Qualys®

Patch Management

User Guide

Version 1.4

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About this Guide

Welcome to Qualys Patch Management! We'll help you get acquainted with the Qualys solutions for patching your systems using the Qualys Cloud Security Platform.

About Qualys

Qualys, Inc. (NASDAQ: QLYS) is a pioneer and leading provider of cloud-based security and compliance solutions. The Qualys Cloud Platform and its integrated apps help businesses simplify security operations and lower the cost of compliance by delivering critical security intelligence on demand and automating the full spectrum of auditing, compliance and protection for IT systems and web applications.

Founded in 1999, Qualys has established strategic partnerships with leading managed service providers and consulting organizations including Accenture, BT, Cognizant Technology Solutions, Deutsche Telekom, Fujitsu, HCL, HP Enterprise, IBM, Infosys, NTT, Optiv, SecureWorks, Tata Communications, Verizon and Wipro. The company is also founding member of the Cloud Security Alliance (CSA). For more information, please visit www.qualys.com

Qualys Support

Qualys is committed to providing you with the most thorough support. Through online documentation, telephone help, and direct email support, Qualys ensures that your questions will be answered in the fastest time possible. We support you 7 days a week, 24 hours a day. Access online support information at www.qualys.com/support/.

Patch Management Overview

Qualys Patch Management saves you time and effort by automating patch management on Windows assets, for both Microsoft and Non-Microsoft patches, using a single patch management application. It provides instant visibility on patches available for your assets and tells you whether these patches are already installed. You can automatically deploy new patches as and when they are available.

The Cloud Agent downloads the required patches from external sources. However, patches that require authentication cannot be downloaded by the agent. You can manually download and install such patches on the assets. Qualys Patch Management will then identify these patches as installed.

We do not support scanning assets running Windows evaluation versions. These assets are scanned for missing/installed patches once they are upgraded to the full version of Windows.

Note: Qualys Patch Management 1.4 has several search and token changes due to which your existing dashboard widgets might stop working or show errors. To fix the widgets, see the “Rebuild Widgets” topic in the online help.

Get Started

Follow the steps to get started with Patch Management.

Qualys Subscription and Modules required

You would require “Patch Management” (PM) module enabled for your account.

System support

Patch Management only supports installing patches on Windows at present.

Agent installation and configuration

Install Cloud Agents (using the CA app)

Enable PM in a CA configuration Profile (using the CA app)

Manage PM Licenses

Deploy patches

Create a custom assessment profile (Optional)

Review missing and installed patches

Jobs to Deploy Patches on Assets

Review patch deployment results (success / failure)

Uninstall patches

Create a custom assessment profile (Optional)

Review missing and installed patches

Uninstall Patches from Assets

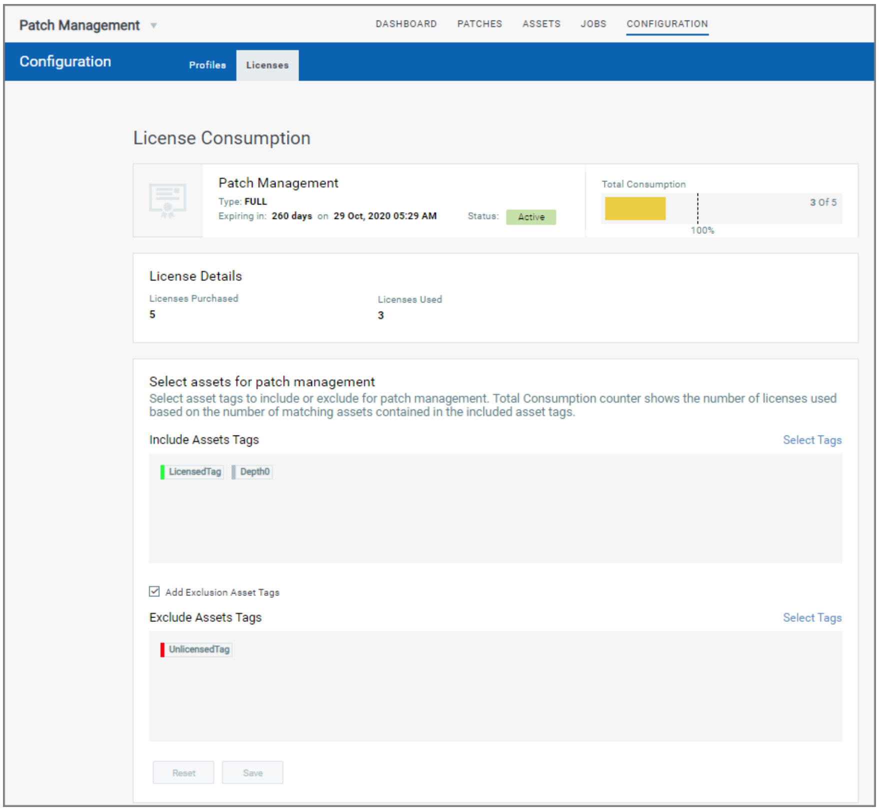
Review patch uninstall results (success / failure)

Manage PM Licenses

The Licenses tab, enabled only for paid subscribers, shows the number of licenses consumed by Patch Management (PM). You can include asset tags to allow installing/uninstalling patches on the assets contained in those asset tags. The Total Consumption counter may exceed 100% if the number of assets activated for PM are more than the number of PM licenses you have. Assets in the excluded asset tags are not considered for patch management and you cannot deploy patches on those assets.

Note: In case the Total Consumption counter exceeds 100%, licenses will be consumed based on the asset activation time stamp in ascending order.

Only admin / super users can manage licenses. Sub-users can only view the license information.



License Consumption

Patch Management
Type: FULL
Expiring in: 260 days on 29 Oct, 2020 05:29 AM
Status: Active

Total Consumption
3 Of 5
100%

License Details

Licenses Purchased: 5
Licenses Used: 3

Select assets for patch management

Select asset tags to include or exclude for patch management. Total Consumption counter shows the number of licenses used based on the number of matching assets contained in the included asset tags.

Include Assets Tags
LicensedTag, Depth0

☑ Add Exclusion Asset Tags

Exclude Assets Tags
UnlicensedTag

Fallback to free version

Patch Management will revert to the Free version once your Trial or Full subscription expires. Existing scan intervals of less than 24 hours will get converted to intervals of 24 hours. Your existing jobs will be disabled and you can re-enable them once you renew your subscription.

The free version allows you to create assessment profiles with a minimum scan interval of 24 hours and see a list of missing and installed patches on the assets in your environment. It doesn't allow creating deployment/uninstall jobs.

View Your Assets

The Assets tab displays all the assets in your account for which you activated Patch Management from the Cloud Agent module. We display missing and installed patches for all the successfully scanned assets, but you can patch only assets that have Patch Management license. You can use the asset search token "licensed:true" to list licensed assets.

Note that you will see only those assets in the Asset tab that are in your asset tag scope. Go to the Administration utility and view what asset tags are added to your user. Only the assets that have these asset tags are shown to you in the Asset tab. See "How are tags used to grant access to assets?" section in the User Roles and Permissions.

For each asset, we show the date and time when the asset is scanned, asset name and its operating system, total number of missing and installed patches, who logged into the asset, and assets tags applied to the assets.

From the Assets tab, you can:

1) filter assets by patch status: Missing, Installed and only Latest Missing Patches. Missing when selected displays the assets that have missing patches. Installed when selected displays the assets that have installed patches. The third option "Only Latest Missing Patches" when selected will include in the missing patches count for assets only the most recent iterations of the patches for OS and applications.

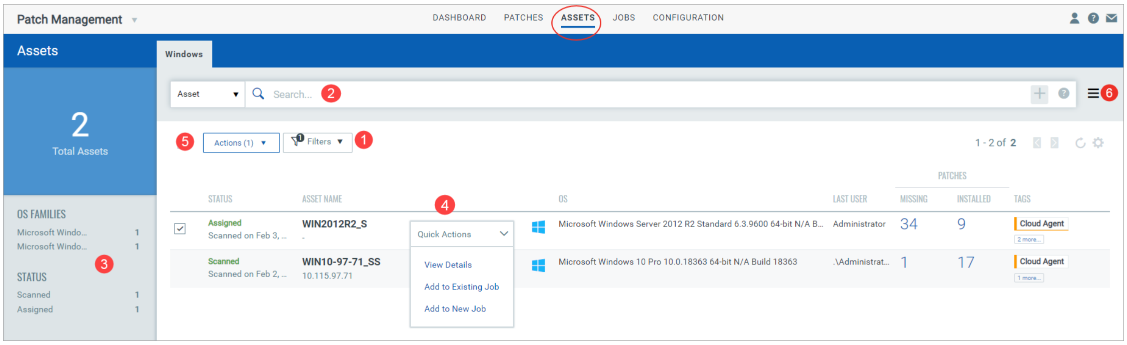
2) enter QQL (Qualys Query Language) queries in the search box to search for assets. Use asset and patch tokens in the queries individually or in combination to search for assets. To use the queries in combination click the plus icon in the search box. The Patch tokens let you search for assets by patch information such as patch title, ID and so on. For example, you can search what assets have patches missing with a certain patch ID. If you have selected a filter (Missing/Installed), then the search will include those assets that matches the selected filter. If the filter "Missing" is selected, then only the assets with missing patches will be searched.

