



Tanium™ Deploy User Guide

Version 1.1.2

November 07, 2018

The information in this document is subject to change without notice. Further, the information provided in this document is provided “as is” and is believed to be accurate, but is presented without any warranty of any kind, express or implied, except as provided in Tanium’s customer sales terms and conditions. Unless so otherwise provided, Tanium assumes no liability whatsoever, and in no event shall Tanium or its suppliers be liable for any indirect, special, consequential, or incidental damages, including without limitation, lost profits or loss or damage to data arising out of the use or inability to use this document, even if Tanium Inc. has been advised of the possibility of such damages.

Any IP addresses used in this document are not intended to be actual addresses. Any examples, command display output, network topology diagrams, and other figures included in this document are shown for illustrative purposes only. Any use of actual IP addresses in illustrative content is unintentional and coincidental.

Please visit <https://docs.tanium.com> for the most current Tanium product documentation.

Tanium is a trademark of Tanium, Inc. in the U.S. and other countries. Third-party trademarks mentioned are the property of their respective owners.

© 2018 Tanium Inc. All rights reserved.

Table of contents

- Deploy overview 6**
 - Deployment packages 6
 - Deployment bundles 7
 - Deployment packages gallery 7
 - Applicability scans 8
 - Deployments 9
 - Maintenance windows 9
- Getting started 10**
- Requirements 11**
 - Tanium dependencies 11
 - Tanium Server and Module Server 11
 - Endpoints 12
 - System environment variables 12
 - Host and network security requirements 13
 - Security exclusions 13
 - User role requirements 14
 - Tanium 7.0 14
 - Tanium 7.1 or later 14
- Installing Deploy 18**
 - Before you begin 18
 - Import Deploy 18
 - Set the service account 19
 - Install the Tanium End-User Notifications solution 19

Organize computer groups	19
Add computer groups to Deploy action group	20
Initialize endpoints	20
Upgrade Deploy	21
What to do next	21
Managing packages and bundles	22
Before you begin	22
Create a software package	22
Variables for applicability scans and command-line operations	23
WMI queries	24
Export a software package	24
Import a software package	24
Distribute the software package catalog	25
View software package applicability	25
Create a software bundle	26
Edit a software package or bundle	26
Delete a software package or bundle	27
Managing the packages gallery	28
Before you begin	28
Import a software package from the packages gallery	28
Replace or add a new package to the software package catalog	29
Deploying packages and bundles	30
Overview	30
Before you begin	30
Create a software package deployment	30

Endpoint restarts	32
Create a software bundle deployment	34
Reissue a deployment	36
Stop a deployment	36
Create a deployment template	37
Managing maintenance windows	38
Maintenance window options	38
Create a maintenance window	39
Override a maintenance window	39
Delete a maintenance window	39
Troubleshooting Deploy	40
Collect a troubleshooting package	40
End user notifications are not displayed	40
No applicability information for software packages	40
No software in the Packages Gallery page	41
Uninstall Deploy	42

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.

With Deploy, you can accomplish the following tasks:

- 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.
- Update existing software installation to the latest available versions.
- 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.

Required Software (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 22](#).

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:

- 7zip (32/64-bit) - latest version
- Adobe AIR - latest version
- Adobe Flash Player (ActiveX/NPAPI/PPAPI) - latest version
- Dropbox - latest version
- FileZilla - latest version

- Google Chrome Enterprise (32/64-bit) - latest version
- Mozilla Firefox (32/64-bit) - latest version
- Notepad++ (32/64-bit) - latest version
- Oracle Java 8 (32/64-bit) - latest version
- Wireshark (32/64-bit) - latest version
- Zoom - latest version

For more information, see [Managing the packages gallery on page 28](#).

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 required software. 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 30](#).

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 38](#).

This documentation may provide access to or information about content, products (including hardware and software), and services provided by third parties ("Third Party Items"). With respect to such Third Party Items, Tanium Inc. and its affiliates (i) are not responsible for such items, and expressly disclaim all warranties and liability of any kind related to such Third Party Items and (ii) will not be responsible for any loss, costs, or damages incurred due to your access to or use of such Third Party Items unless expressly set forth otherwise in an applicable agreement between you and Tanium.

