*:8080/tfs
- **Authentication Type:** By default, authentication is based on the service account's Windows logon. This mode is called Interactive. In order support more complex scenarios and multiple platforms, there are also several other options. This guide will show you how to do Interactive mode.
- **User name & password for the agent service:** These are the credentials for the service. In my case, I've created an Active Directory user named "tfsbuild". The fully qualified username for this user is "DEMO\tfsbuild".

When you've got these values, you're ready to run the config process.

- In the PowerShell window, type "**.\config.cmd**" and press Enter

When prompted, enter the following values.



```
PS C:\agent> dir


    Directory: C:\agent


Mode                LastWriteTime         Length Name
----                -------------         ------ ----
d-----        2/26/2017  10:25 AM                bin
d-----        2/26/2017  10:25 AM                externals
-a----         1/6/2017   6:36 AM           2381 config.cmd
-a----         1/6/2017   6:36 AM           2369 run.cmd


PS C:\agent> .\config.cmd

>> Connect:

Enter server URL > http://demo17-tfs:8080/tfs
Enter authentication type (press enter for Integrated) >
Connecting to server ...

>> Register Agent:

Enter agent pool (press enter for default) >
Enter agent name (press enter for DEMO17-BUILD) >
Scanning for tool capabilities.
Connecting to the server.
Successfully added the agent
Testing agent connection.
Enter work folder (press enter for _work) >
2017-02-26 15:38:55Z: Settings Saved.
Enter run agent as service? (Y/N) (press enter for N) > Y
Enter User account to use for the service (press enter for NT AUTHORITY\NETWORK SERVICE) > demo\tfsbuild
Enter Password for the account demo\tfsbuild > ********
Service vstsagent.demo17-tfs.DEMO17-BUILD successfully installed
Service vstsagent.demo17-tfs.DEMO17-BUILD successfully set recovery option
Service vstsagent.demo17-tfs.DEMO17-BUILD successfully configured
Service vstsagent.demo17-tfs.DEMO17-BUILD started successfully
PS C:\agent>
```

- “Enter server URL”:

  Type the **URL for your TFS instance** and click **Enter**
- “Enter authentication type (press enter for Integrated)”:

  Press **Enter**
- “Enter agent pool (press enter for default)”:

  Press **Enter**
- “Enter agent name (press enter for *[local server name]*)”:

  Press **Enter**
- “Enter run agent as service? (Y/N)”:

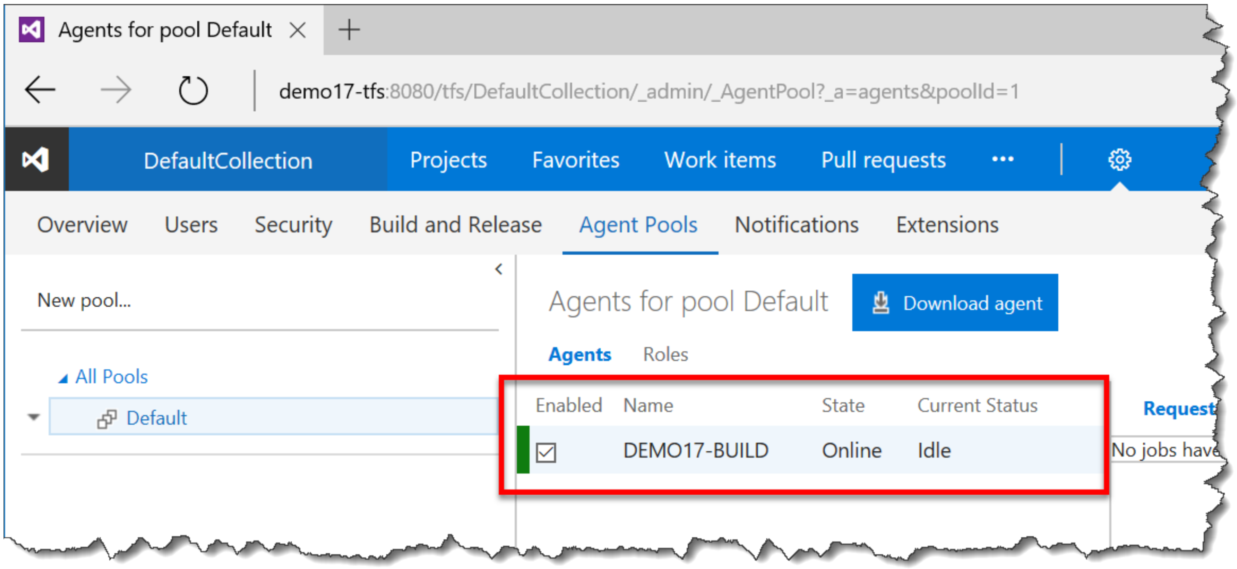
  Type ‘**Y**’ and press **Enter**
- “Enter User account to use for the service“:

  Type the **fully qualified name of the service account** (example: demo\tfsbuild) and press **Enter**
- Enter Password for the account *[service account]*”:

  Enter the **password for the service account** and press **Enter**

When the config process has completed, you should see a message that says something like “Service vstsagent.demo17-tfs.DEMO17-BUILD started successfully”.

If you open the browser and go back to the Agent Pools tab for TFS, you should now see your new build agent in the list of Agents.



demo17-tfs:8080/tfs/DefaultCollection/_admin/_AgentPool?_a=agents&poolId=1

Enabled	Name	State	Current Status	Request
☑	DEMO17-BUILD	Online	Idle	No jobs have

You’ve successfully configured a build agent.

Chapter 7: Create a TFS Build / Release Server on Ubuntu 16.04

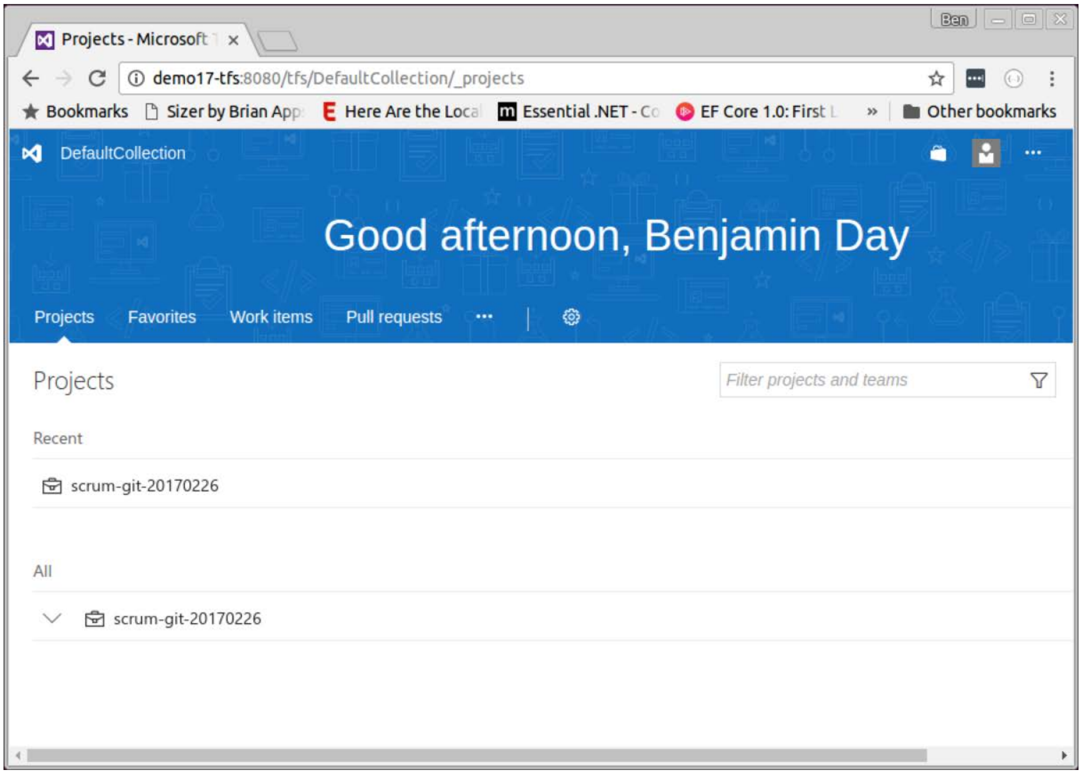
This chapter will walk you through the process of creating a build server agent on Ubuntu 16.04 Linux. The build agent will not only all you do compilation and test execution on Linux but it'll also allow you to do Release Management activities from Linux as well. (Yah…TFS is cross-platform.)