3) use the filters to search assets by OS Families and scanning status. When you click a filter from the list, search box will show the filter query and the Assets page shows only those assets that meet the filter conditions.

4) select an asset and use the Quick Action menu to view details of assets including system information, network information, data and findings reported by other Qualys modules and applications, and add the assets to a new job or an existing job.

5) select one or more assets and use the Bulk Actions menu to add them to an existing job or a new job.

6) use the Search Actions menu to view the recent searches, save search queries added in the search box and manage saved searches.



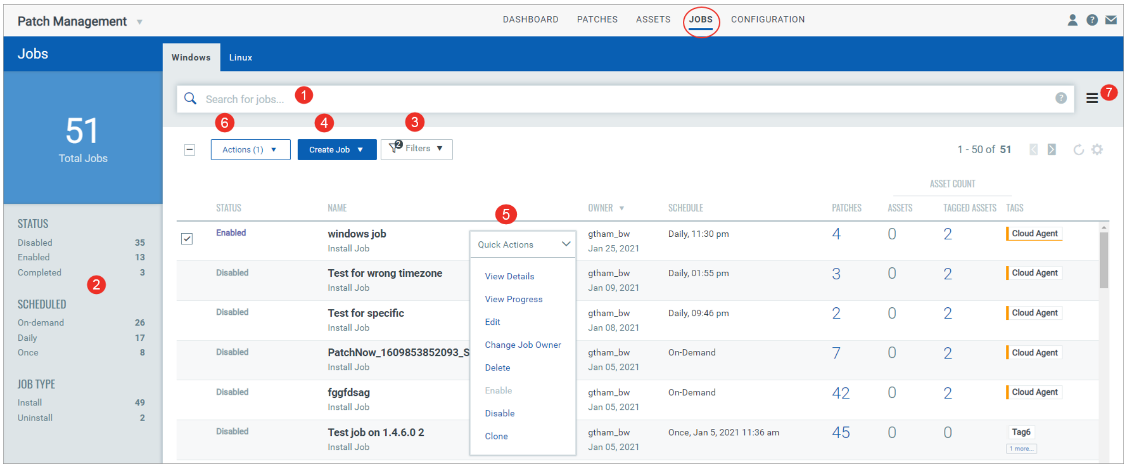
	STATUS	ASSET NAME	OS	LAST USER	PATCHES MISSING	 INSTALLED	TAGS
☑	Assigned Scanned on Feb 3, ...	WIN2012R2_S -	Microsoft Windows Server 2012 R2 Standard 6.3.9600 64-bit N/A B...	Administrator	34	9	Cloud Agent 2 more...
	Scanned Scanned on Feb 2, ...	WIN10-97-71_SS 10.115.97.71	Microsoft Windows 10 Pro 10.0.18363 64-bit N/A Build 18363	.\Administrat...	1	17	Cloud Agent 1 more...

View Your Jobs

The Jobs tab lists the patch jobs. On the Jobs page, we show you the job's status (Enabled, Disabled and Completed), name, owner, schedule. In addition to these details, we also show the total number of patches, assets and asset tags added to job. When you click the total number of patches and assets links, we will show you the list of patches and assets. Tagged assets show out of the total assets that have the selected asset tags how many are included in the job. While adding tags, you can used AND and OR operators. Only the assets that satisfy the condition will be added to the job.

Currently, we show all the jobs that are created in your subscription, but you can view or edit only those jobs that you have created or you are the Co-Author. The Co-Author of a job has permission to edit the job if the Co-Author has edit permission.

From the Jobs tab, you can 1) enter QQL (Qualys Query Language) queries in the search box to search for jobs, 2) use the filters to search jobs by status (Enabled, Disabled, and Completed), schedule (On-demand, Daily, Once) and job type (Install, Uninstall), 3) select filters to view the jobs that you have created or you are the Co-Author, 4) create deployment or Uninstall jobs, 5) select a job and use the Quick Actions menu to view the job details and progress, edit the job, change the owner of the job, delete a job, clone a job, and enable or disable a job, 6) select multiple jobs and use the Bulk Actions menu to change the ownership of jobs, delete and enable jobs. Note that you must be either Owner or Co-Author of the job to perform the actions available from Quick Actions and Actions menu, and 7) use the Search Actions menu to view the recent searches, save search queries added in the search box and manage saved searches.



STATUS	Count
Disabled	35
Enabled	13
Completed	3

SCHEDULED	Count
On-demand	26
Daily	17
Once	8

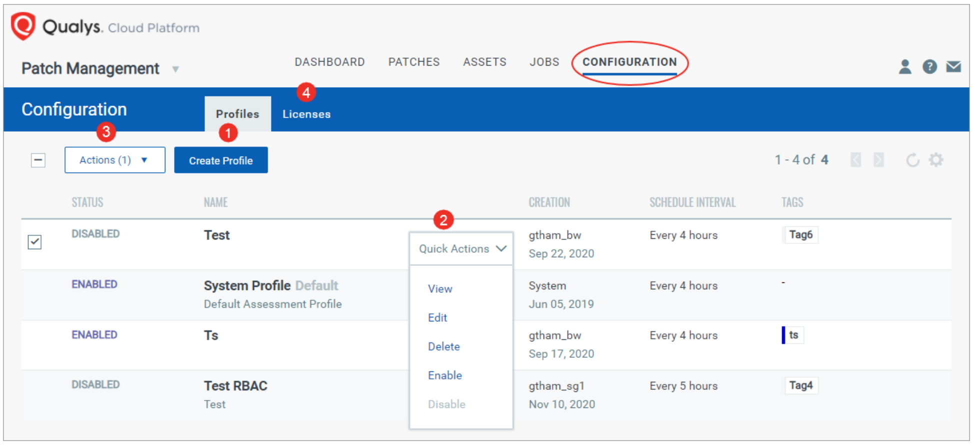
JOB TYPE	Count
Install	49
Uninstall	2

				ASSET COUNT		
STATUS	NAME	OWNER	SCHEDULE	PATCHES	ASSETS	TAGGED ASSETS	TAGS
Enabled	windows job Install Job	gtham_bw Jan 25, 2021	Daily, 11:30 pm	4	0	2	Cloud Agent
Disabled	Test for wrong timezone Install Job	gtham_bw Jan 09, 2021	Daily, 01:55 pm	3	0	2	Cloud Agent
Disabled	Test for specific Install Job	gtham_bw Jan 08, 2021	Daily, 09:46 pm	2	0	2	Cloud Agent
Disabled	PatchNow_1609853852093_S Install Job	gtham_bw Jan 05, 2021	On-Demand	7	0	2	Cloud Agent
Disabled	fggfdsag Install Job	gtham_bw Jan 05, 2021	On-Demand	42	0	2	Cloud Agent
Disabled	Test job on 1.4.6.0 2 Install Job	gtham_bw Jan 05, 2021	Once, Jan 5, 2021 11:36 am	45	0	0	Tag6

View Your Assessment Profiles and Licenses Information

The Configuration tab has two tabs: Profiles and License tab. The Profiles tab lists the default assessment and custom assessment profiles and the Licenses tab show licenses information. The Profiles tab displays a default assessment profile. Cloud Agents scan for patches (missing and installed) at a specific interval using the configuration defined in the default Assessment Profile. When no custom assessment profile is defined, then the default assessment profile is applied to all agents, which scans the assets at an interval of 24 hours for free subscription and 4 hours for trial/paid subscription. The profile tab Shows the assessment profile's status (enabled/disabled), name, date and time of creation, schedule (the scan interval). Asset tags show what asset tags are added to the assessment profiles.

From the profile tab, you can: 1) Create custom assessment profiles, 2) select a assessment profile and use the Quick Actions menu to view, edit delete, enable and disable profiles. Delete, Enable and Disable actions are not available for Default assessment profiles, 3) select more than one assessment profiles and use the Actions menu to delete enable and disable assessment profiles, and 4) click the Licenses tab to manage PM licenses for your assets . The Licenses tab, enabled only for paid subscribers, shows the number of licenses consumed by Patch Management (PM).