Further, this documentation does not require or contemplate the use of or combination with Tanium products with any particular Third Party Items and neither Tanium nor its affiliates shall have any responsibility for any infringement of intellectual property rights caused by any such combination. You, and not Tanium, are responsible for determining that any combination of Third Party Items with Tanium products is appropriate and will not cause infringement of any third party intellectual property rights.

Getting started

1. Install Deploy. For more information, see [Installing Deploy on page 18](#).
2. Create a software package. For more information, see [Managing packages and bundles on page 22](#).
3. Create a deployment. For more information, see [Deploying packages and bundles on page 30](#).
4. Create a maintenance window. For more information, see [Managing maintenance windows on page 38](#).

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	7.0.314.6319 or later. Enhanced functionality is available with version 7.0.314.6573 and later. Installing Tanium™ Interact is also suggested. For role-based access control (RBAC), you must have Tanium Platform 7.1.314.3214 or later. 7.2.314.3019 or later.
Tanium Client	6.0.314.1540 or later (Windows 7 Service Pack 1 or later, and Windows Server 2008 or later). 7.2.314.2962 or later (Windows 7 Service Pack 1 or later, and Windows Server 2008 or later).
Tanium End-User Notifications	1.4.0.0003 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 Deploy service on the Module Server requires access to the websites to download binaries for the packages gallery templates.

Software Package	Domain	Port
7-zip	7-zip.org	443
Adobe AIR	download.macromedia.com	80
Adobe Flash Player	fpdownload.macromedia.com	443

Software Package	Domain	Port
Dropbox	clientupdates.dropboxstatic.com	443
Google Chrome Enterprise	dl.google.com	80
Mozilla Firefox	releases.mozilla.org	80
Notepad++	notepad-plus-plus.org	443
Wireshark	1.na.dl.wireshark.org	443
Zoom	d11yldzmag5yn.cloudfront.net	443

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 processes and URLs are needed to run Deploy.

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.

Target device	Process
Module Server	node.exe or "<Tanium Module Server>\services\deploy-service\node.exe" service.js

Target device	Process
Endpoint computers	<p><Tanium>\Tanium End User Notification Tools\bin\client-ui.exe</p> <p><Tanium Client>\Python27\TPython.exe</p> <p><Tanium Client>\Tools\Deploy\py\deploy\tools\active-user-sessions.exe</p> <p>Exclude the following directories from on-access or real-time scans:</p> <ul style="list-style-type: none"> • <Tanium>\Tanium End User Notification Tools • <Tanium Client>

User role requirements

Tanium 7.0

The following user roles are supported in Deploy:

Administrator

Can install Deploy; can create, modify, or delete packages and bundles; can create, modify, delete, or run deployments

Content Administrator

Can create, modify, or delete packages and bundles; can create, modify, delete, or run deployments

Tanium 7.1 or later

For Tanium Platform version 7.1.314.3214 or later, Deploy uses RBAC permissions that control access to the Deploy workbench. The three predefined roles are Deploy Admin, Deploy User, and Deploy Read Only User.

Table 1: Deploy user role privileges for Tanium 7.1.314.3214 or later

Privilege	Deploy Administrator	Deploy User	Deploy Read Only User
Show Deploy View the Deploy workbench	✓ ¹	✓ ¹	✓ ¹
Deploy Use Api Perform Deploy operations using the API	✓ ¹	✓ ¹	✓ ¹
Deploy Module Read Read access to the Deploy module	✓	✓	✓
Deploy Module Write Write access to the Deploy module	✓	✓	✗
Deploy Settings Write Write access to global settings in the Deploy module	✓	✗	✗
¹ Denotes a provided permission.			

Table 2: Provided Deploy Micro Admin and Advanced user role permissions for Tanium 7.1.314.3214 or later

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

Permission	Role Type	Content Set for Permission	Deploy Administrator	Deploy User	Deploy Read Only User
Write Package	Advanced	Deploy Content Set	✓	✓	✗
Read Saved Question	Advanced	Deploy Content Set	✓	✓	✓
Read Saved Question ¹	Advanced	End-User Notifications	✓	✓	✓
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 1.4.0.003 solution 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 11](#).
- If you are upgrading from a previous version, see [Upgrade Deploy on page 21](#).