The following steps all happen on the machine that is going to be the build server.

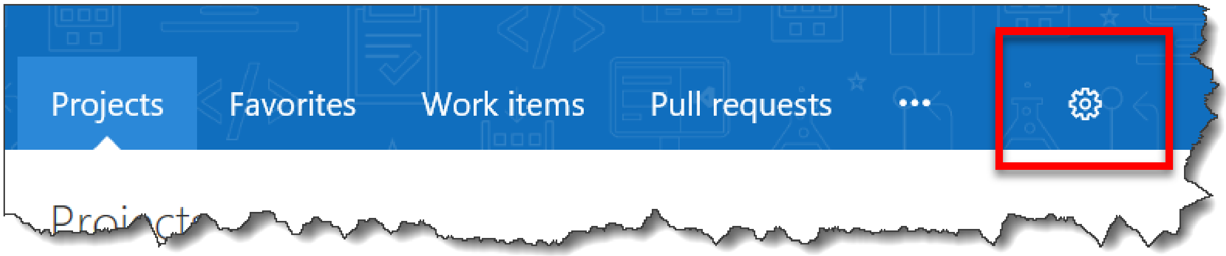
Download the Agent Installer

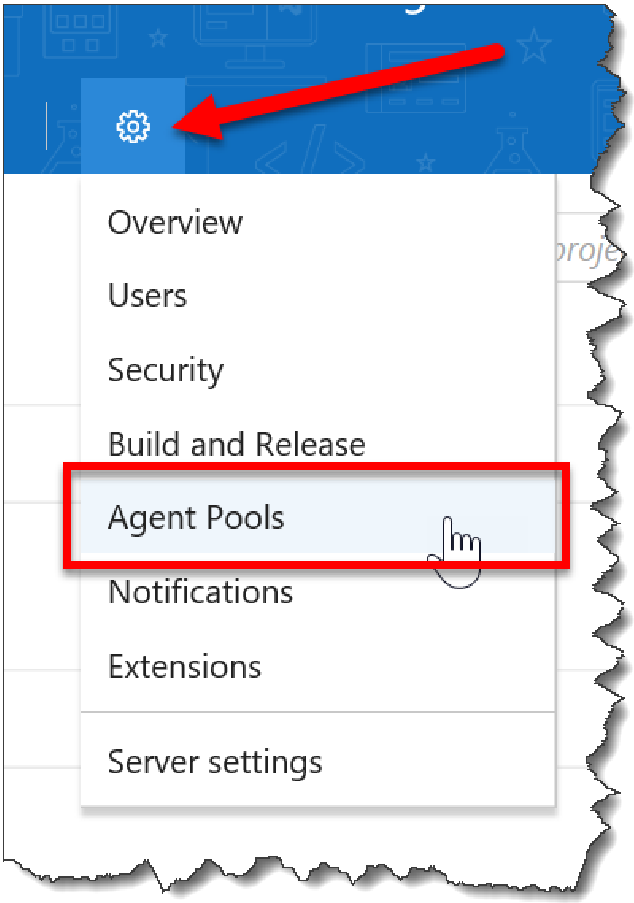
- Log in to the build server machine
- Open a web browser
- Navigate to your TFS web interface. By default this is http://*servername*:8080/tfs.

You should see a screen that looks like this.



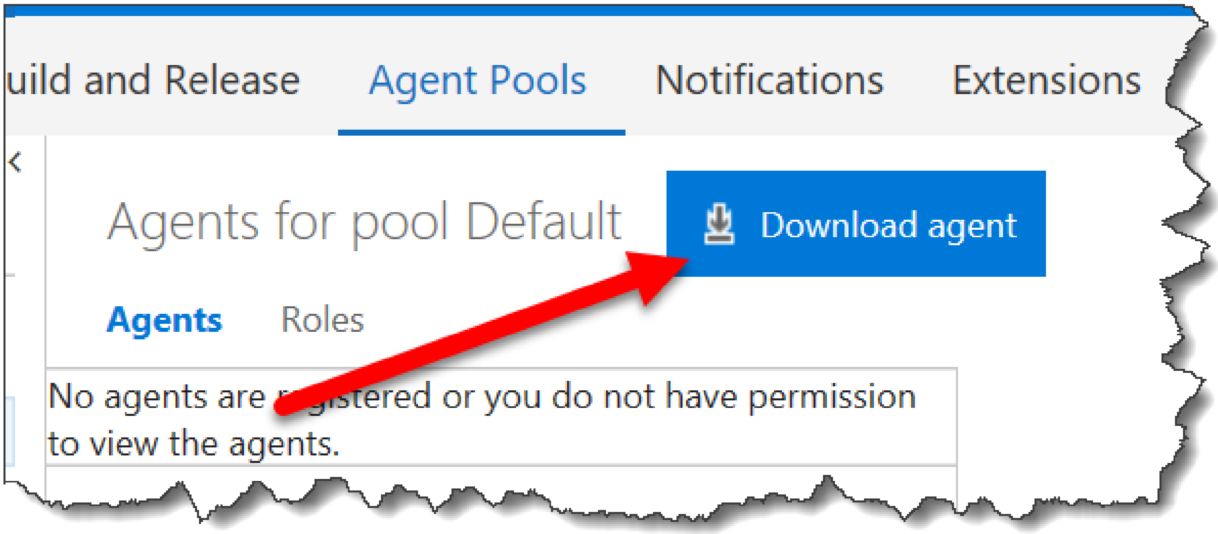
On the right side of the menu bar, there is a gear icon.





- Click the **gear icon** to bring up the **Settings menu**
- Choose **Agent Pools**

You should now see the admin screen for you team project collection and you should be looking at the Agent Pools tab. There should be a button that says "Download agent".

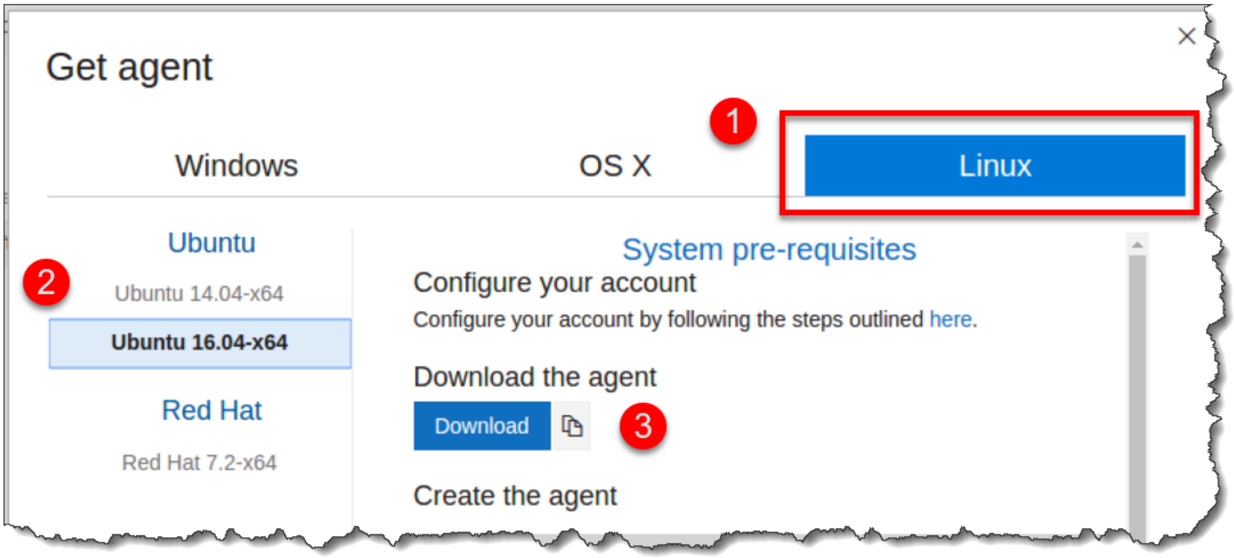


Agents for pool Default

No agents are registered or you do not have permission to view the agents.