	STATUS	NAME	CREATION	SCHEDULE INTERVAL	TAGS
☑	DISABLED	Test	gtham_bw Sep 22, 2020	Every 4 hours	Tag6
	ENABLED	System Profile Default Default Assessment Profile	System Jun 05, 2019	Every 4 hours	-
	ENABLED	Ts	gtham_bw Sep 17, 2020	Every 4 hours	ts
	DISABLED	Test RBAC Test	gtham_sg1 Nov 10, 2020	Every 5 hours	Tag4

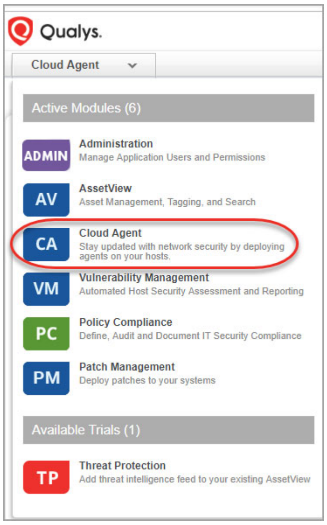
Install Cloud Agents for PM

Agent installations are managed in Cloud Agent (CA).

Let's get started!

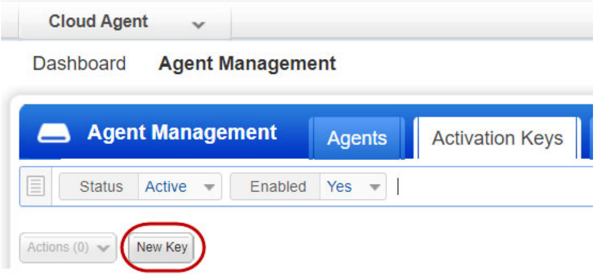
Choose CA (Cloud Agent) from the app picker.

As a first time user, you'll land directly into the Getting Started page.

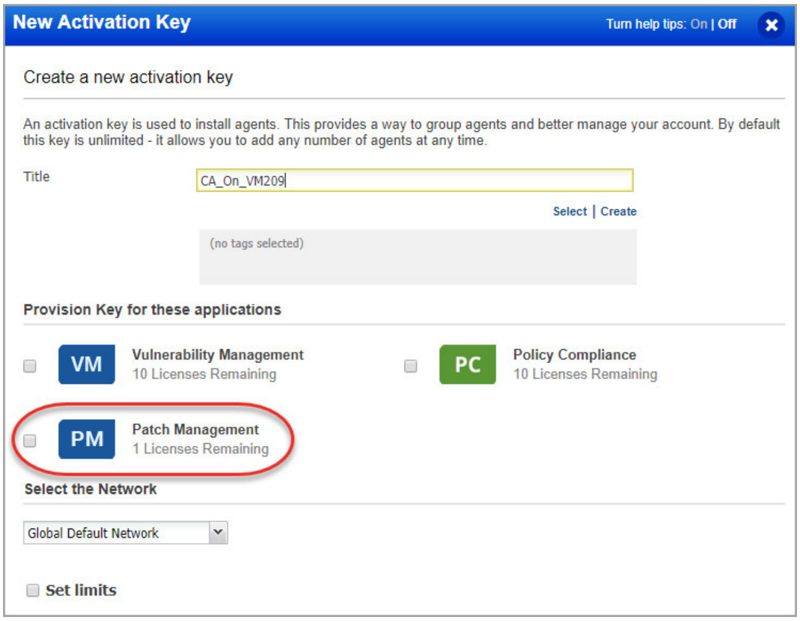

Qualys.
Cloud Agent
Active Modules (6)
ADMIN Administration
Manage Application Users and Permissions
AV AssetView
Asset Management, Tagging, and Search
CA Cloud Agent
Stay updated with network security by deploying agents on your hosts.
VM Vulnerability Management
Automated Host Security Assessment and Reporting
PC Policy Compliance
Define, Audit and Document IT Security Compliance
PM Patch Management
Deploy patches to your systems
Available Trials (1)
TP Threat Protection
Add threat intelligence feed to your existing AssetView

What are the steps?

Create an activation key. Go to Activation Keys, click the **New Key** button. Give it a title, provision for the PM application and click **Generate**.



As you can see you can provision the same key for any of the other applications in your account.



Create a new activation key

An activation key is used to install agents. This provides a way to group agents and better manage your account. By default this key is unlimited - it allows you to add any number of agents at any time.

Title CA_On_VM209

Select | Create

(no tags selected)

Provision Key for these applications

□ VM Vulnerability Management 10 Licenses Remaining

□ PC Policy Compliance 10 Licenses Remaining

□ PM Patch Management 1 Licenses Remaining

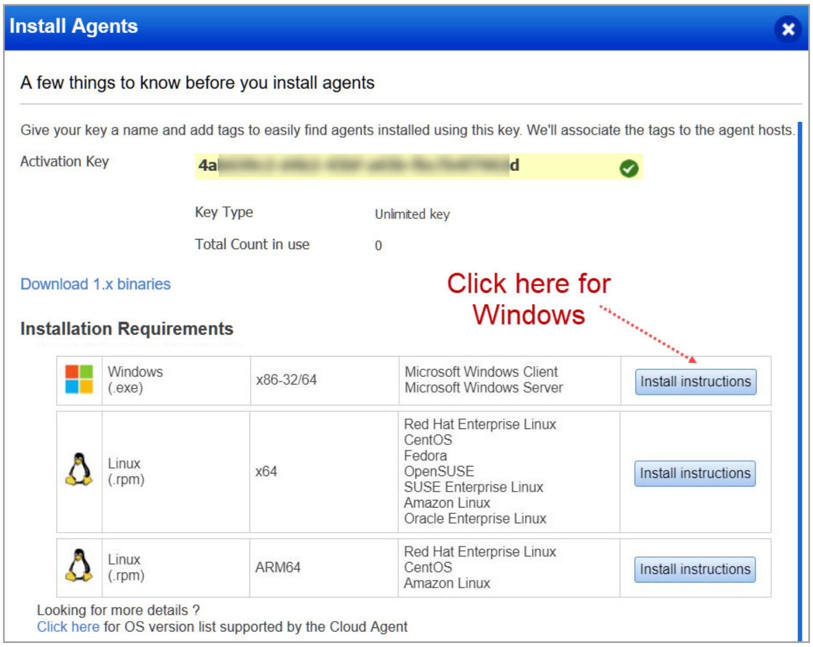
Select the Network

Global Default Network

□ Set limits

Download Installer

Click **Install instructions** next to Windows (.exe). Patch Management only supports installing patches on Windows at present.



A few things to know before you install agents

Give your key a name and add tags to easily find agents installed using this key. We'll associate the tags to the agent hosts.

Activation Key 4a[redacted]d ✓

Key Type Unlimited key

Total Count in use 0

Download 1.x binaries

Click here for Windows

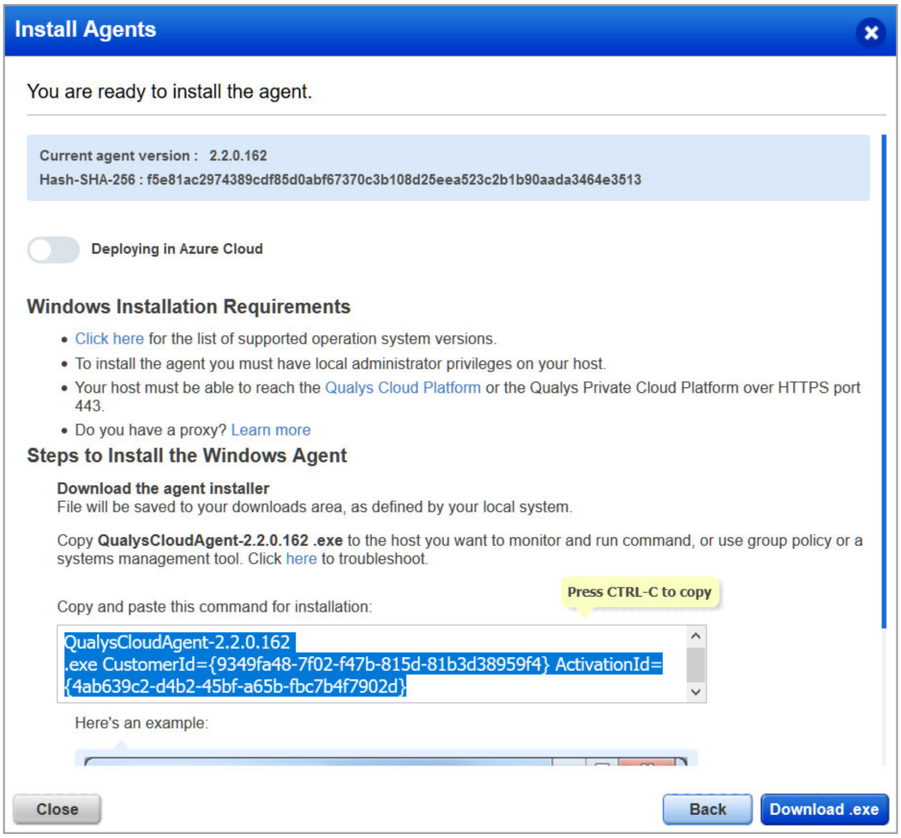
Installation Requirements

	Windows (.exe)	x86-32/64	Microsoft Windows Client Microsoft Windows Server	Install instructions
	Linux (.rpm)	x64	Red Hat Enterprise Linux CentOS Fedora OpenSUSE SUSE Enterprise Linux Amazon Linux Oracle Enterprise Linux	Install instructions
	Linux (.rpm)	ARM64	Red Hat Enterprise Linux CentOS Amazon Linux	Install instructions

Looking for more details ?
Click here for OS version list supported by the Cloud Agent

Review the installation requirements and click **Download**.