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. Initiate the import.
 - For platform version 7.0, click **Proceed with Import**.
 - For platform version 7.1.314.3071 and later, enable **Include content set overwrite** and click **Proceed with 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 administrator or content administrator permissions. 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 **Set Credentials**.

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.

1. From the Deploy home page, in the **Configure Deploy** section, click the **Import End-User Notifications** step and click **Import End-User Notifications**.

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. Review the list of packages and sensors and click **Proceed with Import**.
3. To distribute the end user notification tools to endpoints, [Add computer groups to Deploy action group on page 20](#) and [Initialize endpoints on page 20](#).
4. To check if your endpoints have the end user notification tools, ask the question: `Get Has End User Notification Tools from all machines with Is Windows = "true"`

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.

This action is reissued on an hourly basis.

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. Initiate the import.
 - For platform version 7.0, click **Proceed with Import**.
 - For platform version 7.1.314.3071 and later, enable **Include content set overwrite** and click **Proceed with Import**.
For more information, see [Tanium Core Platform User Guide: Align content for modules](#).
5. Enter your password and click **OK**.
6. When the upgrade is complete, click **Close**.
7. 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.

8. If you upgraded to Deploy 1.1, you must [Set the service account on page 19](#) and [Initialize endpoints on page 20](#) again.

What to do next

See [Getting started on page 10](#) 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 12](#).

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 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 Operation** section, select Deploy operations: **Install**, **Update**, or **Remove**.

IMPORTANT: If you add a **Tanium Client File Request**, any URI that you enter must be whitelisted on the Tanium Server. For more information, see [Tanium Platform User Guide: Managing whitelisted URLs](#).

5. In the **System Requirements** section, provide the minimum system requirements for the package to run on the endpoint.
6. In the **Required Software** section, add a list of detection rules for prerequisite software. For more information, see [Variables for applicability scans and command-line operations on page 23](#) and [WMI queries on page 24](#).
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 23](#) and [WMI queries on page 24](#).
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 23](#).

Tip: If you add a **Run Command**, you can specify whether to run the command as the **System** or the **Active User**.

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 23](#) and [WMI queries on page 24](#).
10. Click **Create Package**.

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 **Required Software**, **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	<code> PROGRAMFILES32BIT </code>	C:\Program Files

Installer Architecture	Variable	Path
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\)


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.

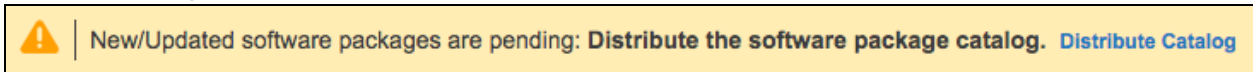
Import a software package

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**.

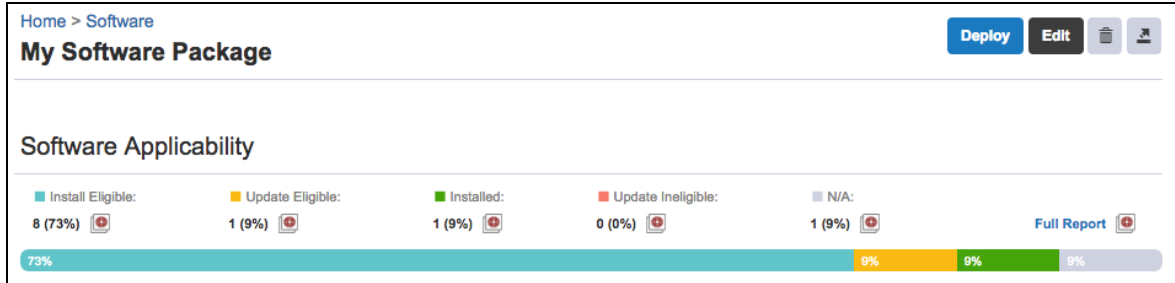
Distribute the software package catalog


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 .

