



Tanium™ Deploy User Guide

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Table of contents

- Deploy overview** **7**
- Deployment packages 7
- Deployment bundles 8
- Deployment packages gallery 8
- Applicability scans 10
- Deployments 11
- Maintenance windows 11
- Self service profiles 11
- Getting started** **12**
- Requirements** **13**
- Tanium dependencies 13
- Tanium Server and Module Server 13
- Endpoints 15
- System environment variables 15
- Host and network security requirements 16
- Ports 16
- Security exclusions 16
- User role requirements 17
- Installing Deploy** **21**
- Before you begin 21
- Import Deploy 21
- Set the service account 22
- Install the Tanium End-User Notifications solution 22

Organize computer groups	22
Add computer groups to Deploy action group	22
Initialize endpoints	23
Upgrade Deploy	23
What to do next	24
Managing packages and bundles	25
Before you begin	25
Create a software package	25
Variables for applicability scans and command-line operations	26
WMI queries	27
Export a software package	27
Import a software package	28
Distribute the software package catalog	28
View software package applicability	28
Create a software bundle	29
Edit a software package or bundle	30
Copy a software package or bundle	30
Delete a software package or bundle	30
Managing the packages gallery	31
Before you begin	31
Import a software package from the packages gallery	31
Replace or add a new package to the software package catalog	32
Deploying packages and bundles	33
Overview	33
Before you begin	33

Create a software package deployment	33
Endpoint restarts	37
Create a software bundle deployment	39
Review deployment summary	42
Reissue a deployment	43
Stop a deployment	43
Create a deployment template	43
Managing maintenance windows	45
Maintenance window options	45
Create a maintenance window	46
Edit a maintenance window	46
Override a maintenance window	46
Delete a maintenance window	47
Using the Self Service application	48
Before you begin	48
Create a self service profile	48
View self service profiles	48
Edit a self service profile	48
Delete a self service profile	49
Track usage statistics	49
Use the Self Service Client on endpoints	49
Troubleshooting Deploy	50
Collect a troubleshooting package	50
End user notifications are not displayed	50
No applicability information for software packages	51

No software in the Packages Gallery page	52
Uninstall Deploy	53

Deploy overview

Deploy is a software management module that you can use to rapidly install, update, and remove software across large organizations with minimal infrastructure requirements. You can create deployments to run during a maintenance window that is convenient for your IT operations.

You can deploy applications or a group of applications to a flexible set of targets, including computer groups, user groups, departments, locations, individual computers, and individual users. You can also update existing software installation to the latest available versions, and create custom packages to install, update, and remove applications.

Deployment packages

A Tanium Deploy *software package* is a combination of source files, metadata, detection logic, and actions that are used to detect, install, update, and remove software from Tanium managed devices.

Each software package contains the following elements:

Package Files (install/source files)

The files needed to silently install an application on a managed device. This includes, but not limited to, msi/exe installer, resource files/folders, configuration files, custom scripts, custom registry files, license keys.

General Information

The vendor, name, and version of the software package. This information is derived automatically from source files when available.

System Requirements

The minimum requirements for this software package to run on the endpoint: minimum operating system and version, minimum disk space, and minimum RAM for the system.

Requirements (prerequisites)

The list of detection rules that are associated with prerequisite software packages. Each prerequisite software package has one or more rules associated with it.

Update Detection

The list of detection rules that are associated with previous versions of this software package. This list determines what previous software installations can be updated by this package.

Operation Type

Each software package has a number of supported operations. Each package has an installation and uninstallation operation type, and has the ability to add named custom operations to the software package.

Install Verification

The list of detection rules to determine if the package installation was complete/successful.

Deployment bundles

A Tanium Deploy *software bundle* is a list of Deploy software packages that can be deployed and executed in an ordered sequence. Software bundles are used to deploy a list of packages that are used by specific departments or user types.

For more information, see [Managing packages and bundles on page 25](#).

Deployment packages gallery

The Tanium Deploy *packages gallery* is a collection of software packages that you can use to distribute software package templates. These templates include all of the required information for you to import and deploy third-party software.

The supported applications include:

- 7-Zip (32/64-bit) - latest version
- Adobe Acrobat DC (Update only) - latest version
- Adobe Acrobat Reader DC - latest version
- Adobe AIR - latest version
- Adobe Digital Editions - latest version

- Adobe Flash Player (ActiveX/NPAPI/PPAPI) - latest version
- Adobe Shockwave EOL (Remove only)
- Box Drive (32/64-bit) - latest version
- Citrix Workspace (formerly Citrix Receiver) - latest version
- code4ward GmbH Royal TS - latest version
- DB Browser for SQLite (32/64-bit) - latest version
- Dropbox - latest version
- FileZilla (32/64-bit) - latest version
- Google Android Studio - latest version
- Google Chrome Enterprise (32/64-bit) - latest version
- Google Drive File Stream - latest version
- Microsoft Power BI Desktop (32/64-bit) - latest version
- Microsoft Silverlight (32/64-bit) - latest version
- Microsoft Skype Desktop Client (32-bit) - latest version
- Microsoft Visual Studio Code (32/64-bit) - latest version
- Microsoft Windows 10 Upgrade (32/64-bit) - 1803, 1809, 1903
- Mozilla Firefox (32/64-bit) - latest version
- Mozilla Firefox ESR (32/64-bit) - latest version
- NodeJS Current (32/64-bit) - latest version
- NodeJS LTS (32/64-bit) - latest version
- Notepad++ (32/64-bit) - latest version
- Oracle Java 8 Runtime (32/64-bit) - latest version
- Oracle MySQL Community - latest version
- PuTTY - latest version
- VideoLAN VLC Media Player (32/64-bit) - latest version
- VMware Workstation Player (Update and Remove only) - latest version
- Wireshark (32/64-bit) - latest version
- Zoom - latest version
- Zoom Outlook Plugin - latest version

The following Audit only software package templates are used for auditing and reporting purposes. No source files or commands are distributed for these packages, but there is logic to determine if the software is installed or out of date.

- Adobe After Effects CC - latest version
- Adobe Animate CC - latest version
- Adobe Audition CC - latest version
- Adobe Dreamweaver CC - latest version
- Adobe Illustrator CC - latest version
- Adobe InDesign CC - latest version
- Adobe Photoshop CC - latest version
- Adobe Prelude CC - latest version
- Adobe Premiere Pro CC - latest version

For more information, see [Managing the packages gallery on page 31](#).

Applicability scans

You can configure how often applicability scans run for the software packages that are in the Deploy software package catalog, and how frequently the applicability status cache is updated.

Applicability scans evaluate endpoints against the required operating system, minimum disk space, memory, and requirements. Each software package is evaluated on a routine basis to determine if a Tanium managed device is eligible to install, is eligible for update, installed, or has failed requirements.

Install Eligible

The count of systems where the software is not installed and system requirements are met.

Update Eligible

The count of systems where one or more of the previous versions of the application are detected, and the software package can update those systems.

Installed

The count of systems where the software package is already installed.

Update Ineligible

The count of systems where one or more of the previous versions of the application are detected, but the system requirements are not met.

Not Applicable

The count of systems where the system requirements or prerequisites are not met.

Deployments

A deployment is a one-time or recurring action to install, update, or remove applications on targeted endpoints. For more information, see [Deploying packages and bundles on page 33](#).