You'll run the installer on each system from an elevated command prompt, or use a systems management tool or Windows group policy. Your agents should start connecting to our cloud platform.



Install Agents

You are ready to install the agent.

Current agent version : 2.2.0.162
Hash-SHA-256 : f5e81ac2974389cdf85d0abf67370c3b108d25eea523c2b1b90aada3464e3513

Deploying in Azure Cloud

Windows Installation Requirements

- Click here for the list of supported operation system versions.
- To install the agent you must have local administrator privileges on your host.
- Your host must be able to reach the Qualys Cloud Platform or the Qualys Private Cloud Platform over HTTPS port 443.
- Do you have a proxy? Learn more

Steps to Install the Windows Agent

Download the agent installer
File will be saved to your downloads area, as defined by your local system.

Copy **QualysCloudAgent-2.2.0.162 .exe** to the host you want to monitor and run command, or use group policy or a systems management tool. Click here to troubleshoot.

Copy and paste this command for installation:

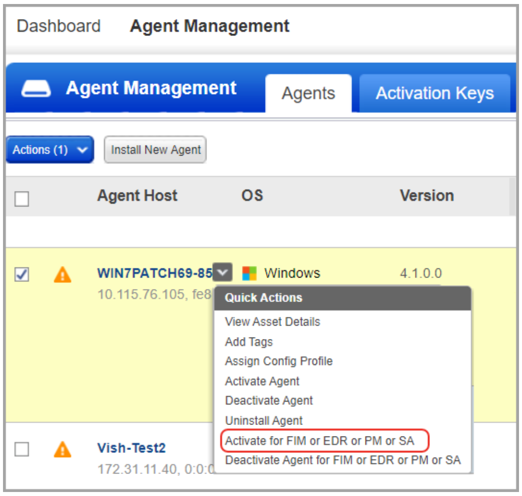
```
QualysCloudAgent-2.2.0.162
.exe CustomerId={9349fa48-7f02-f47b-815d-81b3d38959f4} ActivationId=
{4ab639c2-d4b2-45bf-a65b-fbc7b4f7902d}
```

Here's an example:

Your host must be able to reach your Qualys Cloud Platform (or the Qualys Private Cloud Platform) over HTTPS port 443. On the Qualys Cloud Platform, go to Help > About to see the URL your host needs to access. For more information about connectivity requirements/proxy settings refer to the platform specific Cloud Agent Installation Guides available on https://www.qualys.com/documentation/.

Click here for a list of URLs that you must whitelist for the Cloud Agent to successfully download patches on your host.

Activate your agents for PM

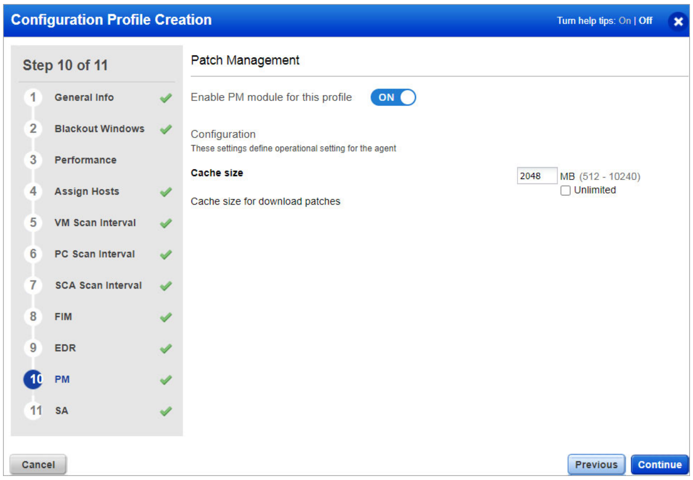


		Agent Host	OS	Version
☑	⚠	WIN7PATCH69-85 10.115.76.105, fe8	Windows	4.1.0.0
☐	⚠	Vish-Test2 172.31.11.40, 0:0:0		

Go to the Agents tab, and from the Quick Actions menu of an agent, click "Activate for FIM or EDR or PM or SA". (Bulk activation is supported using the Actions menu).

Enable PM in a CA configuration profile

You can create a new profile or edit an existing one. The PM module is enabled by default.



Enable PM module for this profile: ON

Configuration
These settings define operational setting for the agent

Cache size: 2048 MB (512 - 10240)
☐ Unlimited

Cache size for download patches

The **Cache size** setting determines how much space the agent should allocate to store downloaded patches on the asset. By default, 2048 MB are allocated. If you are planning on using the opportunistic download, where an agent downloads patches before deployment, it is recommended to increase the cache size, or to allow for Unlimited Cache size. Note that the agent will clear the cached files after deployment.

You're ready!

Select PM from the application picker and then create a deployment job to start installing patches on your assets.

User Roles and Permissions

Role Based Access Control gives you flexibility to control access to Patch Management features based on the roles of the individual users.

Each user is assigned a pre-defined user role which determines what actions the user can take.

We have 5 OOTB (Out-of-the-box) roles for PM users. Each role, except Patch Security, is an incremental role to the previous one.

1) **Patch Reader**: This is the default role designed to most (sub-)users, present in the system today, with minimum permissions possible. This role is granted to allow users viewing/ read-only capabilities in the Dashboards developed to provide an insight into the Patching operations. This role has only view permissions on assigned jobs, assessment profiles, and dashboards.

2) **Patch Dashboard Author**: This is a special role that would be needed only for larger organizations that delegate development of dashboards to a dedicated team especially, one that does NOT operate/ manage the patching jobs. This role includes all the Patch Reader permissions.

3) **Patch User**: This role is designed for the operators of the Patching job, who interact and manage patching activities on a regular basis. In most cases, these users will also build dashboards for reporting information to their respective department/ team. This role includes all the Patch Dashboard Author permissions.

4) **Patch Security**: This role is mutually exclusive to all the earlier set of roles. It is meant for the Security Expert in organizations where IT operations and Security operations (SecOps) are owned by distinct team. These users have very limited capabilities that allow them to pass on a list of selective patches to the IT operations team to operationalize their patching on the endpoints across the organization. All the job advisories created by Patch Security user are “Partially Configured Job” and only after assigning these jobs to a Patch User/ Patch Manager, the owners can choose the right tags/ assets, schedule and other options. Only the Patch Manager role has “Change Owner” permission enabling it to take/ assign ownership of a “Partially Configured Job” to other users, with Patch Manager or Patch User roles. These users can neither own nor edit/co-edit any job.

5) **Patch Manager**: A Patch Manager has all the permissions except create job advisory permission.

Note: For Patch Management, we refer to the Global Dashboard Permissions to determine what operations the user can perform on Unified Dashboard. The Global Dashboard Permissions will only allow the Patch Manager, Patch User, and Patch Dashboard Author to create, edit and delete their own dashboards. For permissions to edit, delete other users' dashboard and print/download dashboard, contact SuperUser or Administrator.

Our earlier RBAC model, was more restrictive enforcing a clear compartmentalization of users from each other and basic roles only. With the new RBAC model, we have added more roles, depicting the real-life hierarchies and responsibilities. With the upgrade of the

RBAC model, all existing sub-users will take the Patch User role and all the existing super-users will have all the permission defined in RBAC. All other roles will need to be explicitly managed by the superuser.

Also note, that these roles are exclusive to the Patch Management module only. The roles defined in other modules have NO correlation with that defined in Patch Management.

