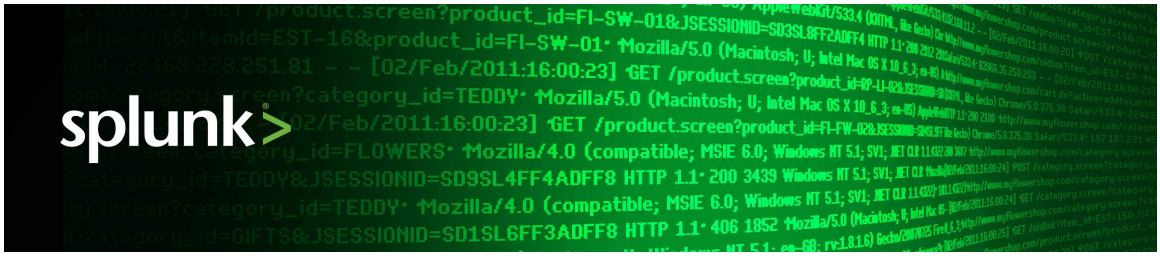

Splunk® Universal Forwarder Forwarder Manual 6.5.0

Install a Windows universal forwarder from an installer

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Install a Windows universal forwarder from an installer

You can install the universal forwarder on a Windows host with the Windows universal forwarder installer package. This method of installation is best for the following:

- Small deployments.
- Proof-of-concept test deployments.
- System images or virtual machines for eventual cloning.

You can install the universal forwarder in other ways as well.

- You can install from the command line, using the `msiexec` installer. The command-line installation provides more configuration options for data inputs and other settings. Install from the command line if you do not want the forwarder to run immediately after installation. See Install a Windows universal forwarder from the command line.
- You can install from a ZIP file. This method of installation has some limitations. See Install a Windows universal forwarder from a ZIP file.

Prerequisites to installing the universal forwarder on Windows

Before you install the Windows universal forwarder, read the following prerequisites.

Determine if you will forward data to Splunk Enterprise or to Splunk Cloud

Installation procedures differ depending on the destination Splunk platform. See the following topics for installation instructions:

- Install the universal forwarder for use with on-premises Splunk instances. This method is the most common and following the procedures results in an installation that works with an on-premises instance of Splunk Enterprise.
- Install the universal forwarder for use with Splunk Cloud. Use this method if you want to connect the forwarder to a Splunk Cloud deployment.

Choose the Windows user that the universal forwarder should run as

When you install the universal forwarder, you can select the Windows user that the forwarder uses to get data. You have two choices.

- **Local System**. If you specify the **Local System** user during the installation process, the universal forwarder collects any kind of data that is available on the local host. It cannot collect data from other hosts.

- **Domain account**. This option installs the forwarder as the Windows user you specify. The forwarder has the permissions that have been assigned to that user, and collects data that the user has read access to. It does not collect data from resources that the Windows user does not have access to. If you need to collect data from those resources, you must give the Windows user access to those resources.

Install the forwarder as a **Domain account** to do any of the following:

- Read Event Logs remotely
- Collect performance counters remotely
- Read network shares for log files
- Access the Active Directory schema, using Active Directory monitoring

Choose and configure the user that the universal forwarder should run as before installing the forwarder for remote Windows data collection. If you do not, installation can fail.

If you install as a domain user, specify a user that has access to the data you want to monitor. See Choose the Windows user Splunk should run as in the Splunk Enterprise *Installation Manual* for concepts and procedures on the user requirements that must be in place before you collect remote Windows data.

If you install as a domain user, you can choose whether or not the user has administrative privileges on the local machine. If you choose not to give the user administrative privileges, the universal forwarder enables "low-privilege" mode. See Install the universal forwarder in low-privilege mode.

Configure your Windows environment for remote data collection

If your monitoring needs require that you install the universal forwarder to collect remote Windows data, then configure your Windows environment for the proper installation of the forwarder.

The configuration process includes adding or editing Active Directory security groups and granting the Windows universal forwarder user access to those groups. It can also include creating and updating Group Policy Objects (GPOs) to provide further security and access for the user.

For step-by-step instructions on how to modify your Windows network, domain,

or Active Directory forest, see Prepare your Windows network for a Splunk Enterprise installation as a network or domain user in the Splunk Enterprise *Installation Manual.*

1. Create and configure security groups with the user you want the universal forwarder to run as.
2. (Optional) Configure the universal forwarder account as a managed service account.
3. Create and configure Group Policy objects (GPOs) for security policy and user rights assignment.
4. Assign appropriate user rights to the GPO.
5. Deploy the GPOs with the updated settings to the appropriate objects.