Maintenance windows

Maintenance windows designate the permitted times that the targeted computer groups are open for deployments to run. You can have multiple maintenance windows, even with overlapping times. Maintenance windows do not interfere with each other. For a deployment to take effect, the deployment and maintenance window times must be met. For more information, see [Managing maintenance windows on page 45](#).

Self service profiles

Deploy 1.2 introduces the Self Service application, which allows you to publish software to endpoints so that users can install software on their own without the need for IT to install them. Self services profiles and the Self Service application are used in conjunction with the self service user interface in Tanium™ End-User Notifications 1.5 or later. For more information, see [Using the Self Service application on page 48](#).

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Getting started

1. Install Deploy. See [Installing Deploy on page 21](#).
2. Create a software package. See [Managing packages and bundles on page 25](#).
3. Create a deployment. See [Deploying packages and bundles on page 33](#) and [Managing maintenance windows on page 45](#).
4. Configure the Self Service application. See [Using the Self Service application on page 48](#).

Requirements

Review the requirements before you install and use Deploy.

Tanium dependencies

In addition to a license for the Deploy product module, make sure that your environment also meets the following requirements.

Component	Requirement
Platform	7.2.314.3019 or later. Installing Tanium™ Interact is also suggested.
Tanium Client	6.0.314.1540 or later (Windows 7 Service Pack 1 or later, and Windows Server 2008 R2 or later). 7.2.314.2962 or later (Windows 7 Service Pack 1 or later, and Windows Server 2008 R2 or later). 7.4 or later requires Deploy 1.4.2 or later.
Tanium End-User Notifications	1.6 or later.

Tanium Server and Module Server

Deploy is installed and runs as a service on the Module Server host computer. The impact on the Module Server is minimal and depends on usage.

The Tanium Server requires access to the following websites to download binaries for the packages gallery templates.

Software Package	Domain	Port
7-zip	7-zip.org	443
Adobe Acrobat DC ¹	download.adobe.com	443
Adobe Acrobat Reader DC	download.adobe.com	443
Adobe AIR	download.macromedia.com	443
Adobe Digital Editions	adedownload.adobe.com	443

Software Package	Domain	Port
Adobe Flash Player	fpdownload.macromedia.com	443
Adobe Shockwave EOL ²	fpdownload.macromedia.com	443
Box Drive	e3.boxcdn.net	443
Citrix Workspace (formerly Citrix Receiver)	downloadplugins.citrix.com	443
code4ward GmbH Royal TS	download.royalapplications.com	443
DB Browser for SQLite	sqlitebrowser.org	443
Dropbox	clientupdates.dropboxstatic.com	443
FileZilla	download.filezilla-project.org	443
Google Android Studio	dl.google.com	443
Google Chrome	dl.google.com	443
Google Drive File Stream	dl.google.com	443
Microsoft Power BI Desktop	downloads.microsoft.com	443
Microsoft Silverlight	go.microsoft.com	443
Microsoft Skype Desktop Client	*.azureedge.net	443
Microsoft Visual Studio Code	code.visualstudio.com	443
Microsoft Windows 10 Upgrade ³	content.tanium.com	443
Mozilla Firefox	releases.mozilla.org	443
NodeJS	nodejs.org	443
Notepad++	github.com	443
Oracle Java Runtime	javadl.oracle.com	443
Oracle MySQL Community	dev.mysql.com	443
PuTTY	the.earth.li	443
VideoLAN VLC Media Player	download.videolan.org	443
VMware Workstation Player ⁴	download3.vmware.com	443
Wireshark	1.na.dl.wireshark.org	443

Software Package	Domain	Port
Zoom	d11yldzmag5yn.cloudfront.net	443
Zoom Outlook Plugin	zoom.us	443

¹ Update operation only.

² Remove operation only.

³ Windows 10 Operating System media is not included in this package gallery template. For more information, see [Tanium Community: How to execute a Windows 10 upgrade with Tanium Deploy: Setup](#).

⁴ Update and Remove operations only.

For more information about Tanium Server and Module Server sizing guidelines, see [Tanium Core Platform Installation Guide: Host system sizing guidelines](#).

Endpoints

Contact your Technical Account Manager (TAM) for customized tuning to your environment. For more information, see [Tanium Platform User Guide: Managing Global Settings](#).

System environment variables

The use of environment variables when you refer to file paths in Deploy is recommended over the use of explicit file paths. This method provides independence from differing paths based on operating system language or architecture, and allows the construction of a dynamic path at the time of execution.

Process Architecture	System Environment Variable	Path
32-bit process on 32-bit Windows	%PROGRAMFILES%	C:\Program Files
	%COMMONPROGRAMFILES%	C:\Program Files\Common Files

Process Architecture	System Environment Variable	Path
32-bit process on 64-bit Windows	%PROGRAMFILES%	C:\Program Files (x86)
	%PROGRAMFILESX86%	C:\Program Files (x86)
	%COMMONPROGRAMFILES%	C:\Program Files (x86)\Common Files
	%COMMONPROGRAMFILES(X86)%	C:\Program Files (x86)\Common Files
	%COMMONPROGRAMW6432%	C:\Program Files\Common Files
	%PROGRAMW6432%	C:\Program Files

Note: Additional environment variables that are available to the System account, such as %SystemDrive%, %SystemRoot%, %WinDir%, are also supported.

Host and network security requirements

Specific ports and processes are needed to run Deploy.

Ports

The following ports are required for Deploy communication.

Component	Port	Direction	Purpose
Module Server	17463	Loopback	Internal purposes; not externally accessible

Security exclusions

If security software is in use in the environment to monitor and block unknown host system processes, your security administrator must create exclusions to allow the Tanium processes to run without interference.

Table 1: Deploy security exclusions

Target device	Process
Module Server	<Module Server>\services\deploy-service\node.exe

Target device	Process
Endpoints	<Tanium Client>\Python27\TPython.exe (7.2.x clients)
	<Tanium Client>\Python38\TPython.exe (7.4.x clients)
	<Tanium Client>\Python38*.dll (7.4.x clients)
	<Tanium Client>\Tools\Deploy\py\deploy\tools\active-user-sessions.exe

User role requirements

Deploy uses RBAC permissions that control access to the Deploy workbench. The four predefined roles are Deploy Administrator, Deploy Package Administrator, Deploy User, and Deploy Read Only User.

Table 2: Deploy user role permissions

Permission	Deploy Administrator	Deploy Package Administrator	Deploy User	Deploy Read Only User
Show Deploy¹ View the Deploy workbench	✓ ²	✓ ²	✓ ²	✓ ²
Deploy Use Api Perform Deploy operations using the API	✓ ²	✓ ²	✓ ²	✓ ²
Deploy Module Read Read access to the Deploy module	✓	✓	✓	✓
Deploy Module Write Write access to the Deploy module	✓	✓	✓	✗

Permission	Deploy Administrator	Deploy Package Administrator	Deploy User	Deploy Read Only User
Deploy Settings Write Write access to global settings in the Deploy module	✓	✗	✗	✗
Deploy Deployments Write Create and modify deployments	✓	✗	✓	✗
Deploy Maintenance Windows Write Create, modify, and delete maintenance windows	✓	✗	✓	✗
Deploy Profiles Write Create, modify, and delete self service profiles	✓	✗	✓	✗
¹ To install Deploy, you must have the reserved role of Administrator. ² Denotes a provided permission.				