- Click the **Download agent** button

A dialog should pop up that shows you the download and installation info for Windows, Mac OS / OS X, and Linux.



Get agent

System pre-requisites

Configure your account

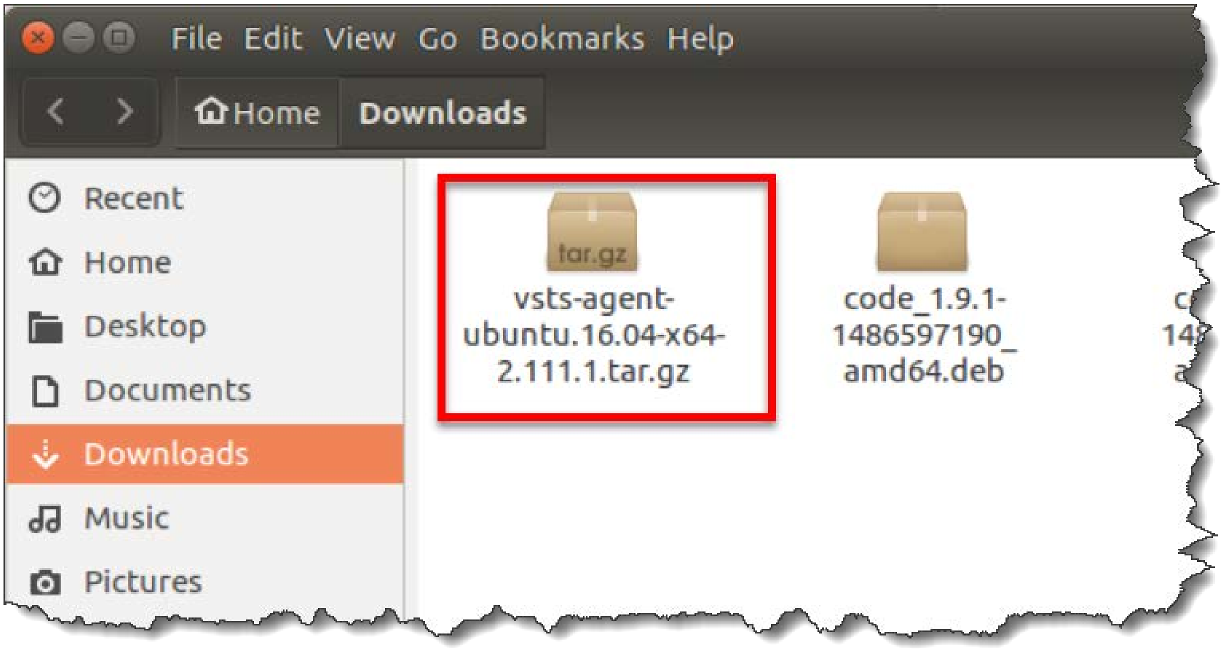
Configure your account by following the steps outlined here.

Download the agent

Create the agent

- Make sure the **Linux tab** is selected
- In the left column, choose **Ubuntu 16.04-x64**
- Click the **Download** button (NOTE: this guide assumes you're doing the default browser behavior and downloading the agent tar.gz to the downloads directory for your user profile.)

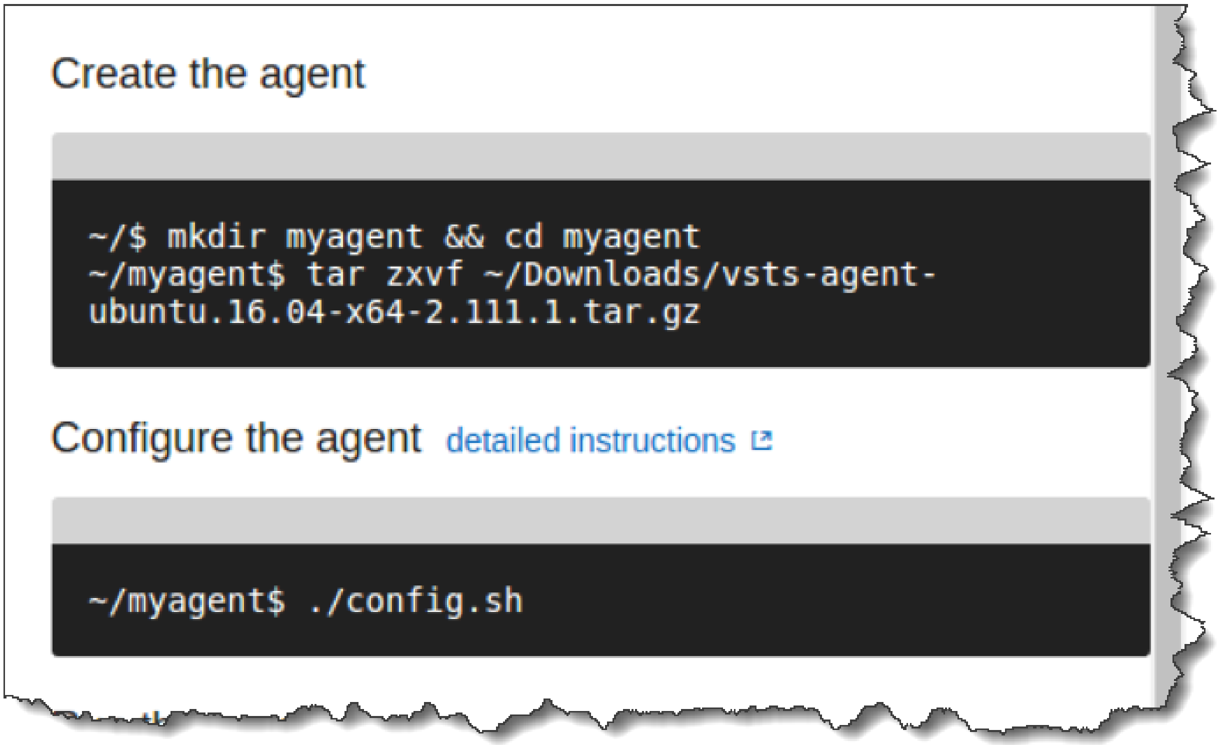
To verify that you saved this file to the expected location for this guide, open the Files explorer and navigate to your Downloads directory. You should see a tar.gz file that has a name that starts with "vsts-agent-ubuntu-16.04-x64-". The actual filename might not be the same as the image below because the agent version may have been updated.


File Edit View Go Bookmarks Help
Home
Downloads
Recent
Home
Desktop
Documents
Downloads
Music
Pictures
tar.gz
vsts-agent-ubuntu.16.04-x64-2.111.1.tar.gz
code_1.9.1-1486597190_amd64.deb

Extract the Agent

Now that you've downloaded the bits for the agent, you'll do the actual installation using PowerShell. This is actually done in two parts. Part 1: Extract the agent bits from the tar.gz file. Part 2: Configure the Agent. Let's do the first part.

That dialog that you used to download the agent has two different commands: "Create the agent" and "Configure the agent". I found that these commands were kind of confusing and took some adjusting and "sudo"-ing to make them work. They're basically sketches of what you'd actually like to do.