Install the universal forwarder for use with on-premises Splunk Enterprise instances

The Windows universal forwarder installer installs and configures the universal forwarder to send data to an on-premises Splunk Enterprise instance. It offers you the option of migrating your checkpoint settings from an existing forwarder.

Do not install or run the 32-bit version of the Splunk universal forwarder for Windows on a 64-bit Windows system or an unsupported version of Windows. Do not install the universal forwarder over an existing installation of full Splunk Enterprise.

Universal forwarder installation options

When you install the universal forwarder on Windows, you can install with the default settings or customize installation options prior to installing.

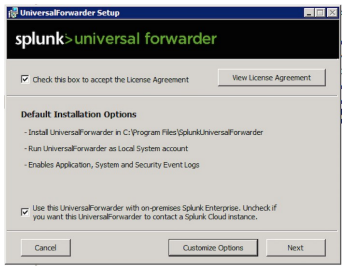
If you choose not to customize options, the installer does the following:

- Installs the universal forwarder in `\Program Files\SplunkUniversalForwarder` on the system drive (the drive that booted your Windows host.)
- Installs the universal forwarder with the default management port of TCP/8089.
- Configures the universal forwarder to run as the Local System user.
- Enables the Application, System, and Security Windows Event Log data inputs.

To understand the ramifications of the Windows user that the universal forwarder runs as, see Choose the user Splunk Enterprise should run as.

Install the forwarder with the default options

1. Download the universal forwarder from splunk.com.
2. Double-click the MSI file to start the installation.
3. (Optional) To view the license agreement, click the "View License Agreement" button.



4. Select the **Check this box to accept the License Agreement** check box.
5. To change any of the default installation settings, click the "Customize Options" button and see Customize options. Otherwise, click **Install** to install the software with the defaults.

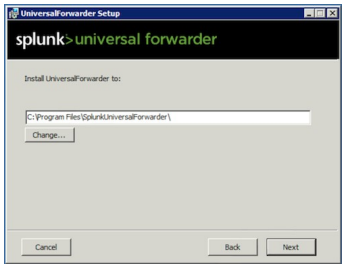
   Note: Perform at least one of the following two steps, or the universal forwarder cannot send data anywhere.

6. (Optional) In the **Deployment Server** pane, enter a host name or IP address and management port for the deployment server that you want the universal forwarder to connect to and click **Next**.
7. (Optional) In the **Receiving Indexer** pane, enter a host name or IP address and the receiving port for the receiving indexer that you want the universal forwarder to send data to and click **Next**.
8. Click **Install** to proceed. The installer runs and displays the **Installation Completed** dialog. The universal forwarder starts automatically.

9. From the Control Panel, confirm that the `SplunkForwarder` service runs.

Customize Options

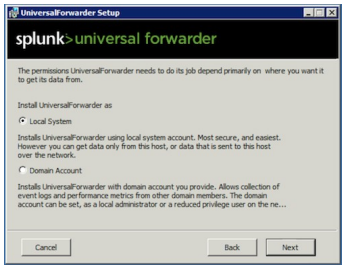
If you chose "Customize options" in the **Universal forwarder setup** dialog box, the installer presents you with the following options.



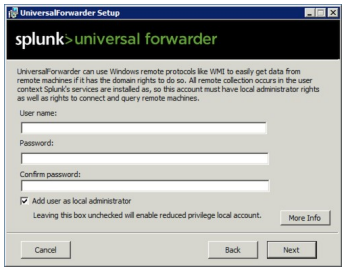
The installer puts the universal forwarder into the `C:\Program Files\SplunkUniversalForwarder` directory by default.

1. (Optional) Click **Change** to specify a different installation directory.

2. (Optional) Select an SSL certificate to verify the identity of this machine. Depending on your certificate requirements, you might need to specify a password and a Root Certificate Authority (CA) certificate to verify the identity of the certificate. If not, these fields can be left blank.

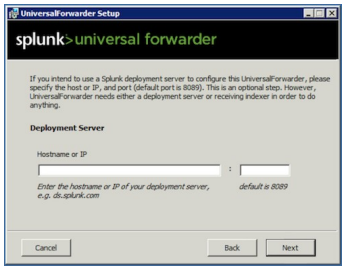


3. Select the **Local System** or **Domain Account** check box and click **Next**. If you specify **Local System**, the installer displays the **Enable Windows Inputs** dialog box. If you specify **Domain account**, the installer displays a second dialog box where you enter domain and user information.



4. If you selected "Domain account", the installer displays a dialog box with user name and password credentials. Enter the user name and password into the **User name** and **Password** fields. Specify the user name in `domain\username` format only, or the installation can fail.
5. Enter the password again in the **Confirm password** field.
6. To add the domain user you specified to the local Administrators group, select the "Add user as local administrator" check box and click **Next**. The installer adds the domain user you specified to the local Administrators group. If you do not select the "Add user as local administrator" check box, the universal forwarder installs in "low-privilege" mode. See "Run the universal forwarder in low-privilege mode" later in this topic for additional information and caveats.