Table 3: Provided Deploy Micro Admin and Advanced user role permissions

Permission	Role Type	Content Set for Permission	Deploy Administrator	Deploy Package Administrator	Deploy User	Deploy Read Only User
Read User Group	Micro Admin		✓	✓	✓	✓
Read Computer Group	Micro Admin		✓	✓	✓	✓

Permission	Role Type	Content Set for Permission	Deploy Administrator	Deploy Package Administrator	Deploy User	Deploy Read Only User
Ask Dynamic Questions	Advanced		✓	✓	✓	✓
Read Sensor	Advanced	Reserved	✓	✓	✓	✓
Read Sensor	Advanced	Default	✓	✓	✓	✓
Read Sensor	Advanced	Base	✓	✓	✓	✓
Read Sensor	Advanced	Deploy Content Set	✓	✓	✓	✓
Read Action	Advanced	Deploy Content Set	✓	✓	✓	✓
Read Action ¹	Advanced	End-User Notifications	✓	✓	✓	✓
Write Action	Advanced	Deploy Content Set	✓	✓	✓	✗
Write Action ¹	Advanced	End-User Notifications	✓	✗	✗	✗
Approve Action	Advanced	Deploy Content Set	✓	✓	✓	✗
Execute Plugin	Advanced	Deploy Content Set	✓	✓	✓	✓
Read Package	Advanced	Deploy Content Set	✓	✓	✓	✓
Read Package ¹	Advanced	End-User Notifications	✓	✓	✓	✓
Write Package	Advanced	Deploy Content Set	✓	✓	✓	✗
Read Saved Question	Advanced	Deploy Content Set	✓	✓	✓	✓
Read Saved Question ¹	Advanced	End-User Notifications	✓	✓	✓	✓

Permission	Role Type	Content Set for Permission	Deploy Administrator	Deploy Package Administrator	Deploy User	Deploy Read Only User
Write Saved Question	Advanced	Deploy Content Set	✓	✓	✓	✗
Write Saved Question ¹	Advanced	End-User Notifications	✓	✗	✗	✗
¹ Denotes a provided permission when the Tanium End-User Notifications shared service is installed.						

For more information and descriptions of content sets and permissions, see the [Tanium Core Platform User Guide: Users and user groups](#).

Installing Deploy

You can install Deploy from the **Tanium Solutions** page.

Before you begin

- Read the [release notes](#).
- Review the [Requirements on page 13](#).
- If you are upgrading from a previous version, see [Upgrade Deploy on page 23](#).

Import Deploy

Import Deploy from the **Tanium Solutions** page.

Note: For environments that are configured with an Active/Active Tanium Server configuration, this process must be performed on both Tanium Servers.

1. From the Main menu, click **Tanium Solutions**.
2. Under **Tanium Deploy**, click **Import**.

Note: Tanium Deploy is a licensed solution. If Tanium Deploy is not enabled for import on the **Tanium Solutions** page, contact your TAM.

3. In the **Content Import Preview** window, you can expand the package to review the Tanium content that is being installed.
4. Enable **Include content set overwrite** and click **Proceed with Import** to initiate the import.

For more information, see [Tanium Core Platform User Guide: Align content for modules](#).

5. After the installation process completes, click **Close**.
6. To confirm the installation, return to the **Tanium Solutions** page and check the **Installed: X.X.X.XX** version for Deploy.

Tip: If you do not see the Deploy module in the console, refresh your browser.

Set the service account

For recurring maintenance activities, specify a Tanium user with the Content Administrator and Deploy Administrator roles or the Tanium Administrator role. Specifying these credentials is a one-time configuration. No other credentials need to be added.

1. From the Deploy **Home** page, in the **Configure Deploy** section, click the **Configure Service Account** step and click **Configure Service Account**.

Note: If the **Configure Deploy** section is not visible in the Deploy **Home** page, click **Manage Home Page**, select **Configure Deploy**, and click **Save**.

2. Enter the Tanium credentials and click **Save**.

Install the Tanium End-User Notifications solution

By installing the Tanium End-User Notifications solution, you can create a notification message with your deployment to notify the user that the system is about to begin a deployment, has completed a deployment, and if postponements are enabled, to give the user the option to postpone the deployment or restart now.

For more information, see [Tanium End-User Notifications User Guide: Installing End-User Notifications](#).

Organize computer groups

One way to deploy packages or bundles is by computer group. Create relevant computer groups to organize your endpoints. Some options include:

- Endpoint type, such as servers or employee workstations
- Endpoint location, such as by country or time zone
- Endpoint priority, such as business-critical machines

For more information, see [Tanium Core Platform User Guide: Managing computer groups](#).

Add computer groups to Deploy action group

Importing the Deploy module automatically creates an action group to target specific endpoints. Select the computer groups to include in the Deploy action group. By default, Deploy targets No Computers.

1. From the Deploy **Home** page, in the **Configure Deploy** section, click the **Select Computer Groups** step and click **Configure Action Group**.

Note: If the **Configure Deploy** section is not visible in the Deploy **Home** page, click **Manage Home Page**, select **Configure Deploy**, and click **Save**.

2. Select the computer groups that you want to include in the action group. If you select multiple computer groups, choose an operand (AND or OR) to combine the groups.
3. (Optional) In the **All machines currently included in this action group** section, review the included endpoints.

Note: These results might take a few moments to populate.

4. Click **Save**.

Initialize endpoints

Deploy installs a set of tools on each endpoint that you have targeted. Initializing the endpoints starts the Deploy service and starts the Deploy process on every endpoint where it is not running.

1. From the Deploy **Home** page, in the **Configure Deploy** section, click the **Initialize Endpoints** step and click **Initialize Endpoints**.

Note: If the **Configure Deploy** section is not visible in the Deploy **Home** page, click **Manage Home Page**, select **Configure Deploy**, and click **Save**.

2. Enter your password and click **Confirm**.

Note: After deploying the tools for the first time, endpoints can take up to four hours to display status.

Upgrade Deploy

You can upgrade Deploy by importing it in the Tanium Console.

Note: For environments that are configured with an Active/Active Tanium Server configuration, this process must be performed on both Tanium Servers.

1. From the main menu, select **Tanium Solutions**.
2. Locate Deploy and click **Upgrade to <version>**.
A progress bar is displayed as the installation package is downloaded.
3. Click **Continue**.
The **Import Solution** page opens with a list of all changes and import options.
4. Enable **Include content set overwrite** and click **Proceed with Import** to initiate the import.
For more information, see [Tanium Core Platform User Guide: Align content for modules](#).
5. When the upgrade is complete, click **Close**.
6. To confirm the upgrade, return to the **Tanium Solutions** page and check the **Installed: X.X.X.XX** version for Deploy.

Tip: If the **Deploy** version has not updated in the console, refresh your browser.

7. If you upgraded to Deploy 1.1 or later, you must [Set the service account on page 22](#) and [Initialize endpoints on page 23](#) again.

What to do next

See [Getting started on page 12](#) for more information about using Deploy.

Managing packages and bundles

Use software packages to install, update, or remove software on a set of target computers. Use software bundles to specify a sequenced list of software packages to deploy.

Before you begin

For applicability checks and command-line operations, make sure that all endpoints have the required system environment variables defined. For more information, see [System environment variables on page 15](#).

Create a software package

1. From the Deploy menu, click **Software** and then click **New Software Package**.
2. In the **Package Files** section, click **Add** to add a local file, remote file, or remote folder.

These are the files that are needed to silently install an application on a managed device. They include, but are not limited to, msi or exe installers, resource files or folders, configuration files, custom scripts, custom registry files, or license keys.