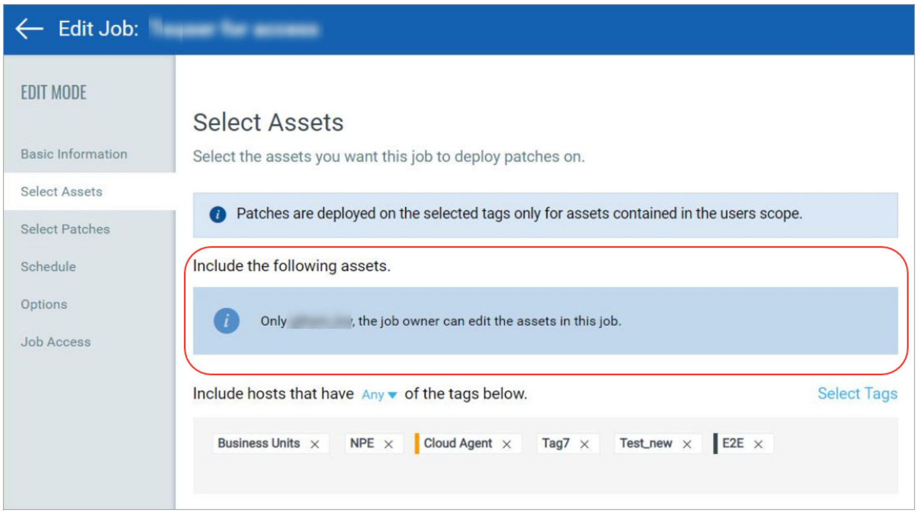
Note: We recommend users to NOT create custom roles for the Patch Management users by assigning or unassigning permissions available through the default roles. Such customization of roles or change of permissions may lead to user roles not working as per the design.

Job Sharing with other users

A job can be shared with other users by making them co-authors of the job, allowing them to edit/operate the job equivalent to the creator, provided they have the same (or higher) role and same (or larger) asset scope assigned to them for administration.

See Jobs to Deploy Patches on Assets/Uninstall Patches from Assets. From Assets to assign co-authors to a job.

Note that co-authors of a job do not have permission to add/remove assets to/from the job but they can add/remove asset tags to/from the job. Though co-authors of a job can add an asset tag to the job, only the assets that are in the owner's asset scope will be picked up when the job is run. Remember that execution of a job is restricted by the tag scope of the job owner.



Select Assets

Select the assets you want this job to deploy patches on.

Patches are deployed on the selected tags only for assets contained in the users scope.

Include the following assets.

Only [redacted], the job owner can edit the assets in this job.

Include hosts that have Any of the tags below.

Partially Configured Job

Patching Job has 3 critical components:

a) Patch(es): One or more patches to be applied as a part of the job.

b) Asset(s)/ Tags: One or more assets on which the patches are to be applied. A logical collection of assets is referred to as Tags.

c) Schedule: The Patching job needs to be executed at a scheduled date and time. In case of a recurring Patching job, each job run is scheduled for a selected time, at a frequency across selected dates/ days of a month.

All these 3 components are important for the completeness of a job. If any of them is pending in a job definition, we have a Partially Configured Job.

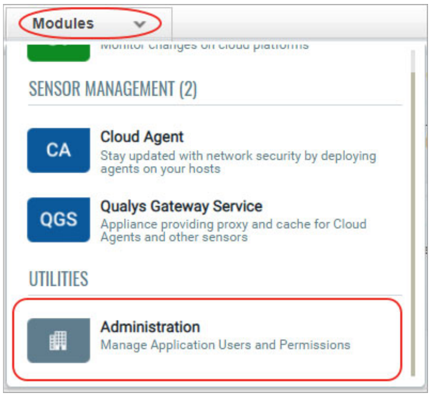
The "Patch Security" role is restricted to defining only the first component i.e. patch list of a job. This ensures that the security advisors leave the operational aspects at the discretion of the Patch Users. Other users who are permitted to create/edit a job can also create Partially Configured Jobs. A job can be executed only when it is Fully Configured.

Apart from the above 3 mandatory components, a Fully Configured Job could also have some other options.

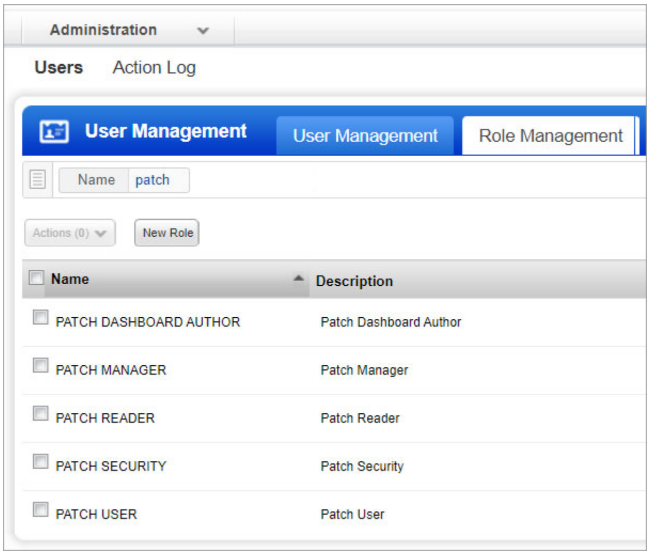
How to find PM Roles and view their permissions

You can assign roles from our Administration utility module. Within the Administration utility, you'll find roles and their related permissions in the Role Management section. See Qualys Administration utility Online Help.

1) From the application module picker, click Administration.

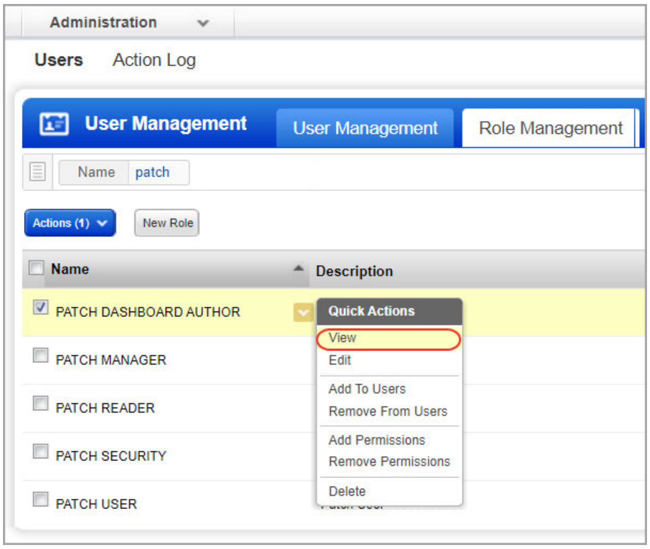

Modules
Monitor changes on cloud platforms
SENSOR MANAGEMENT (2)
CA
Cloud Agent
Stay updated with network security by deploying agents on your hosts
QGS
Qualys Gateway Service
Appliance providing proxy and cache for Cloud Agents and other sensors
UTILITIES
Administration
Manage Application Users and Permissions

2) Go to the Role Management tab and enter "patch" in the search box to view all the patch management roles.



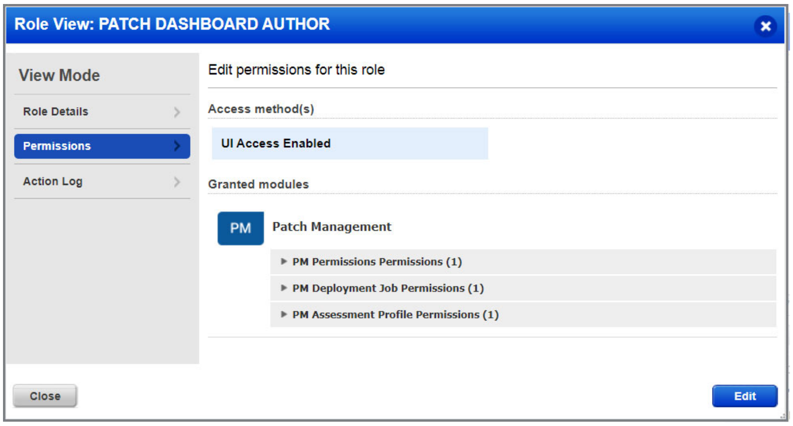
☐ Name	Description
☐ PATCH DASHBOARD AUTHOR	Patch Dashboard Author
☐ PATCH MANAGER	Patch Manager
☐ PATCH READER	Patch Reader
☐ PATCH SECURITY	Patch Security
☐ PATCH USER	Patch User

3) Select a role from the list and from the Quick Actions menu, click View.



☐ Name	Description
☑ PATCH DASHBOARD AUTHOR	
☐ PATCH MANAGER	
☐ PATCH READER	
☐ PATCH SECURITY	
☐ PATCH USER	

4) On the Roles View screen, go to the Permissions tab to view the permission for the selected role.



Role View: PATCH DASHBOARD AUTHOR

Edit permissions for this role

Access method(s)

UI Access Enabled

Granted modules

PM Patch Management

- PM Permissions Permissions (1)
- PM Deployment Job Permissions (1)
- PM Assessment Profile Permissions (1)

How are tags used to grant access to assets?

An asset tag is a tag assigned to one or more assets. Tag scopes define what assets the user can view when creating a job or when user go to Assets tab in patch management.