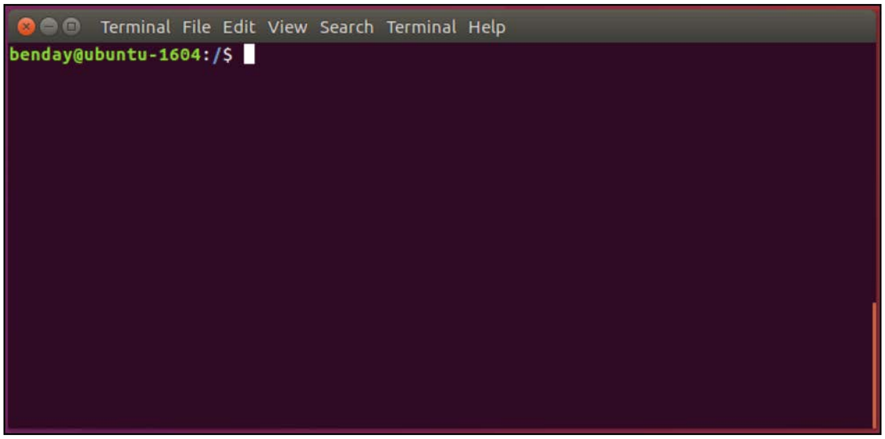
Create the agent

```
~/$ mkdir myagent && cd myagent
~/myagent$ tar zxvf ~/Downloads/vsts-agent-
ubuntu.16.04-x64-2.111.1.tar.gz
```

Configure the agent

```
~/myagent$ ./config.sh
```

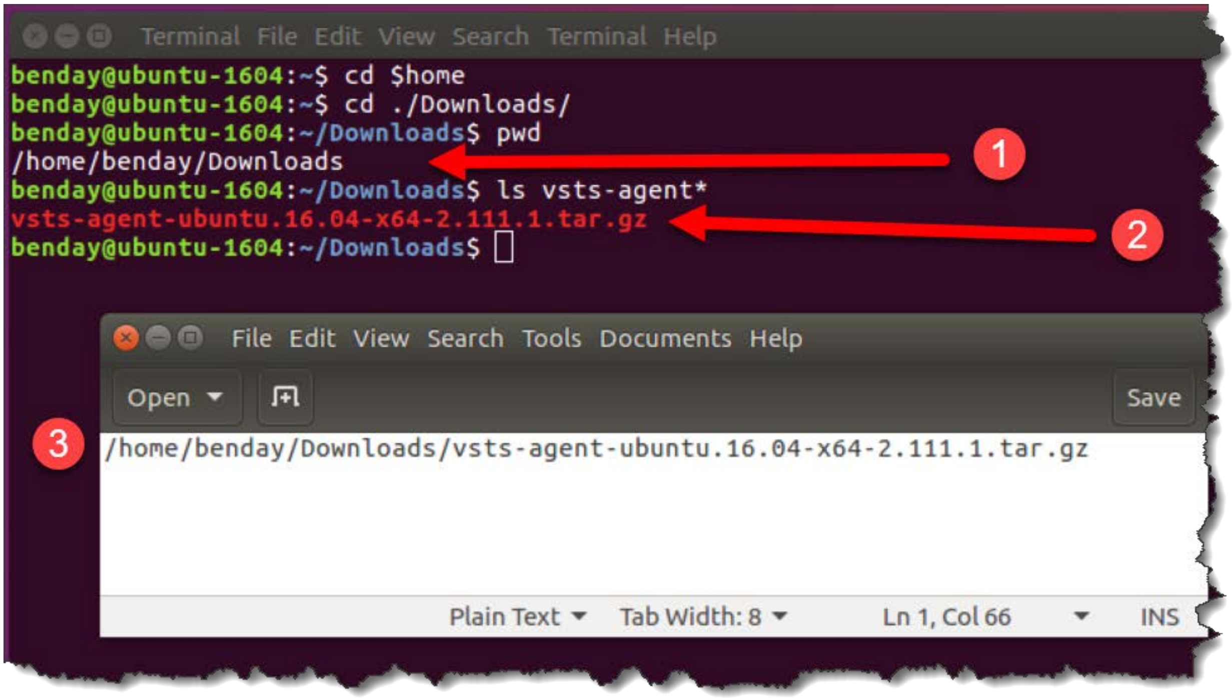
We’re going to do the majority of the configuration of this build agent using a Terminal window.



```
benday@ubuntu-1604:/$
```

- Open a **Terminal** window

The first thing that I want you to do is to get the full path to the agent tar.gz file. The way that I'm doing this is probably a little convoluted if you're a Linux ninja but I want this guide to be usable for those of us who are not so wise in the way of the Linux.


Terminal File Edit View Search Terminal Help
1
2
3
File Edit View Search Tools Documents Help
Open
Save
Plain Text
Tab Width: 8
Ln 1, Col 66
INS

```
benday@ubuntu-1604:~$ cd $home
benday@ubuntu-1604:~$ cd ./Downloads/
benday@ubuntu-1604:~/Downloads$ pwd
/home/benday/Downloads
benday@ubuntu-1604:~/Downloads$ ls vsts-agent*
vsts-agent-ubuntu.16.04-x64-2.111.1.tar.gz
benday@ubuntu-1604:~/Downloads$
```

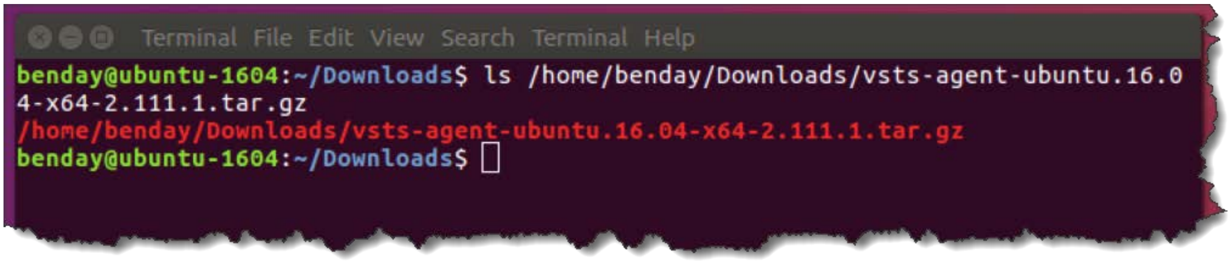
```
/home/benday/Downloads/vsts-agent-ubuntu.16.04-x64-2.111.1.tar.gz
```

- Type "cd $home" and press Enter
- Type "cd ./Downloads/" and press Enter
- Type "pwd" and press Enter
- Copy the path value that was output by the pwd command and paste it into a text editor
- Type "ls vsts-agent*" and press Enter
- Locate the name of the agent file that you downloaded. Copy the full filename to the clipboard
- In the text editor, add a "/" to the end of the copied path. Paste in the copied file name.

At this point, you should have a path in the text editor that looks similar to the path shown above that's marked as #3.