IMPORTANT: If you select a remote file or remote folder, ensure that the account that runs the Tanium Deploy service has access to the remote location. By default, the Tanium Deploy service runs in the local system context. Hidden or administrative UNC shares are not supported within Tanium Deploy.

3. In the **General Information** section, provide the general information, click **Upload Icon** to upload an icon, and select the OS platform.

Tip: If the package files include one or more Windows Installer packages (MSI file format), you can click **Inspect** to extract the general information from the `.msi` file and verify the pre-populated information. Clicking **Inspect** does not overwrite any information that you previously entered manually.

4. In the **Deploy Operations** section, select Deploy operations: **Install**, **Update**, or **Remove**.
5. In the **System Requirements** section, provide the minimum system requirements for the package to run on the endpoint.

6. In the **Requirements** section, add a list of detection rules for prerequisite software. For more information, see [Variables for applicability scans and command-line operations on page 26](#) and [WMI queries on page 27](#).
7. (Optional) If the Update operation is selected, add a list of detection rules for previous versions. For more information, see [Variables for applicability scans and command-line operations on page 26](#) and [WMI queries on page 27](#).
8. In the **Deploy Operation** section, add conditional commands for any of the Deploy operations that you enabled for this package. For more information, see [Variables for applicability scans and command-line operations on page 26](#).

Check for Running Processes

You can specify a process name and choose whether to kill or pause the process.

File/Folder

You can copy a file or folder, create a folder, delete a file or folder, extract a file or folder, or rename a file or folder. Supported file types for extracting a file are 7z, tar, zip, bzip2, gzip, xz, and Z.

Run Command

You can specify an install, update, or remove command to run and choose whether to run the command as the **System** or the **Active User**. Use double quotes if any part of the path in a command contains a space, even if you use variables.

Tanium Client File Request

You can specify an HTTP(S) address or a UNC file path and file name. Any URI that you enter must be whitelisted on the Tanium Server. For more information, see [Tanium Platform User Guide: Managing whitelisted URLs](#).

9. In the **Install Verification** section, add a list of detection rules for installation verification. For more information, see [Variables for applicability scans and command-line operations on page 26](#) and [WMI queries on page 27](#).
10. Click **Create Package**. You can also click **Save and Finish Later** to finish creating the package later.

Variables for applicability scans and command-line operations

When you create a software package, you can use `|| PROGRAMFILES32BIT ||`, `|| PROGRAMFILES ||`, `|| ACTIVEUSERPROFILE ||`, or `|| ACTIVEUSERREGISTRY ||` as variables for applicability scans and command-line

operations. For the **Requirements**, **Update Detection**, and **Install Verification** sections, you can use these variables if you select the **Registry Path**, **Registry Data**, **File Path** or **File Version** filter fields.

Installer Architecture	Variable	Path
32-bit on 32-bit endpoint	PROGRAMFILES32BIT	C:\Program Files
32-bit on 64-bit endpoint	PROGRAMFILES32BIT	C:\Program Files (x86)
64-bit on 32-bit endpoint	PROGRAMFILES	C:\Program Files
64-bit on 64-bit endpoint	PROGRAMFILES	C:\Program Files
Any	ACTIVEUSERPROFILE	Profile directory of the active authenticated user (example: C:\users\john.smith)
Any	ACTIVEUSERREGISTRY	Registry hive of the active authenticated user (example: HKEY_USERS\USER-SID\)

IMPORTANT: Use double quotes if any part of the path in a command contains a space, even if you use variables.


WMI queries

You can use a WMI query to query information from WMI classes for any of the detection rules within a software package. If you use a WMI query, you cannot query against the Win32_Product WMI class.

For more information, see [\[Microsoft Documentation\]: Win32_Product class](#).

Export a software package

You can export a software package so that you can later import the package on a different server or recreate a deleted package.

1. From the Deploy menu, click **Software**.
2. Click the name of your package and then click Export .

The ZIP file is available in your downloads folder.

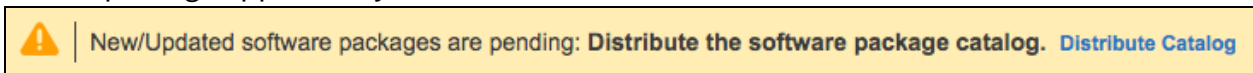
Import a software package

You can import a previously exported software package on a different server or recreate a deleted package.

1. From the Deploy menu, click **Software** and then click **Import Package**.
2. Browse to the previously exported ZIP file and click **Import**.
3. Click **Upload File** for any required files.
4. Click **Import** or **Import Duplicate** if you are importing a duplicate package.
5. Provide your password and click **Confirm**.

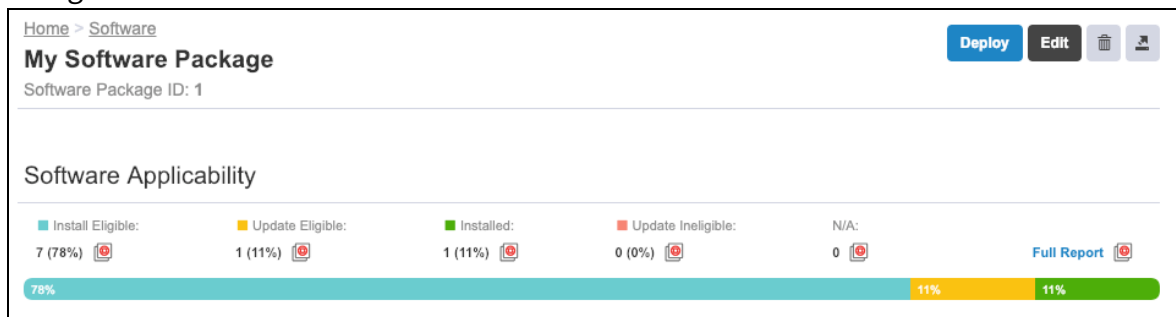
Distribute the software package catalog

After you create or edit a software package, you are prompted to distribute the software package catalog to the endpoints. Click **Distribute Catalog**, provide your password, and click **Confirm**. When the endpoints receive the updated software package catalog, you can view the package applicability.



View software package applicability

1. From the Deploy menu, click **Software**.
You can also view the software package applicability by additionally clicking your package name.



2. For more details about a specific applicability state, click Interact .

- You can also click **Full Report** to view the applicability details for the endpoints.

Home > Software > Software Package 1

Software Package Applicability: My Software Package

[View Question in Interact](#)

Computer Group: Filter By Text: Contains Filter by Text

Advanced Filtering

Items: **9** (9 total)

Live Updates: On | 100%

Clear Sort Text Wrap:

Deploy - Software Packages Applicability Details				
Computer Name ↑	Operating System	Applicability	Reasons	
<input type="checkbox"/> Client1	Windows 7 Enterprise	Install Eligible Install Eligible Install Eligible Install Eligible	Application name contains PuTTY and \ System requirements met Application name contains PuTTY and \ Registry path HKEY_LOCAL_MACHINE	
<input type="checkbox"/> Client2	Windows 7 Enterprise	Update Eligible Update Eligible Update Eligible Update Eligible	System requirements met Application name contains PuTTY and \ Application name contains PuTTY and \ Registry path HKEY_LOCAL_MACHINE	
<input type="checkbox"/> Client3	Windows 7 Enterprise	Install Eligible Install Eligible Install Eligible Install Eligible	Application name contains PuTTY and \ System requirements met Application name contains PuTTY and \ Registry path HKEY_LOCAL_MACHINE	
<input type="checkbox"/> Client4	Windows 7 Enterprise	Install Eligible Install Eligible Install Eligible Install Eligible	Application name contains PuTTY and \ System requirements met Application name contains PuTTY and \ Registry path HKEY_LOCAL_MACHINE	

Create a software bundle

- From the Deploy menu, click **Software** and then click **Software Bundles**.
- Click **New Software Bundle**.
- In the **Software Bundle Details** section, specify the bundle name and description and select the OS platform.
- In the **Add Software** section, select software options.
 - Select which software packages you want to add to the bundle.
 - Select the deploy action: **Install**, **Update**, **Remove**, or **Install Or Update**.
 - Select whether you want the bundle to exit or continue or if the package fails.