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

The screenshot shows the 'Software Package Applicability' page. At the top, there is a breadcrumb 'Home > Software' and a title 'Software Package Applicability'. Below the title is a link 'View Question in Interact'. A question is displayed: 'Question: Get Computer Name and Operating System and Deploy - Software Packages Applicability Details matches "A1\.*\$" from all m ... show entire question'. There is a search bar with 'Computer Group: Filter By Text: Contains' and a search icon. Below the search bar is an 'Advanced Filtering' section. The main content area shows 'Items: 11 (11 total)' and 'Live Updates: On | 100%'. A table titled 'Deploy - Software Packages Applicability Details' is displayed with the following data:

Computer Name ↑	Operating System	Software Package ID	Applicability
<input type="checkbox"/> Client1	Windows 7 Enterprise	1	Install Eligible
<input type="checkbox"/> Client2	Windows 7 Enterprise	1	Update Eligible
<input type="checkbox"/> Client3	Windows 7 Enterprise	1	Install Eligible
<input type="checkbox"/> Client4	Windows 7 Enterprise	1	Install Eligible
<input type="checkbox"/> Client5	Windows 7 Enterprise	1	Installed

Create a software bundle

1. From the Deploy menu, click **Software** and then click **Software Bundles**.
2. Click **New Software Bundle**.
3. In the **Software Bundle Details** section, specify the bundle name and description and select the OS platform.
4. In the **Add Software** section, select software options.
 - a. Select which software packages you want to add to the bundle.
 - b. Select the deploy action: **Install**, **Update**, **Remove**, or **Install Or Update**.
 - c. 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.

5. 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.

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 12](#).

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 38](#).

Before you begin

- Create a software package or bundle. See [Managing packages and bundles on page 22](#).
- 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 [Install the Tanium End-User Notifications solution on page 19](#) and [Endpoint restarts on page 32](#).

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 37.](#)

- 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**.
- 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 also must configure the **Message Content** that informs the user about the deployment. To preview the window that displays the message and postponement options, click **Show Preview**.

The screenshot shows the 'Pre-Notify User' configuration interface. On the left, there is a sidebar with 'Pre-Notify User' selected. The main area is titled 'Notify User' and contains several settings:

- Notify User**
- Allow User to Postpone** (with a help icon)
- Duration of Postponement:** 1 Days
- User Postponement Options:** 1 Hours, 2 Hours, 4 Hours
- Countdown to deadline:** 10 Minutes

Below these settings is the **Message Content** section, which includes:

- 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:** --

A 'Show Preview' link is located in the top right corner of the Message Content section.

- 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 32](#).
- 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 also must configure the **Message Content** that informs the user about the restart. To preview the window that displays the message and postponement options, click **Show Preview**.

Restart Yes No

Post-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: Reboot Required

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

Body: IT needs to reboot your system to deploy software.

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

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, hours, or days to show the final notification before restarting the endpoint.

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.