- Copy the file path from the text editor to the clipboard

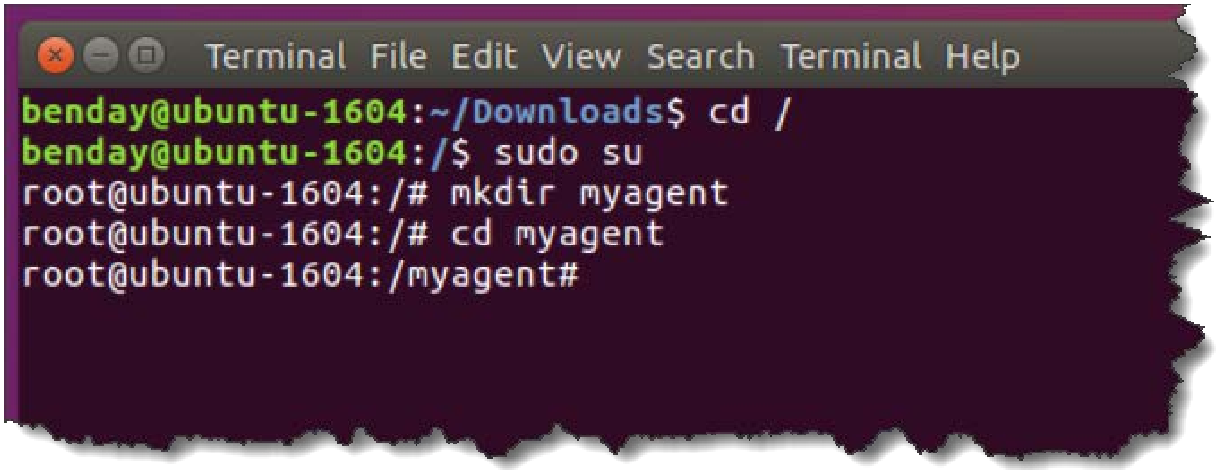
Now you'll verify that you've combined the path correctly and that it's valid. You'll do this by running an "ls" on that path in the Terminal window.



```
benday@ubuntu-1604:~/Downloads$ ls /home/benday/Downloads/vsts-agent-ubuntu.16.0
4-x64-2.111.1.tar.gz
/home/benday/Downloads/vsts-agent-ubuntu.16.04-x64-2.111.1.tar.gz
benday@ubuntu-1604:~/Downloads$ 
```

- Paste the copied path into the terminal window and press Enter
- Verify that you got a result that looks similar to the one above and does not report any "No such file or directory" errors

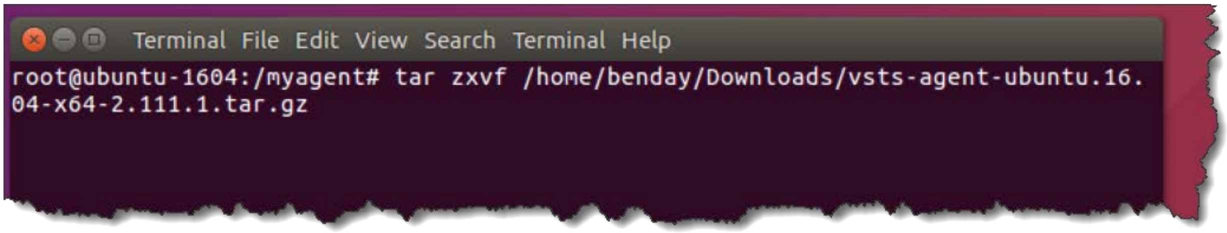
Next, you'll create the directory where you'll install the build agent bits.



```
benday@ubuntu-1604:~/Downloads$ cd /
benday@ubuntu-1604:/$ sudo su
root@ubuntu-1604:/# mkdir myagent
root@ubuntu-1604:/# cd myagent
root@ubuntu-1604:/myagent#
```

- Type "cd /" and press Enter
- Type "sudo su" and press Enter
- When prompted, enter your password
- Type "mkdir myagent" and press Enter
- Type "cd myagent" and press Enter

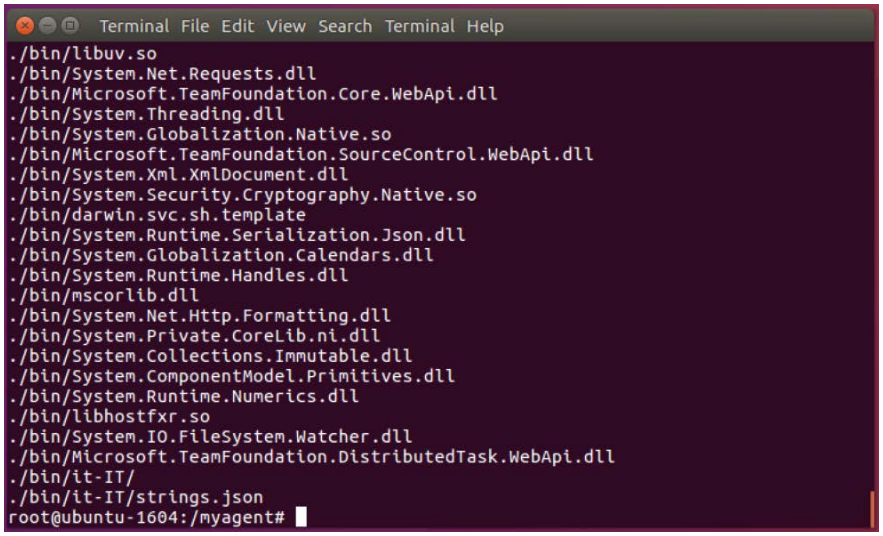
The commands you just ran should complete without errors. Now you're ready to extract the agent tar.gz to this directory. This is where that path in the text editor will come in handy.



```
root@ubuntu-1604:/myagent# tar zxvf /home/benday/Downloads/vsts-agent-ubuntu.16.
04-x64-2.111.1.tar.gz
```

- Type "tar zxvf " followed by the copied path to the tar.gz file. In this screenshot, the value is "tar zxvf /home/benday/Downloads/vsts-agent-ubuntu.16.04-x64-2.111.1.tar.gz"
- Press Enter to run the extract command

You should have just seen a bunch of text fly by in the Terminal window. The files should have extracted without errors.



```
./bin/libuv.so
./bin/System.Net.Requests.dll
./bin/Microsoft.TeamFoundation.Core.WebApi.dll
./bin/System.Threading.dll
./bin/System.Globalization.Native.so
./bin/Microsoft.TeamFoundation.SourceControl.WebApi.dll
./bin/System.Xml.XmlDocument.dll
./bin/System.Security.Cryptography.Native.so
./bin/darwin.svc.sh.template
./bin/System.Runtime.Serialization.Json.dll
./bin/System.Globalization.Calendars.dll
./bin/System.Runtime.Handles.dll
./bin/mscorlib.dll
./bin/System.Net.Http.Formatting.dll
./bin/System.Private.CoreLib.ni.dll
./bin/System.Collections.Immutable.dll
./bin/System.ComponentModel.Primitives.dll
./bin/System.Runtime.Numerics.dll
./bin/libhostfxr.so
./bin/System.IO.FileSystem.Watcher.dll
./bin/Microsoft.TeamFoundation.DistributedTask.WebApi.dll
./bin/it-IT/
./bin/it-IT/strings.json
root@ubuntu-1604:/myagent# 
```

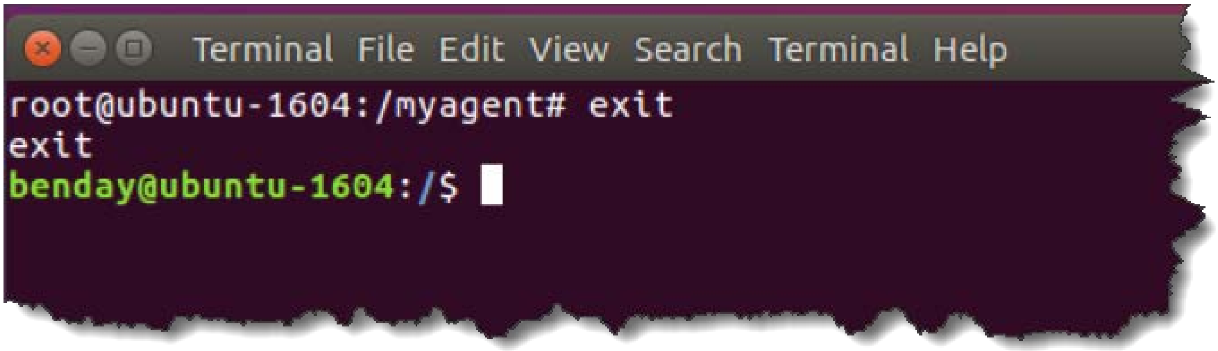
Configure the Agent

Now that the bits are deployed to disk, you can start configuring this build agent.