Tip: You can change the order of the packages by dragging the package, or by clicking the arrows next to the package number.

- Click **Create Bundle**.

Edit a software package or bundle

To edit a package or bundle, click the name of your package or bundle and then click **Edit**.


When a software package or bundle is edited and saved, the version number of the package or bundle is incremented. All existing deployments continue to use the version that is specified at the time of deployment until the updated software package catalog is distributed.

Copy a software package or bundle

To copy a package or bundle, click the name of your package or bundle and then click **Copy**.

When a software package or bundle is copied, the name is automatically prepended with **copy -**.

Delete a software package or bundle

To delete a package or bundle, click the name of your package or bundle and then click Delete .

Note: You can only delete a software package or bundle if it is not being referenced in an active deployment.

Managing the packages gallery

Deploy 1.1 introduces the **Packages Gallery** page, where you can import predefined software package templates. Use the software packages gallery to import third-party software package templates to install, update, or remove software on a set of target computers.

Note: Tanium does not repackage or redistribute third-party software installers. The Tanium software package templates provide you with the remote file paths to directly download the software installer from the third-party vendor. You must review any applicable third-party End User Licensing Agreement (EULA) before you import third-party software to the Tanium software package catalog. Tanium is not responsible for accepting, nor does it accept, any EULAs from third-party software vendors on your behalf.

Before you begin

For applicability checks and command line operations, make sure that all endpoints have the required system environment variables defined. For more information, see [System environment variables on page 15](#).

Import a software package from the packages gallery

1. From the Deploy menu, click **Software** and then click **Packages Gallery**.
2. Click **Import** for the package you want to import, and click **Yes** to confirm your action.

Tip: To import multiple packages simultaneously, select the packages that you want to import and click **Import**.

3. Click **Distribute Catalog**, and click **Yes** to confirm your action.

After you import a package from the packages gallery and distribute the catalog, you can deploy, edit, delete, or export the package.

Tip: If you import the Oracle Java 8 package and want to remove previous versions of Java, you can add `REMOVEOUTOFDATEJRES=1` to the end of the run command in the **Update Command** field of the software package.

Replace or add a new package to the software package catalog

If a software package that is being imported already exists in the software package catalog, you are presented with two options prior to importing again. If you want to replace the existing package, select **Replace existing**. If you want to import the package, but also keep the existing one, select **Save as another software package**. You must then update at least one of the fields to create a unique record in the software package catalog.

Software Package Already Exists

Adobe Flash Player (Internet Explorer - ActiveX) 31.0.0.108 already exists. Select from the following options to proceed.

Replace existing

Save as another software package
Modify the Product Vendor, Product Name, or Product Version.

Product Vendor:	<input type="text" value="Adobe"/>
Product Name:	<input type="text" value="Flash Player (Internet Explorer - ActiveX)"/>
Product Version:	<input type="text" value="31.0.0.108"/>

Deploying packages and bundles

Overview

Use deployments to install, update, or uninstall software on a set of target computers. Deployments can run once or be ongoing to meet requirements such as:

- Maintain operational hygiene and system baselines.
- Manage systems which may be online for short periods.
- Rerun packages which become applicable as system states change.

IMPORTANT: Deployments do not run outside of a maintenance window unless the **Override maintenance window** option is selected in the deployment options. You must create at least one maintenance window for other deployments to run. For more information about creating a maintenance window, see [Managing maintenance windows on page 45](#).

Before you begin

- Create a software package or bundle. See [Managing packages and bundles on page 25](#).
- If you want to notify the end users of your endpoints about the start of deployments or restarts that occur after deployments, install the Tanium End-User Notification solution. See [Tanium End-User Notifications User Guide: Installing End-User Notifications](#) and [Endpoint restarts on page 37](#).

Create a software package deployment

To deploy a software package, click the name of your package and then click **Deploy**.

1. Provide the deployment details.
2. Select the software package operation.
3. Choose at least one target for the deployment.
4. Select deployment options.
 - a. Choose whether you want to base this deployment on a deployment template. To create a new deployment template based on this template, select **Create Deployment Template**. For more information, see [Create a deployment](#)

[template on page 43.](#)

- b. Designate the deployment time.
You can choose from your browser time or local time on the endpoint.
- c. Specify a deployment type. You can either do a single deployment with a specific start and end time, or an ongoing deployment that does not have an end time.
- d. If you want the endpoints to download the deployment content before the installation time, select **Download immediately**.

Note: Files for the package are downloaded immediately only if the package is applicable.

- e. You can enable end user notifications about the deployments. Select **Notify User** in the **Pre-Notify User** section. You can then configure settings that allow the user to postpone the start of the deployment. You must also configure the **Message Content** that informs the user about the deployment. You can select additional languages and provide translated title and body text for endpoints that are configured for other languages. To preview the window that displays the message and postponement options, click **Show Preview**.

Pre-Notify User

Notify User

Allow User to Postpone ?

Duration of Postponement:

User Postponement Options:

<input type="text" value="1"/>	<input type="text" value="hours"/>
<input type="text" value="2"/>	<input type="text" value="hours"/>
<input type="text" value="4"/>	<input type="text" value="hours"/>

Countdown to deadline:

Message Content ? Show Preview

Title:

Title Icon: Suggested size: 32x32px ?
Filename: --

Body:

Body Image: Suggested size: 120x120px ?
Filename: --

Language Support:

Enable Additional Languages

ES - Español 🗑️

Title:

Body:

- f. To minimize concurrent CPU utilization and disk input/output, select **Distribute over time** and indicate the time.
- g. If you want to ignore deployment restrictions, select **Override maintenance windows**.
- h. Select whether to restart the endpoint. For more information, see [Endpoint restarts on page 37](#).
- i. You can enable end user notifications about the completion of a deployment with or without a restart. Select **Notify User** in the **Post-Notify User** section. If

you enabled endpoint restarts, you can then configure settings that allow the user to postpone the restart. You must also configure the **Message Content** that informs the user about the restart. You can select additional languages and provide translated title and body text for endpoints that are configured for other languages. To preview the window that displays the message and postponement options, click **Show Preview**.

Post-Notify User

Notify User

Allow User to Postpone ?

Duration of Postponement:

User Postponement Options:

?

Countdown to deadline:

Message Content ? Show Preview

Title:

Title Icon: Suggested size: 32x32px ?
Filename: --

Body:

Body Image: Suggested size: 120x120px ?
Filename: --

Language Support:

Enable Additional Languages

ES - Español

Title:

Body:

5. Click **Create Deployment**.

Endpoint restarts

Deploy can trigger a restart of any system after updates have been installed. You can choose between the following options for the restart:

- Restart silently and immediately after deployment. This option is typically used for servers and production machines in conjunction with maintenance windows and change control processes.
- Notify the system user about the pending restart and give the system user the option to defer the restart for a specified amount of time. Configure the following options:

Duration of Postponement

Specify the amount of time in minutes, hours, or days before the endpoint must be restarted. The deadline is calculated by adding this value to the time the deployment completed for each endpoint.