7. (Optional) Select one or more Windows inputs from the list and click **Next**. **Note:** You can enable inputs later, by editing `inputs.conf` within the universal forwarder directory. See "Considerations for enabling data inputs in the installer" later in this topic about what happens when you enable inputs in this dialog.



8. (Optional) Enter the hostname or IP address and management port for your deployment server and click **Next**. **Note:** Perform at least one of the

next two steps. While both are optional, the forwarder does nothing if you perform neither step because it does not have a configuration.

9. (Optional) Enter the hostname or IP address and **receiving port** of the receiving indexer (receiver) and click **Next**.
10. Click **Install** to proceed with the installation.

Considerations for enabling data inputs in the installer

If you enable data inputs in the "Enable Inputs" dialog box when installing the universal forwarder, the installer also installs the Splunk Add-on for Windows. It saves the configuration that enables those inputs into the add-on. This configuration includes index definitions.

This means that the receiving indexer that this forwarder sends data to must already have those indexes defined. The indexes are:

- `perfmon` for Performance Monitoring inputs.
- `windows` for generic Windows inputs.
- `wineventlog` for Windows Event Log inputs.

By default, indexers do not have these indexes defined. To address that, either define the indexes before performing a universal forwarder installation, or install the Splunk Add-on for Windows onto the indexer. This is a Splunk best practice.

Install the universal forwarder for use with Splunk Cloud

An installation of the universal forwarder for Splunk Cloud is similar to an installation for on-premises versions of Splunk Enterprise.

1. Download the universal forwarder from splunk.com.
2. Double-click the MSI file to start the installation:
3. Check the **Check this box to accept the License Agreement** checkbox.
4. Uncheck the **Use this UniversalForwarder with on-premises Splunk Enterprise...** checkbox.
5. To change any of the default installation settings, click the **Customize Options** button and proceed to the Customize options for a cloud install

procedure. Otherwise, click **Next**.

Note: Perform at least one of the following two steps, or the universal forwarder cannot send data anywhere.

6. (Optional) In the **Deployment Server** pane, enter a host name or IP address and management port for the deployment server that you want the universal forwarder to connect to and click **Next**.
7. (Optional) In the **Receiving Indexer** pane, enter a host name or IP address and the receiving port for the receiving indexer that you want the universal forwarder to send data to and click **Next**.
8. Click **Install**. The installer runs and displays the **Installation Completed** dialog. The universal forwarder automatically starts.

Customize options for a Splunk Cloud installation

Follow these instructions if you need to perform a detailed configuration of the universal forwarder for use with Splunk Cloud.

1. (Optional) In the **Destination Folder** dialog box, click **Change** to specify a different installation directory.
2. In the **Certificate Information** dialog box, click **Next.** Do not specify any parameters.
3. Specify whether you want the universal forwarder to run as the Local System user or a domain user and click **Next**. If you specified **Local System**, the installer skips the second screen and takes you directly to the "Enable Windows Inputs" dialog box.
4. If you specified **Domain account**, the installer displays a second dialog box, where you enter domain and user information. Enter the user name and password into the **User name** and **Password** fields. Specify the user name in `domain\username` format, or the installation can fail.
5. Enter the password again in the **Confirm password** field.
6. To add the domain user you specified to the local Administrators group, select the "Add user as local administrator" check box and click **Next**. The installer adds the domain user you specified to the local Administrators group. If you do not select the "Add user as local administrator" check box, the universal forwarder installs in "low-privilege" mode. See "Run the universal forwarder in low-privilege mode" later in this topic for additional information and caveats.
7. (Optional) Select one or more Windows inputs from the list and click **Next**.
8. If you have an on-premises deployment server and you want to use it, fill in the appropriate information and click **Next.** Otherwise, do not specify any parameters here.
9. Click **Next.** Do not specify any parameters here.

10. Click **Install** to proceed with the installation. The installer runs and displays the **Installation Completed** dialog box. The universal forwarder automatically starts.
11. From Windows Control Panel, confirm that the `SplunkForwarder` service runs.

Install the universal forwarder in "low-privilege" mode

When you specify a domain user during an installation and do not give that user local administrator rights, the forwarder installs and runs in "low-privilege" mode.

There are some caveats to doing this:

- You do not have administrative access to any resources on either the host or the domain when you run the universal forwarder in low-privilege mode.
- You might need to add the domain user to additional domain groups in order to access remote resources. Additionally, you might need to add the user to local groups to access local resources that only privileged users would have access to.
- You cannot collect Windows Management Instrumentation (WMI) data as a non-admin user.