You're going to be prompted for a handful of values during the configuration process:

- **TFS server URL:** This is the same URL that you used to access the TFS web interface. By default this will be something like http://*servername*:8080/tfs
- **Authentication Type:** This describes how the agent will talk to TFS. Since this is a Linux machine rather than a Windows machine, we'll be using a method called "Negotiate". In order support more complex scenarios and multiple platforms, there are also several other options. This guide will show you how to do Negotiate mode.
- **User name & password for the agent service:** These are the credentials for the service. In my case, I've created an Active Directory user named "tfsbuild". The fully qualified username for this user is "DEMO\tfsbuild".

In the current directory there's a shell script named config.sh. This cannot be run as root / superuser.

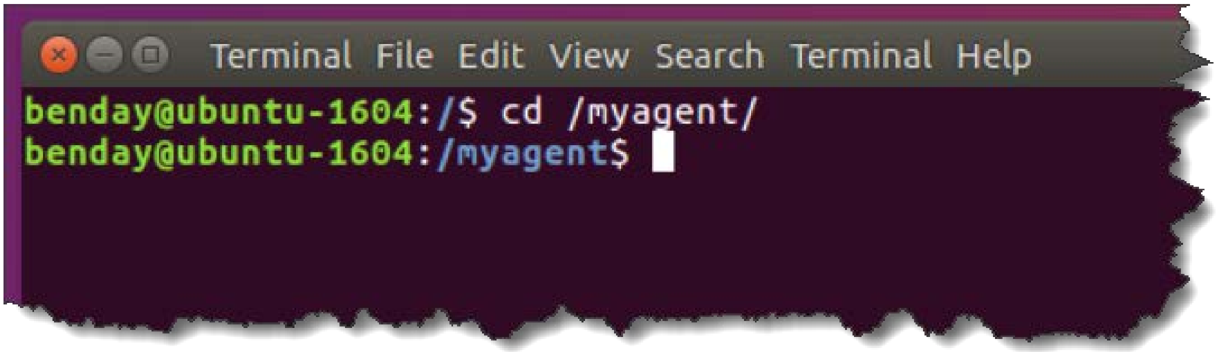


```
root@ubuntu-1604:/myagent# exit
exit
benday@ubuntu-1604:/$ 
```

- Type "exit" and press Enter

You should be back in the context of your regular user account.

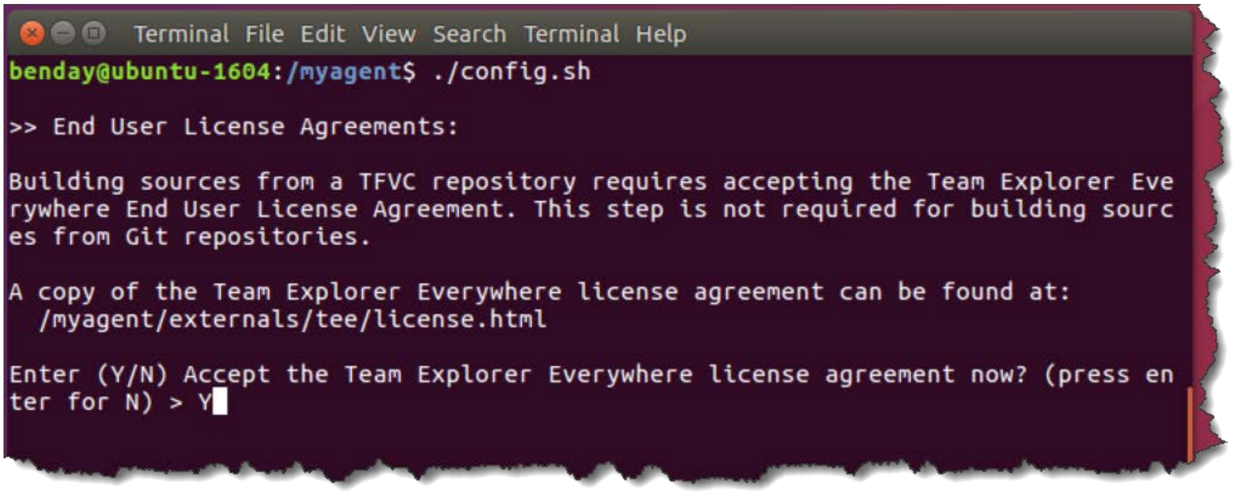
Now you'll need to "cd" to the agent directory.



```
benday@ubuntu-1604:/$ cd /myagent/
benday@ubuntu-1604:/myagent$
```

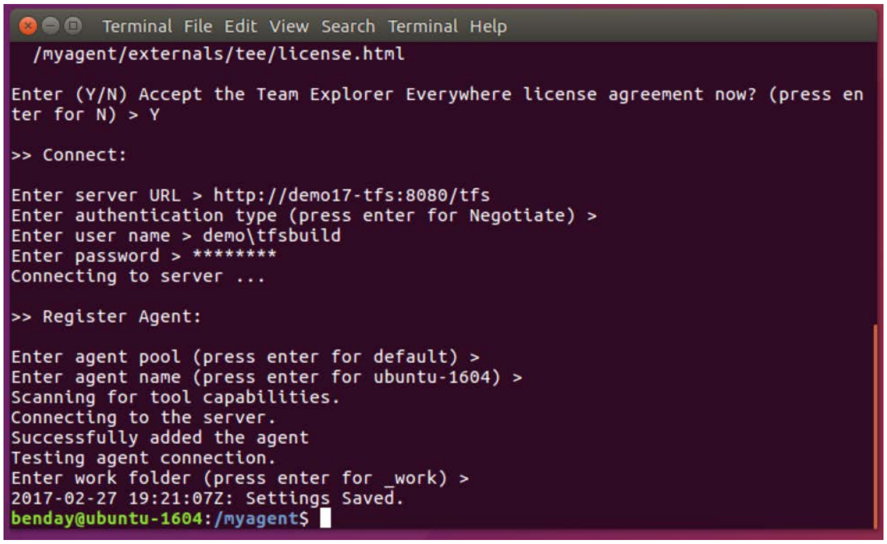
- Type "cd /myagent/" and press Enter

Now you'll run the config shell script.



```
benday@ubuntu-1604:/myagent$ ./config.sh

>> End User License Agreements:

Building sources from a TFVC repository requires accepting the Team Explorer Eve
rywhere End User License Agreement. This step is not required for building sourc
es from Git repositories.

A copy of the Team Explorer Everywhere license agreement can be found at:
  /myagent/externals/tee/license.html

Enter (Y/N) Accept the Team Explorer Everywhere license agreement now? (press en
ter for N) > Y
```