Countdown to deadline

Specify the amount of time in minutes to show the final notification before restarting the endpoint. This notification also shows a countdown until restart. If this notification is dismissed, it will reappear after one minute. Set a low value because this option is meant to signal a forced restart that cannot be postponed.

Allow User to Postpone

If you want to give the user an option to defer the restart for a specified amount of time, select this option. A user cannot postpone beyond the deadline.

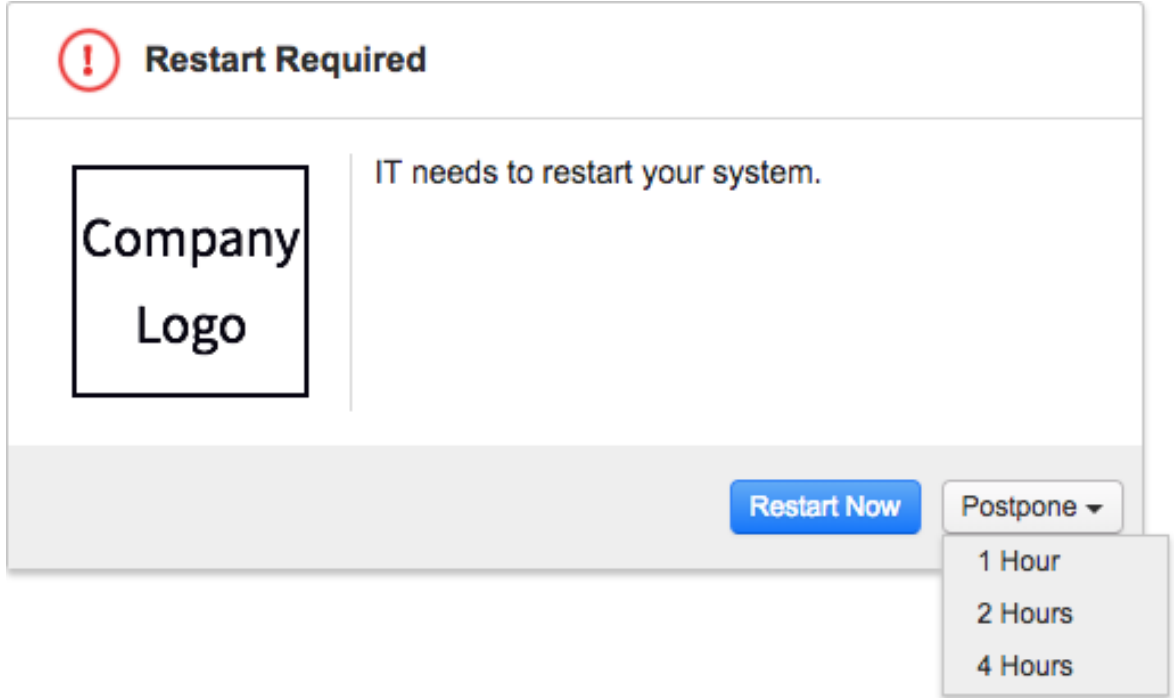
User Postponement Options

Specify the amount of time in minutes, hours, or days that a user can postpone the restart.

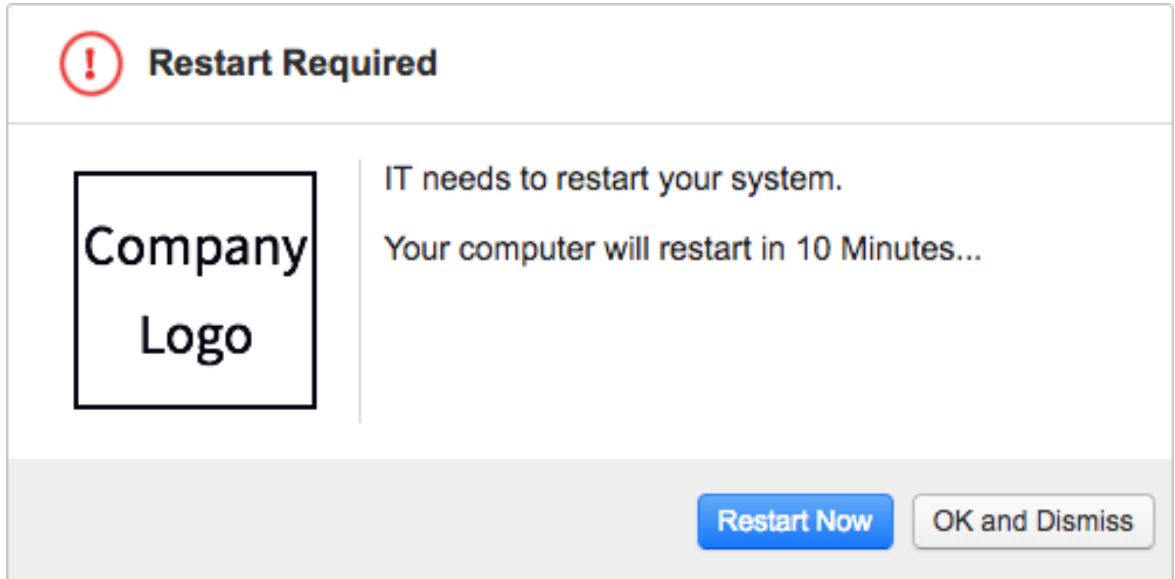
Message Content

Specify the title and body of the notification message. You can use `||OPERATION||`, `||PACKAGENAME||`, or `||DEPLOYMENTNAME||` as variables in the title or body. If you are deploying a software bundle, the bundle name is used for the `||PACKAGENAME||` variable. Upload optional icon and body images for branding to avoid confusing users and to limit support calls. Enable additional languages and provide translated title and body text. Enabling additional languages requires End-User Notifications 1.6 or later and Deploy 1.3 or later.

By default, the notification displays content in the system language on the endpoints. If you enable additional languages, the user can select other languages to display. Click **Show Preview** to preview the notifications. This message is configurable, and might look like the following example:



After the deadline for restart passes, the user gets a message that they cannot postpone:



Tip: End user notifications can be added to existing deployments by stopping, reconfiguring, and reissuing the deployment.

Note: If no user is logged into an endpoint, the endpoint restarts immediately after a deployment completion even if the deployment is configured for a notification.

Create a software bundle deployment

A software bundle is platform-specific and each software package evaluates and installs independently, but is available only for the specified OS platform. If an individual package fails to install during a bundle deployment, you can decide if the bundle should continue and install the remaining packages, or you can choose to stop on failure and report the failure.

To deploy a software bundle, click the name of your bundle and then click **Deploy**.

1. Provide the deployment details.
2. Verify the software bundle details.
3. Choose at least one target for the deployment.
4. Select deployment options.
 - a. Choose whether you want to base this deployment on a deployment template. To create a new deployment template based on this template, select **Create Deployment Template**. For more information, see [Create a deployment template on page 43](#).
 - b. Designate the deployment time. You can choose from your browser time or local time on the endpoint.
 - c. Specify a deployment type. You can either do a single deployment with a specific start and end time, or an ongoing deployment that does not have an end time.
 - d. If you want the endpoints to download the deployment content before the installation time, select **Download immediately**.