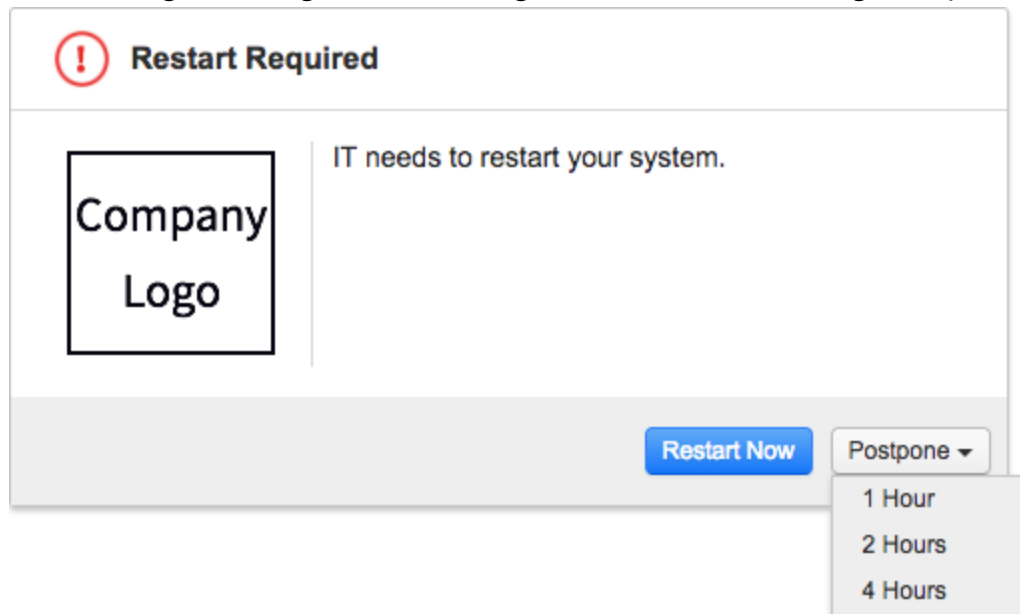
User Postponement Options

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

Message Content

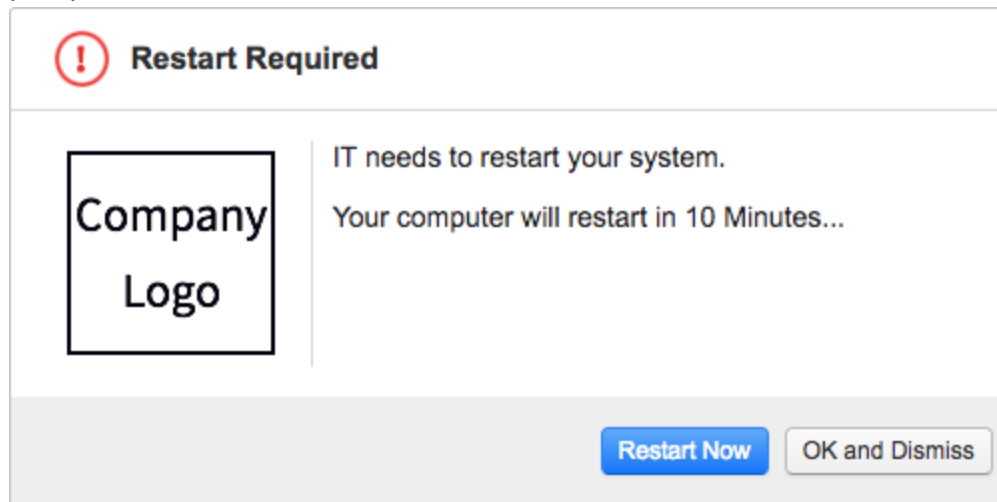
Specify the title and body of the notification message. You can use `||OPERATION||`, `||PACKAGENAME||`, or `||DEPLOYMENTNAME||` as variables in the title or body. If you are deploying a software bundle, the bundle name is used for the `||PACKAGENAME||` variable. Upload optional icon and body images for branding to avoid confusing users and to limit support calls. 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 will restart 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 37](#).

- 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**.
- 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 also must configure the **Message Content** that informs the user about the deployment. To preview the window that displays the message and postponement options, click **Show Preview**.

- 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 32](#).
- 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 also must configure the **Message Content** that informs the user about the restart. To preview the window that displays the message and postponement options, click **Show Preview**.

Restart

Yes
 No

Post-Notify User

Notify User

Allow User to Postpone ?

Duration of Postponement: 1 Days

User Postponement Options: 1 Hours 2 Hours 4 Hours 10 Minutes

Countdown to deadline: 10 Minutes

Message Content Show Preview

Title: Reboot Required

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

Body: IT needs to reboot your system to deploy software.

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

5. Click **Create 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 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 are 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.

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 30](#).

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.

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. On 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.

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 [Install the Tanium End-User Notifications solution on page 19](#).
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 13](#).

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, you must [Set the service account on page 19](#) and [Initialize endpoints on page 20](#) 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 40](#).
 - 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 19](#) 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 40](#) 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 Table 2 of the [Tanium Appliance Installation Guide: Change a Tanium server configuration](#) and Table 3 of the [Tanium Core Platform Installation Guide: Windows Registry](#).
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.