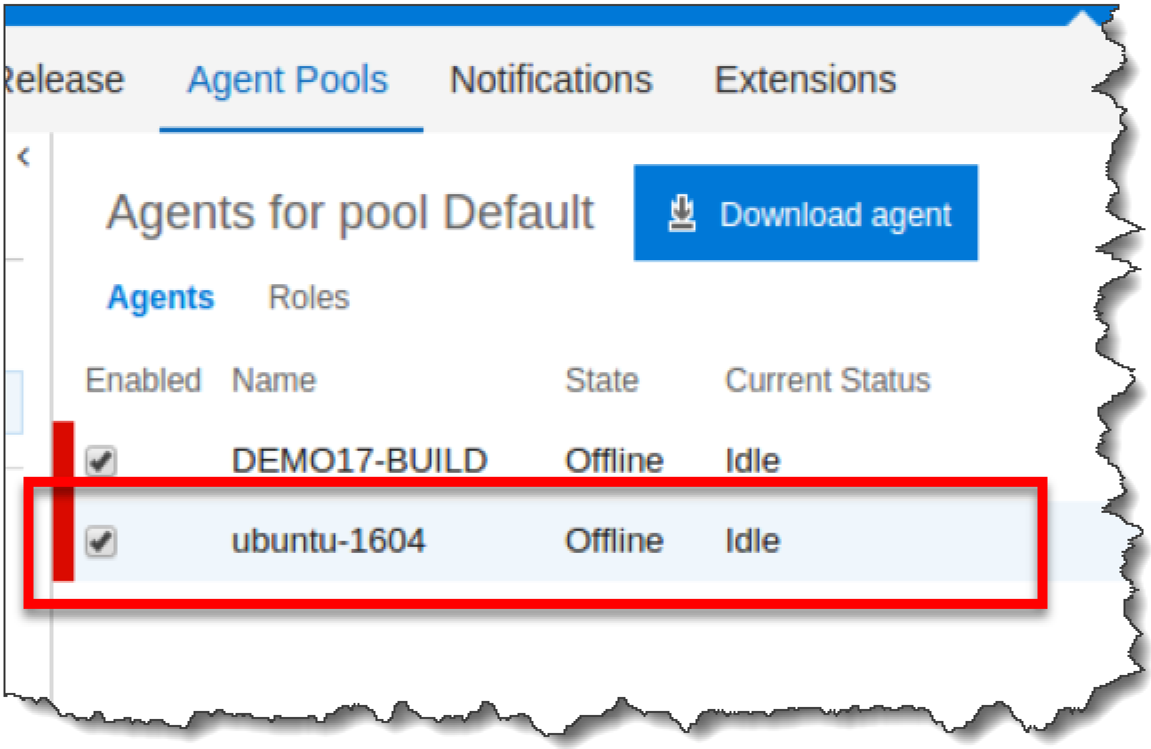
- Type "./config.sh" and press Enter
- When prompted for the EULA, read it thoroughly, (and if you agree) type 'Y' and press Enter to accept the EULA.



```
  /myagent/externals/tee/license.html

Enter (Y/N) Accept the Team Explorer Everywhere license agreement now? (press en
ter for N) > Y

>> Connect:

Enter server URL > http://demo17-tfs:8080/tfs
Enter authentication type (press enter for Negotiate) >
Enter user name > demo\tfsbuild
Enter password > ********
Connecting to server ...

>> Register Agent:

Enter agent pool (press enter for default) >
Enter agent name (press enter for ubuntu-1604) >
Scanning for tool capabilities.
Connecting to the server.
Successfully added the agent
Testing agent connection.
Enter work folder (press enter for _work) >
2017-02-27 19:21:07Z: Settings Saved.
benday@ubuntu-1604:/myagent$
```

- “Enter server URL >”:
  Type the **URL for your TFS instance** and click **Enter**
  (Example: http://*servername*:8080/tfs)
- “Enter authentication type (press enter for Negotiate)”:
  Press **Enter**
- “Enter user name”:
  Type the fully qualified user name for the agent service and press **Enter**
  (Example: demo\tfsbuild)
- “Enter password”:
  Type the password for the agent service user and press **Enter**
- “Enter agent pool (press enter for default)”:
  Press **Enter**
- “Enter agent name (press enter for *[local server name]*)”:
  Press **Enter**
- “Enter work folder (press enter for _work)”:
  Press **Enter**

If you go back to your browser and look at the Agent Pools page, you should now see your new build agent in the list. But it will probably have the State value of Offline and this is because the service isn't running yet.

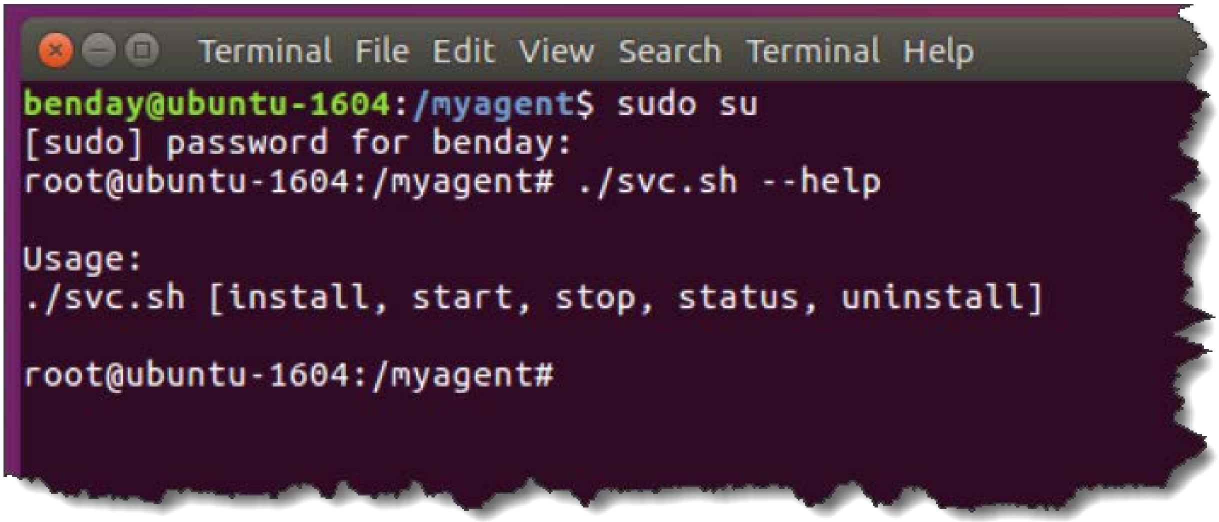


Agents for pool Default

Enabled	Name	State	Current Status
☑	DEMO17-BUILD	Offline	Idle
☑	ubuntu-1604	Offline	Idle

Configure the Agent to Run as a Service

One of the files in the MyAgent directory is “svc.sh”. This script controls the setup, start, and shutdown of the build agent when it is run as a service. This script must be run as su or via sudo.



```
benday@ubuntu-1604:/myagent$ sudo su
[sudo] password for benday:
root@ubuntu-1604:/myagent# ./svc.sh --help

Usage:
./svc.sh [install, start, stop, status, uninstall]

root@ubuntu-1604:/myagent#
```

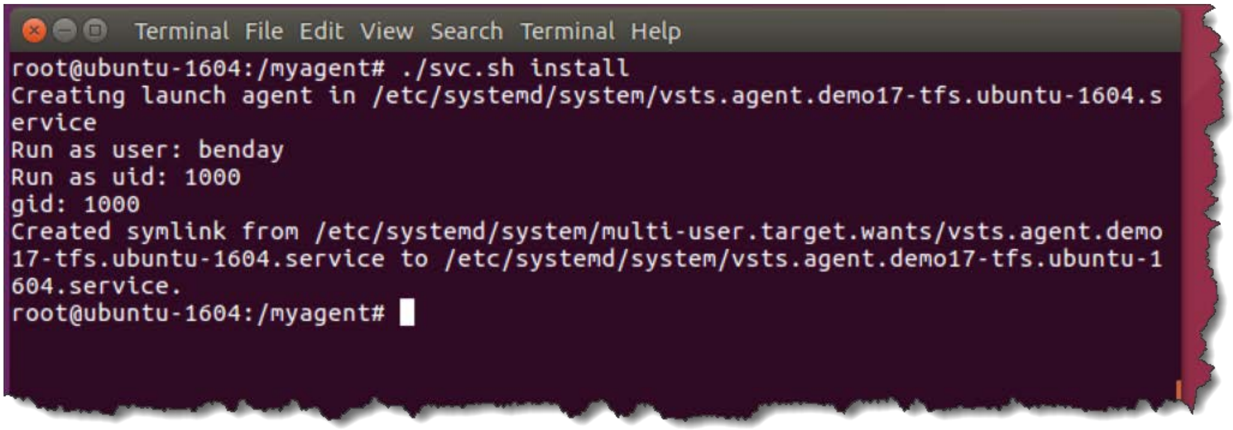
- Type “sudo su” and press Enter

Next, view the list of available commands in svc.sh.