Note: Files for all packages in the bundle are downloaded immediately. Applicability for each package is not checked until the deployment start time.

- e. You can enable end user notifications about the deployments. Select **Notify User** in the **Pre-Notify User** section. You can then configure settings that allow the user to postpone the start of the deployment. You must also configure the **Message Content** that informs the user about the deployment. You can select additional languages and provide translated title and body text for endpoints that are configured for other languages. To preview the window that displays the message and postponement options, click **Show Preview**.

Pre-Notify User

Notify User

Allow User to Postpone ?

Duration of Postponement: 1 days

User Postponement Options: 1 hours ?
2 hours
4 hours

Countdown to deadline: 10 minutes

Message Content ? Show Preview

Title: Deployment Starting

Title Icon: Choose File Suggested size: 32x32px ?
Filename: --

Body: IT is going to start a deployment to install software.

Body Image: Choose File Suggested size: 120x120px ?
Filename: --

Language Support

Enable Additional Languages

ES - Español

Title: Inicio de implementación

Body: IT va a comenzar una implementación para instalar software.

Add Language

- f. To minimize concurrent CPU utilization and disk input/output, select **Distribute over time** and indicate the time.

- g. If you want to ignore deployment restrictions, select **Override maintenance windows**.
- h. Select whether to restart the endpoint. For more information, see [Endpoint restarts on page 37](#).
- i. You can enable end user notifications about the completion of a deployment with or without a restart. Select **Notify User** in the **Post-Notify User** section. If you enabled endpoint restarts, you can then configure settings that allow the user to postpone the restart. You must also configure the **Message Content** that informs the user about the restart. You can select additional languages and provide translated title and body text for endpoints that are configured for other languages. To preview the window that displays the message and postponement options, click **Show Preview**.

Post-Notify User

Notify User

Allow User to Postpone ?

Duration of Postponement:

User Postponement Options:

?

Countdown to deadline:

Message Content ? Show Preview

Title:

Title Icon: Suggested size: 32x32px ?

Filename: --

Body:

Body Image: Suggested size: 120x120px ?

Filename: --

Language Support:

Enable Additional Languages

ES - Español 🗑️

Title:

Body:

5. Click **Create Deployment**.

Review deployment summary

You can get the deployment results by status, any error messages, and the deployment configuration details.

1. In the Deploy menu, click **Deployments**.
2. Select either the **Active** or **Inactive** tab.
3. Click the deployment name.

4. Review the sections.
 - **Install/Install or Update/Update/Remove Summary** shows the package name, package size, and operations.
 - **Install/Install or Update/Update/Remove Status** has the install status, number of online endpoints, and the date and time of the last status update. The results are split out by status with the Interact icon to see the results by endpoint.
 - **Error Messages** include a brief description, the count of affected machines, and the Interact icon to drill down.
 - **Deployment Details** provides all the configuration information.
 - **Targeted Computers** lists the targeted computer groups for the deployment.

Reissue a deployment

You can restart a stopped deployment or reissue a one-time deployment. Reissuing a deployment creates a new deployment with the same configuration and targets.

1. From the Deploy menu, click **Deployments**.
2. On the **Inactive** tab, click the deployment name.
3. Click **Reissue**.
4. Make changes if necessary.
5. Preview the changes.
6. Click **Create Deployment**.

Stop a deployment

You can stop a package or bundle deployment, but it does not remove packages that have already completed installation.

1. In the Deploy menu, click **Deployments**.
2. On the **Active** tab, click the deployment name.
3. Click **Stop**.
4. Go to the **Inactive** tab and click the deployment name to verify the status.

Create a deployment template

You can create a deployment template to save settings for a deployment that you can issue repeatedly. You can either create a deployment template from the **Deployment Templates**

menu item, or you can select an option when you create a deployment to save the options as a template.

1. From the Deploy menu, click **Deployment Templates**.
2. Click **Create Deployment Template**.
3. Specify a name and description for your deployment template.
4. Select deployment options. These options are the same as the options you can configure in an individual deployment.
5. Click **Create Deployment Template**.

You can use this template when you create a deployment.

Managing maintenance windows

Maintenance windows control when deployments can run on a computer group. A maintenance window is separate from the deployment start and end time. To run a deployment, a maintenance window must be open during the configured deployment time, or the deployment must have the **Override maintenance windows** option configured.

Deployments do not run outside of a maintenance window unless the **Override maintenance windows** option is selected in the deployment options. You must create at least one maintenance window for other deployments to run.

Maintenance window options

You can configure maintenance windows for the times that are best for your environment. Apply maintenance windows by enforcing them against computer groups. Multiple maintenance windows can affect a computer group, creating several times that deployment activity is permitted.

If you want . . .	After the date and time, select . . .
A one-time window	Does Not Repeat
A window that repeats every few days	Daily and the number of days between windows
A window that repeats on the same days of the week	Weekly , the number of weeks between windows, and which days of the week it opens on
A window that repeats on the same date each month	Monthly , the number of months between windows, and Day of the Month
A window that repeats on the same day each month	Monthly , the number of months between windows, and Day of the Week
A window that repeats on the same day of the year	Yearly and the number of years between windows

IMPORTANT: If a maintenance window does not repeat and it is the only one enforced against a computer group, deployments cannot run after the window closes.

Create a maintenance window

You can open multiple maintenance windows to customize when deployments run on your endpoints. For example, you can create windows that allow deployments during periods of low network activity or outside of core working hours.

1. In the Deploy menu, click **Maintenance Windows**.
2. Click **Create Window**.
3. Name the window.
4. Choose from your browser time or local time on the endpoint.
5. Configure the window repetition.
 - a. Select the repetition time frame.
 - b. Set additional options, such as day of the week, day of the month, and how often the window repeats.
6. Use the date and time pickers to set the start and end time of the window.

Note: If a maintenance window repeats, it does not have an end date. You must remove the enforcement against the target computer groups to stop the maintenance window.

7. Click **Create**.
8. Add one or more target computer groups.

Edit a maintenance window

1. In the Deploy menu, click **Maintenance Windows**.
2. Select a window.
3. Click **Edit**.
4. Make your changes.
5. Preview the changes.
6. Click **Save**.

Override a maintenance window

You can run a deployment outside of a maintenance window by configuring the **Override maintenance windows** option during a deployment. For more information, see [Deploying packages and bundles on page 33](#).

Delete a maintenance window

After the enforcements have been removed, you can delete a maintenance window.

1. In the Deploy menu, click **Maintenance Windows**.
2. Select a window.
3. If the window is enforced against computer groups, remove all groups.
4. In the upper right, click **Delete**.
5. Confirm the deletion.

Using the Self Service application

To use the Self Service application on your endpoints, you must create a self service profile in Deploy version 1.2 or later.

Before you begin

- Install Tanium End-User Notifications version 1.5 or later. For more information, see [Tanium End-User Notifications User Guide: Installing End-User Notifications](#).
- Create one or more software packages or bundles. For more information, see [Managing packages and bundles on page 25](#).

Create a self service profile


1. From the Deploy menu, click **Self Service Profiles** and then click **New Profile**.
2. Provide a name and optionally a description for the profile.
3. Select computer groups or define a group of computers.
4. Choose packages or bundles to include or remove from the profile.
 - a. By default, each package is allowed to be installed, updated, and removed in the Self Service application. You can deselect any options if you do not want users to perform those operations.
 - b. If a software package requires a restart of the endpoint, you can select **Requires Restart**.
5. Click **Preview to Continue** and then click **Create Profile**.