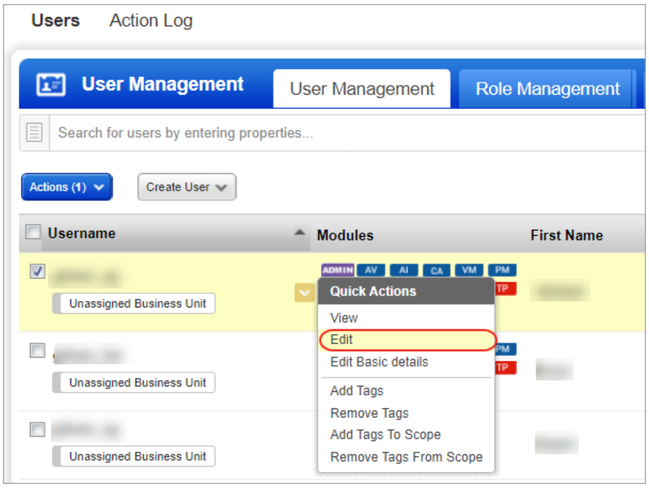
Assigning a tag to an asset enables you to grant users access to that asset by assigning the same tag to the users scope. Want to define tags? It's easy - just go to the Asset Management (AM) application.

To assign asset tags to the user,

1) Go to the Administration module and then from the User Management tab search a or

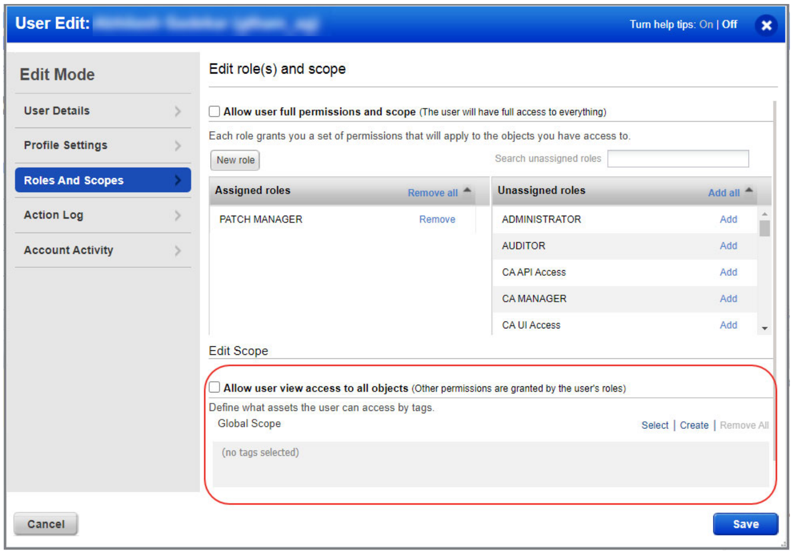
select the user.

2) From the Quick Actions menu, click Edit.



3) On the User Edit screen, go to the Roles and Scopes tab.

4) In the Edit Scope section, select one or more asset tags that you want to assign to the user. Then click Save.



Edit role(s) and scope

□ Allow user full permissions and scope (The user will have full access to everything)

Each role grants you a set of permissions that will apply to the objects you have access to.

Search unassigned roles

Assigned roles	Unassigned roles
PATCH MANAGER	ADMINISTRATOR
	AUDITOR
	CA API Access
	CA MANAGER
	CA UI Access

Edit Scope

□ Allow user view access to all objects (Other permissions are granted by the user's roles)

Define what assets the user can access by tags.

Global Scope

(no tags selected)

User Roles Comparison

The following table provides a comparison of privileges granted to user roles for Patch Management.Note that Assigned Jobs of a user are the jobs that the user has created or permission to edit as a co-author.

Privileges	Patch Manager	Patch User	Patch Dashboard Author	Patch Reader	Patch Security
Manage License Permissions					
Manage License	Y				
Assessment Profile Permissions					
Create Profile	Y				
Edit Profile	Y				
Delete Profile	Y				
View Profile	Y	Y	Y	Y	Y
Deployment Job Permissions					
Change Job Owner(ship)	Y				
View Any Job	Y				
Edit Any Job	Y				
Enable/disable any Job	Y				
Delete Any Job	Y				
Create job	Y	Y			

Edit Assigned Job	Y	Y			
Enable/disable Assigned Job only	Y	Y			
Add Remove Patches To Job only	Y	Y			
Delete Assigned Job	Y	Y			
View Assigned Job	Y	Y	Y	Y	Y
Global Dashboard Permissions					
Create, Edit, Delete your own dashboards	Y	Y	Y		
Edit Dashboard					
Delete Dashboard					
Print/Download Dashboard					
Advisory Permissions					
Create Job Advisory					Y

Create Assessment Profiles

You can create custom assessment profiles. This is an optional step.

By default your cloud agents scan for patches (missing and installed) at a specific interval, as defined in the default Assessment Profile.

What is the default assessment profile?

At first, a default assessment profile is applied to all agents, which scans the assets at an interval of 24 hours for free subscription and 4 hours for trial/paid subscription.

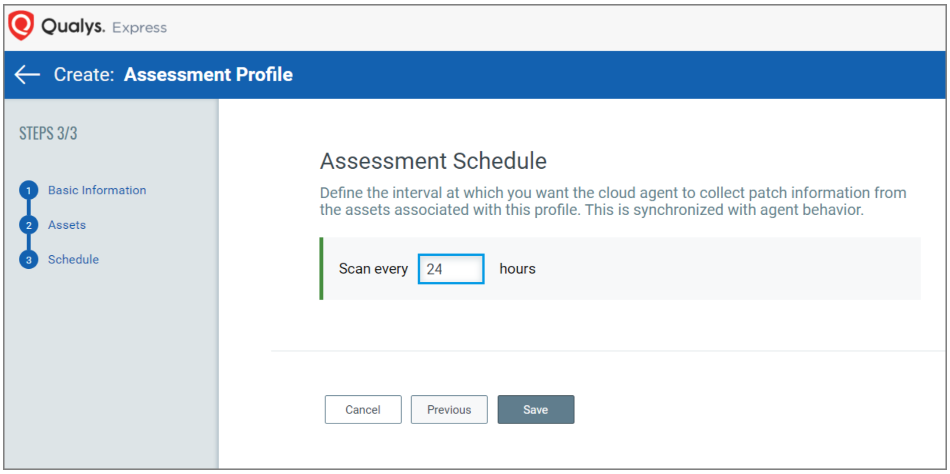
Add a custom assessment profile if you want to override the default interval

Simply go to Configuration > Create Profile, provide a profile name, select asset tags to apply this custom profile to, and then select the scan interval (minimum 24 hours for free subscription and 4 hours for trial/paid subscription). Multiple assessment profiles can be created with different intervals.

Note: Only admin users can create/modify/delete the assessment profiles. Non-admin users can only view assessment profiles. Admin users are those which have either "Allow user full permissions and scope" or "Allow user view access to all objects" permission set in their user profile in the Qualys Administration app.

Scan interval of less than 24 hours will be automatically changed to an interval of 24 hours, when a Paid or Trial subscription expires and the app gets converted into a free version.

Good to Know - Asset tags once applied to one custom profile, cannot be applied to another custom profile. When you select an asset tag, corresponding child tags get automatically selected.



Assessment Schedule

Define the interval at which you want the cloud agent to collect patch information from the assets associated with this profile. This is synchronized with agent behavior.

Scan every 24 hours

Review Missing and Installed Patches

The patch list under Patch Management patch catalog are the ones missing on the host which were detected using the Patch Management scan. On the Patches tab, we list two types of patches 1) Qualys Patchable and 2) AcquireFromVendor.

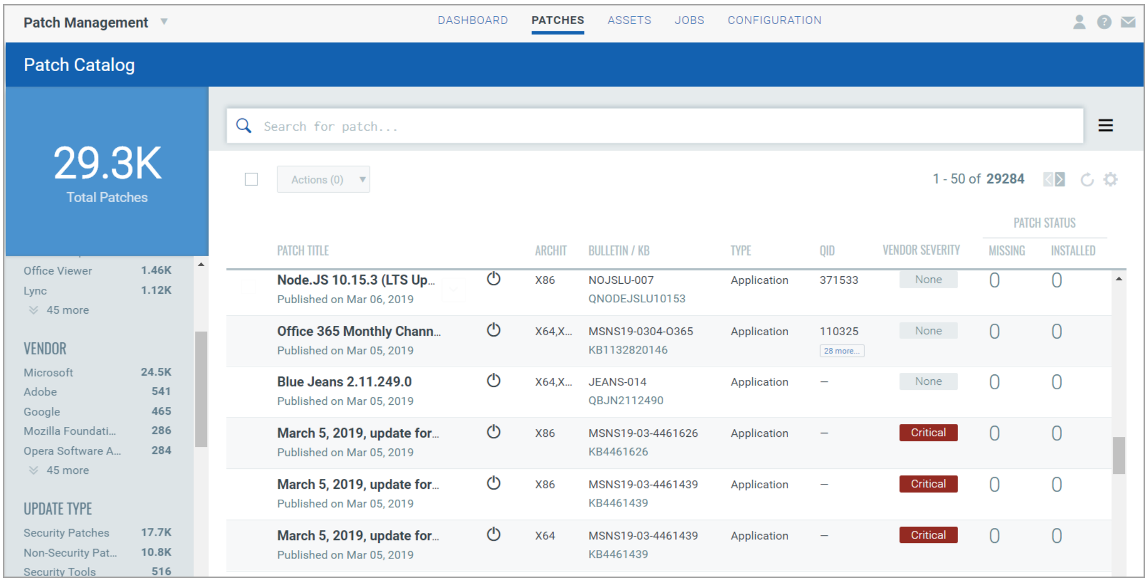
Qualys Patchable

Qualys Patchable are the patches that can be installed using Patch Management. Most of the patches listed on the Patches tab are Qualys Patchable.