- Type “./svc.sh --help" and press Enter

This shows you the commands that are available to run. To register this agent as a service, you’ll run the install command. Start is used to start the service. Stop is used to stop it. Status is used to show the current state of the service. Uninstall deregisters the agent service.

Let’s run the install command.

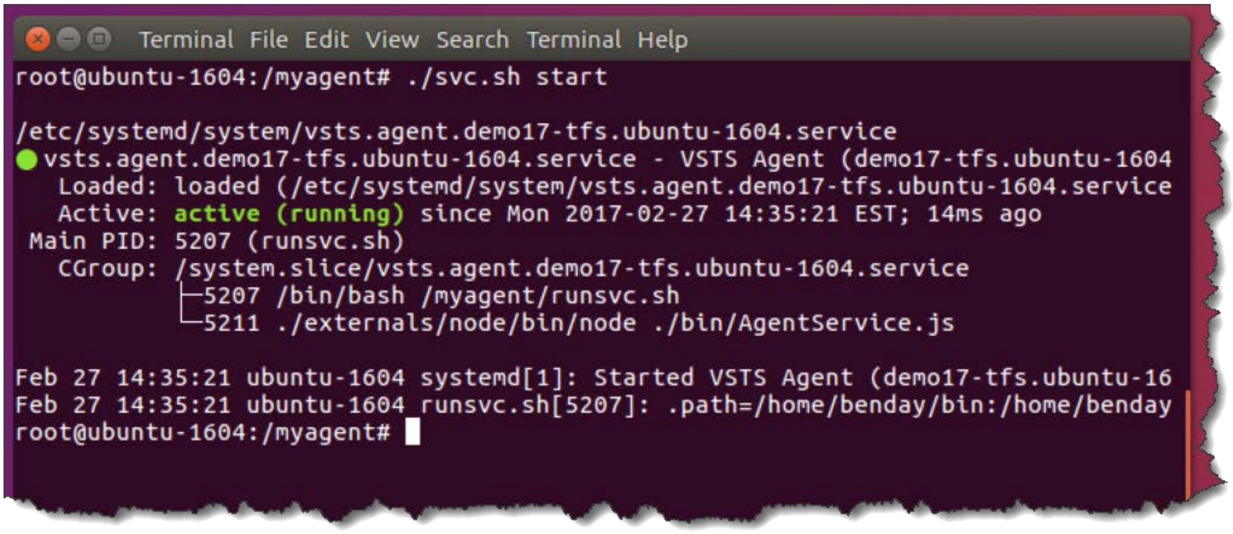


```
root@ubuntu-1604:/myagent# ./svc.sh install
Creating launch agent in /etc/systemd/system/vsts.agent.demo17-tfs.ubuntu-1604.s
ervice
Run as user: benday
Run as uid: 1000
gid: 1000
Created symlink from /etc/systemd/system/multi-user.target.wants/vsts.agent.demo
17-tfs.ubuntu-1604.service to /etc/systemd/system/vsts.agent.demo17-tfs.ubuntu-1
604.service.
root@ubuntu-1604:/myagent# 
```

- Type “./svc.sh install” and press Enter

It should show you output that looks similar to the screenshot above and it should compete without error.

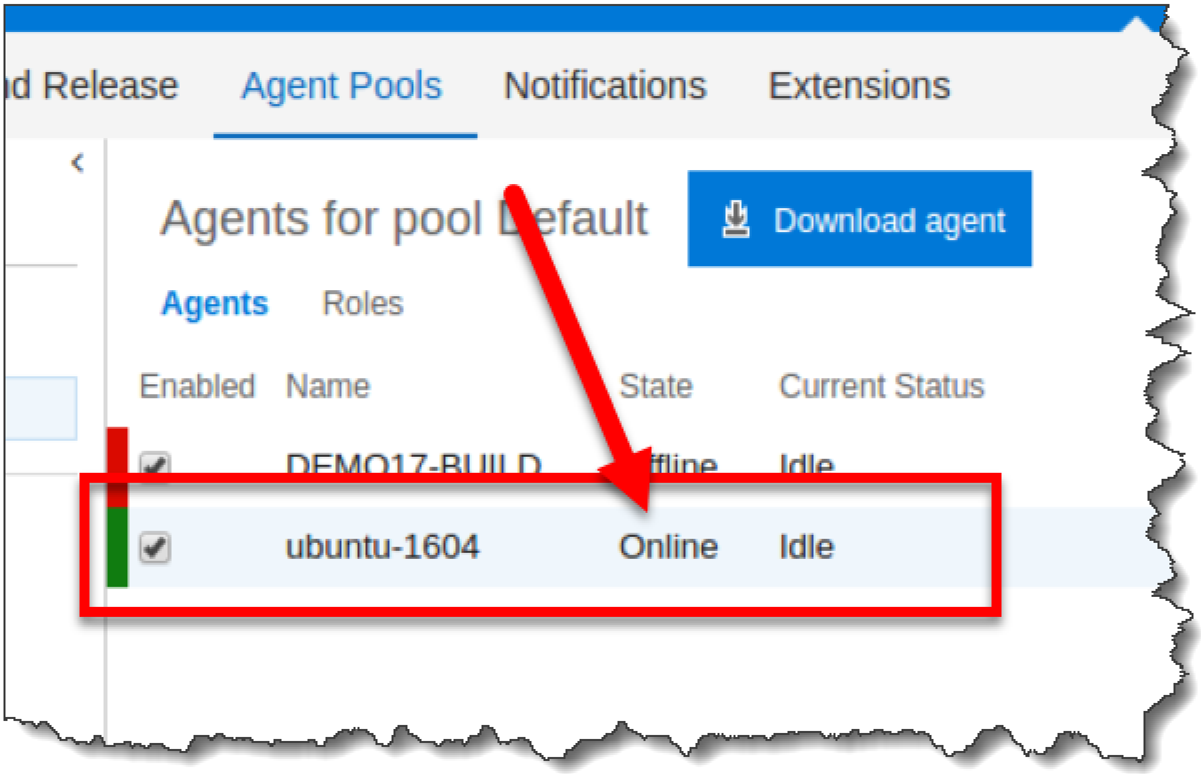
Now that it’s registered, you can start the service.



```
root@ubuntu-1604:/myagent# ./svc.sh start

/etc/systemd/system/vsts.agent.demo17-tfs.ubuntu-1604.service
● vsts.agent.demo17-tfs.ubuntu-1604.service - VSTS Agent (demo17-tfs.ubuntu-1604
   Loaded: loaded (/etc/systemd/system/vsts.agent.demo17-tfs.ubuntu-1604.service
   Active: active (running) since Mon 2017-02-27 14:35:21 EST; 14ms ago
 Main PID: 5207 (runsvc.sh)
   CGroup: /system.slice/vsts.agent.demo17-tfs.ubuntu-1604.service
           ├─5207 /bin/bash /myagent/runsvc.sh
           └─5211 ./externals/node/bin/node ./bin/AgentService.js

Feb 27 14:35:21 ubuntu-1604 systemd[1]: Started VSTS Agent (demo17-tfs.ubuntu-16
Feb 27 14:35:21 ubuntu-1604 runsvc.sh[5207]: .path=/home/benday/bin:/home/benday
root@ubuntu-1604:/myagent# 
```

- Type “./svc.sh start” and press Enter
- Press ‘Q’ to exit the command

The service should be started now and TFS should think that it's online.



Agents for pool Default

Enabled	Name	State	Current Status
☑	DEMO17-BUILD	Offline	Idle
☑	ubuntu-1604	Online	Idle

- Open your browser
- Navigate to the agent pools page

You should see your build agent and the state should be Online.

You've successfully created a Team Foundation Server build agent on Ubuntu 16.04.