View self service profiles


From the Deploy menu, click **Self Service Profiles** to view all self service profiles.

This page displays all currently defined profiles and basic information about those profiles. You can expand the profile to view more detail about the profile, including the defined software packages and the allowed actions that are associated with each package. This expanded detail also shows the targeted groups or questions for the profile.

Edit a self service profile

To edit a self service profile, click Edit  next to the profile name. You can also click the profile name and then click **Edit**.

Delete a self service profile

To delete a self service profile, click the profile name and then click Delete .

Track usage statistics

You can check the status of packages or bundles that are used in the Self Service application and track usage statistics of the Self Service application on endpoints.

From the Deploy menu, click Deployments and then click the **Self Service** tab. This page displays all software packages and bundles that are included in self service profiles. It also shows the number of times a given operation was performed for each package.

Use the Self Service Client on endpoints

The Self Service Client includes the following tabs:

Dashboard

The **Dashboard** tab displays the most recently added software applications and any current activity.

Catalog

The **Catalog** tab displays all of the available software applications in the catalog.

History

The **History** tab displays any completed activities that occurred on the system and their results.

Activity

The **Activity** tab displays any currently running or upcoming activities. Completed activities are moved to the **History** tab.


To install, update, or remove software applications on endpoints, open the Self Service Client application. For more information, see [Tanium Support Knowledge Base: Tanium Deploy End-User Self Service for Users](#) (login required).

Troubleshooting Deploy

If Deploy is not performing as expected, you might need to do some troubleshooting or change settings. You can also contact your TAM for assistance.

Collect a troubleshooting package

For your own review or to assist support, you can compile Deploy logs and files that are relevant for troubleshooting.

1. Get the Deploy log.
 - a. From the Deploy **Home** page, click Help .
 - b. Click the **Support** tab and click **Collect**.
 - c. When the **Status:** is updated, click **Download**.

The log zip file might take a few moments to download. The files have a timestamp with a `deploy-support-YYYY-MM-DDTHH-MM-SS.mmmZ` format.

2. (Optional) On the endpoint, copy the `Tanium\Tanium Client\Tools\Deploy` folder.
3. (Optional) View status and logs for recent Deploy service jobs.
 - a. On the **Support** tab, click **View Job Status**.
 - b. In the **Job Detail** window, click **Download Logs** to download a `job-logs.txt` file with more details about recent jobs.
 - c. You can also click **Show Details** and **Download Logs** from the **Initialize Endpoints** step of the **Configure Deploy** section on the Deploy **Home** page for details about the most recent endpoint initialization.

Note: If the **Configure Deploy** section is not visible in the Deploy **Home** page, click **Manage Home Page**, select **Configure Deploy**, and click **Save**.

End user notifications are not displayed

If end user notifications are not being displayed on the endpoints:

1. Verify that the Tanium End-User Notifications solution is installed. For more information, see [Tanium End-User Notifications User Guide: Installing End-User Notifications](#).

2. Ask the question: `Get Has End User Notification Tools from all machines with Is Windows = "true"` to check if your endpoints have the end user notification tools.
3. Verify that any security software exclusions include the `\Tanium\Tanium End User Notification Tools` directory. For more information, see [Security exclusions on page 16](#).

No applicability information for software packages

Software package applicability is calculated on the endpoints by using the applicability rules in the package definition, which is stored in the software package catalog and distributed to the endpoints.

If the applicability information for software packages is not available:

1. Ensure the Deploy process is running on the target endpoint by:
 - asking the question: `Get Deploy - Is Process Running from all machines`
 - checking locally for the `\Tanium\Tanium Client\python27\TPython.exe` on the endpoint
2. Ensure that the `\Tanium\Tanium Client\Tools\Deploy\software-package-catalog.json` file is present and updated.
3. Ensure that the `\Tanium\Tanium Client\Tools\Deploy\settings.json` file is present and updated.
4. Review the `\Tanium\Tanium Client\Tools\Deploy\software-package-applicability.json` file to verify the package id, applicability, and `updatedAt` values. If the package id is not present, a new scan may not have occurred or the software package catalog might be out of date. When a new software package catalog file is received, the scan should happen within a few minutes.
5. Load the saved question: **Deploy - Software Packages Applicability 0** to display the package id and the applicability state of the first 200 packages. This saved question runs on a scheduled that is defined by the Deploy service. Review Deploy settings to adjust these settings as needed. To load the saved question:
 1. From the Main menu, click **Authoring > Saved Questions**.
 2. Select the **Deploy - Software Packages Applicability 0** row and click **Load**.

No software in the Packages Gallery page

After you import Deploy 1.1 or later, you must [Set the service account on page 22](#) and [Initialize endpoints on page 23](#) again. After the endpoints are initialized, it might take up to one hour to see the software in the **Packages Gallery** page. You can also restart the Tanium Deploy service to reduce this time constraint.

If you still do not see any software in the **Packages Gallery** page:

1. From the Main menu, click **Content > Packages**.
2. Search for the `Deploy - Software Package Gallery` package.
3. Ensure that this package is cached.
 - a. Verify that the **Size** column does not list `Pending`.
 - b. If the size stays at `Pending` for more than one hour, contact your TAM for assistance.
4. Check to see if the Tanium Deploy service is attempting to gather the Deploy package gallery file.
 - a. [Collect a troubleshooting package on page 50](#).
 - b. Open the downloaded support bundle and open the `deploy-files\logs\Deploy.log` file.
 - c. Search for `Ensuring software package gallery zip package`.
 - d. If the `Deploy.log` file does not have that text, [Set the service account on page 22](#) again, wait 10-15 minutes, and then repeat the previous steps to recheck the log file.
5. Check to see if the Tanium Server configuration needs to be reconfigured.
 - a. [Collect a troubleshooting package on page 50](#) again and open the `deploy-service\utils\tdownloader\win32\TDL_Logs\log0.txt` file.
 - b. Search for `Peer certificate cannot be authenticated with given CA certificates (error code 60): SSL certificate problem: self signed certificate`.
 - c. If the `log0.txt` file does have that text, verify that the Tanium Server(s) are added to the **Tanium Module Server: TrustedHostList** setting, and restart the Tanium Deploy service on the Tanium Module Server. For more information, see [Tanium Core Platform User Guide: Configuring proxy server settings](#).
6. If you still do not see any software in the **Packages Gallery** page after completing the previous steps, contact your TAM for assistance.

Uninstall Deploy

If you need to uninstall Deploy, first clean up the Deploy artifacts on the endpoint and then uninstall Deploy from the server.

1. Clean up deployment artifacts from the endpoints.
 - a. Use Interact to target endpoints. To get a list of endpoints that have Deploy, you can ask the `Get Deploy - Is Process Running from all machines` question.
 - b. Click **Deploy Action**. Choose the **Clean Deploy Tools Folder** package.
 - c. Check the status of the action on the **Actions > Action History** page.
2. Remove the Deploy solution from the Tanium Module Server. From the Main menu, click **Tanium Solutions**.
 - a. In the Deploy section, click **Uninstall** and follow the process.
 - b. Click **Proceed with Uninstall**.
 - c. The uninstaller disables any actions and reissues saved questions.
 - d. Return to the **Tanium Solutions** page and verify that the **Import** button is available for Deploy.
If the Deploy module has not updated in the console, refresh your browser.