AcquireFromVendor

We have certain patches which are listed under Patches tab but cannot be installed using Patch Management. These patch are marked as "AcquireFromVendor" which means you need to manually download the patch from vendor website and install them on the host. See Download Patch from the Vendor Site.

Patches which are not marked as "AcquireFromVendor" are defined as "Qualys Patchable" which mean they can be added to a patch job.



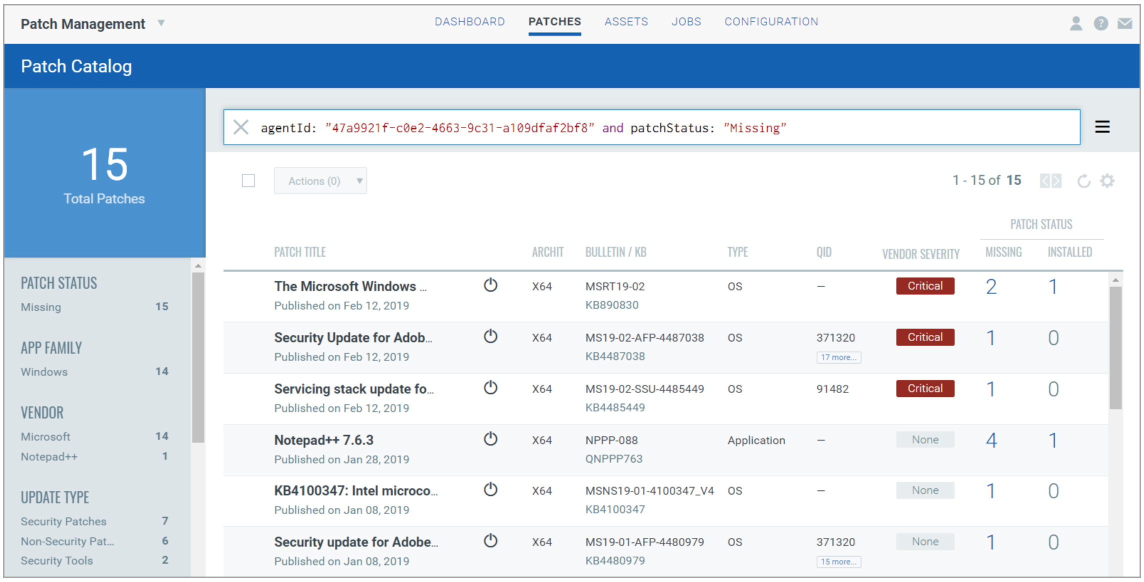
1 - 50 of 29284

Office Viewer	1.46K
Lync	1.12K
45 more	
VENDOR	
Microsoft	24.5K
Adobe	541
Google	465
Mozilla Foundati...	286
Opera Software A...	284
45 more	
UPDATE TYPE	
Security Patches	17.7K
Non-Security Pat...	10.8K
Security Tools	516

						PATCH STATUS	
PATCH TITLE	ARCHIT	BULLETIN / KB	TYPE	QID	VENDOR SEVERITY	MISSING	INSTALLED
Node.JS 10.15.3 (LTS Up... Published on Mar 06, 2019	X86	NOJSLU-007 QNODEJSLU10153	Application	371533	None	0	0
Office 365 Monthly Chann... Published on Mar 05, 2019	X64,X...	MSNS19-0304-0365 KB1132820146	Application	110325 28 more...	None	0	0
Blue Jeans 2.11.249.0 Published on Mar 05, 2019	X64,X...	JEANS-014 QBJN2112490	Application	–	None	0	0
March 5, 2019, update for... Published on Mar 05, 2019	X86	MSNS19-03-4461626 KB4461626	Application	–	Critical	0	0
March 5, 2019, update for... Published on Mar 05, 2019	X86	MSNS19-03-4461439 KB4461439	Application	–	Critical	0	0
March 5, 2019, update for... Published on Mar 05, 2019	X64	MSNS19-03-4461439 KB4461439	Application	–	Critical	0	0

Default or custom assessment profile scans the assets for missing and installed patches at regular intervals. This information is then displayed in the patches tab in the form of missing or installed patches.

Note that patches are linked to QIDs using CVE IDs. The QID for a patch is not shown if the QID is not linked to a CVE ID. CVE ID is the common point of linking and required to link the patch with the QID.



Patch Management ▾

DASHBOARD PATCHES ASSETS JOBS CONFIGURATION

Patch Catalog

15
Total Patches

PATCH STATUS	
Missing	15

APP FAMILY	
Windows	14

VENDOR	
Microsoft	14
Notepad++	1

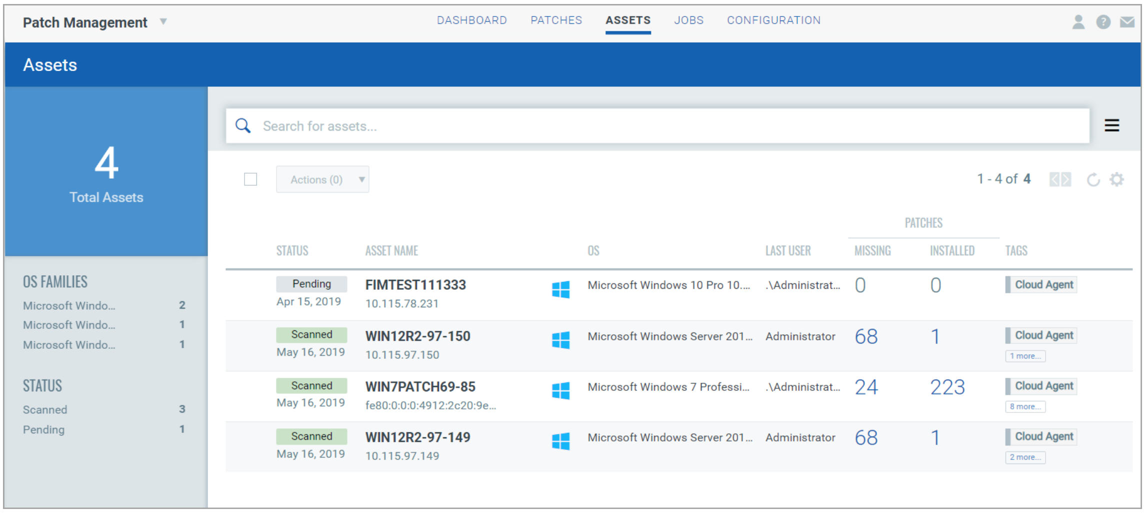
UPDATE TYPE	
Security Patches	7
Non-Security Pat...	6
Security Tools	2

```
agentId: "47a9921f-c0e2-4663-9c31-a109dfaf2bf8" and patchStatus: "Missing"
```

□ Actions (0) ▾ 1 - 15 of 15

							PATCH STATUS	
PATCH TITLE		ARCHIT	BULLETIN / KB	TYPE	QID	VENDOR SEVERITY	MISSING	INSTALLED
The Microsoft Windows ... Published on Feb 12, 2019	⏻	X64	MSRT19-02 KB890830	OS	–	Critical	2	1
Security Update for Adob... Published on Feb 12, 2019	⏻	X64	MS19-02-AFP-4487038 KB4487038	OS	371320 17 more...	Critical	1	0
Servicing stack update fo... Published on Feb 12, 2019	⏻	X64	MS19-02-SSU-4485449 KB4485449	OS	91482	Critical	1	0
Notepad++ 7.6.3 Published on Jan 28, 2019	⏻	X64	NPPP-088 QNPPP763	Application	–	None	4	1
KB4100347: Intel microco... Published on Jan 08, 2019	⏻	X64	MSNS19-01-4100347_V4 KB4100347	OS	–	None	1	0
Security update for Adobe... Published on Jan 08, 2019	⏻	X64	MS19-01-AFP-4480979 KB4480979	OS	371320 15 more...	None	1	0

Alternatively, you can go to the Assets tab to view missing and installed patches on particular assets.



Patch Management ▾

DASHBOARD PATCHES ASSETS JOBS CONFIGURATION

Assets

4
Total Assets

OS FAMILIES	
Microsoft Windo...	2
Microsoft Windo...	1
Microsoft Windo...	1

STATUS	
Scanned	3
Pending	1

Search for assets...

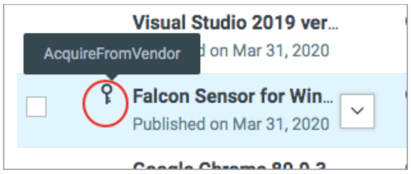
□ Actions (0) ▾ 1 - 4 of 4

				PATCHES		
STATUS	ASSET NAME	OS	LAST USER	MISSING	INSTALLED	TAGS
Pending Apr 15, 2019	FIMTEST111333 10.115.78.231	Microsoft Windows 10 Pro 10....	.\Administrat...	0	0	Cloud Agent
Scanned May 16, 2019	WIN12R2-97-150 10.115.97.150	Microsoft Windows Server 201...	Administrator	68	1	Cloud Agent 1 more...
Scanned May 16, 2019	WIN7PATCH69-85 fe80:0:0:0:4912:2c20:9e...	Microsoft Windows 7 Professi...	.\Administrat...	24	223	Cloud Agent 8 more...
Scanned May 16, 2019	WIN12R2-97-149 10.115.97.149	Microsoft Windows Server 201...	Administrator	68	1	Cloud Agent 2 more...

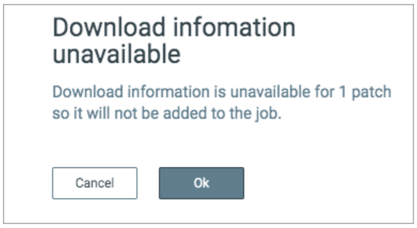
Refer to the online help for information on using search tokens.

Download Patch from the Vendor Site

The Patches tab show a key icon for patches that can not be downloaded via the Qualys Cloud Security Agent. This "key" shaped icon indicates that the patch must be acquired from the vendor.



If you try to add such a patch to a patch job, then the system will show a message informing you that these patches will be not be added to said job as they are no longer supported for download via the Cloud Agent.



Download infomation unavailable

Download information is unavailable for 1 patch so it will not be added to the job.

For such patches, the patch details page displays the Download Method as "AcquireFromVendor" and known patch URL in the Patch Information section. Use the URL to download the patch.

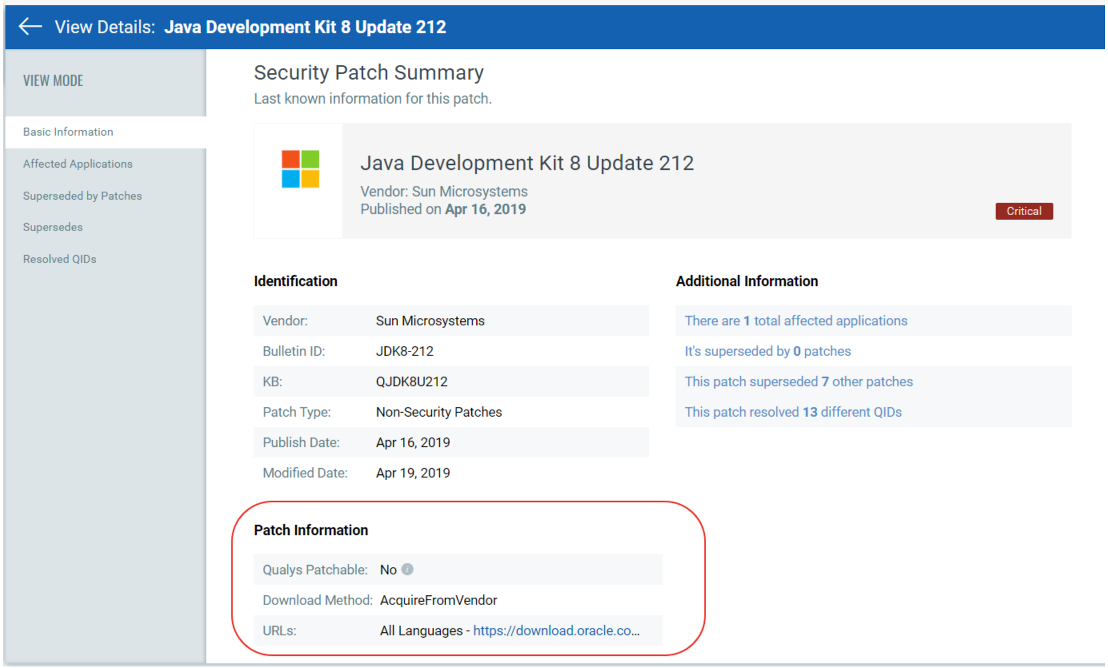
Download Methods for patch are:

- Automatic - Patch downloadable usingthe Cloud Agent (Qualys Patchable: Yes)

- AcquireFromVendor - Patch must be acquired from the vendor and installed manually

(Qualys Patchable: No)

- Unavailable - Patch download information is not available (Qualys Patchable: No)



Security Patch Summary

Last known information for this patch.

Java Development Kit 8 Update 212

Vendor: Sun Microsystems

Published on **Apr 16, 2019**

Identification

Vendor:	Sun Microsystems
Bulletin ID:	JDK8-212
KB:	QJDK8U212
Patch Type:	Non-Security Patches
Publish Date:	Apr 16, 2019
Modified Date:	Apr 19, 2019

Additional Information

There are **1** total affected applications

It's superseded by **0** patches

This patch superseded **7** other patches

This patch resolved **13** different QIDs

Patch Information

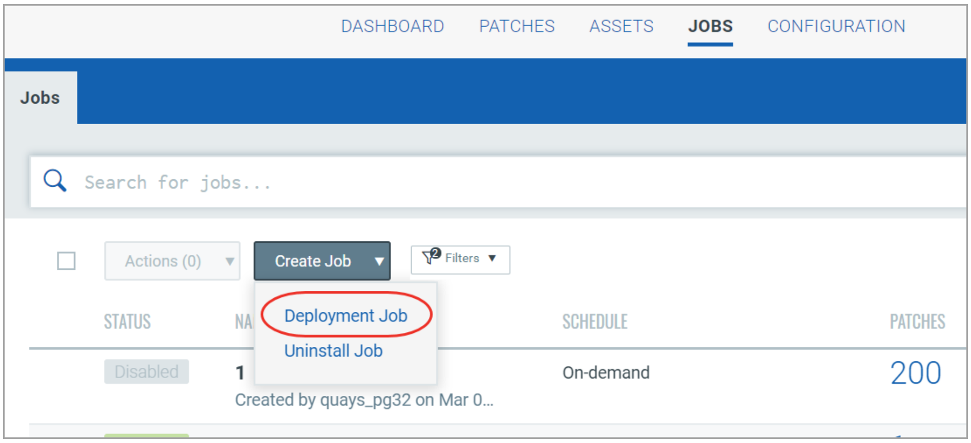
Qualys Patchable:	No
Download Method:	AcquireFromVendor
URLs:	All Languages - https://download.oracle.co...

Jobs to Deploy Patches on Assets

You can create a deployment job to install missing patches on assets. You have three options to create the deployment job 1) from the Jobs tab, 2) from the Assets tab, and 3) from the Patches tab.

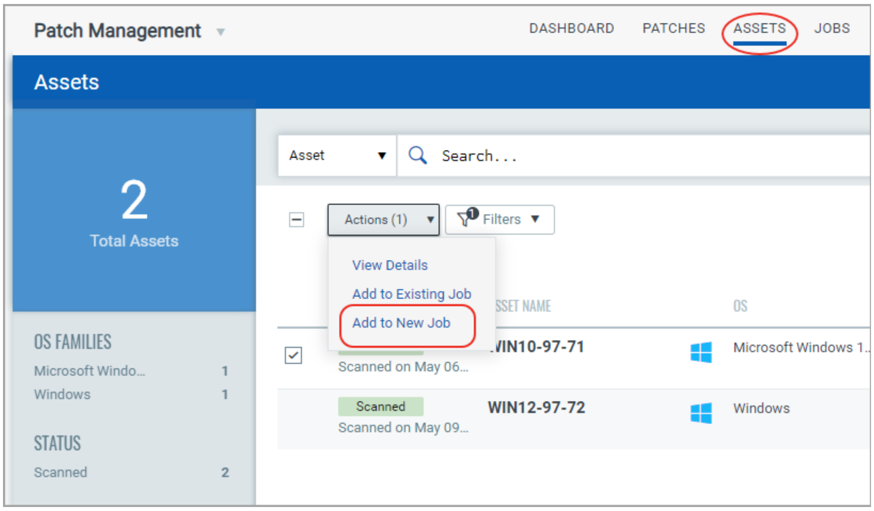
The difference between the two options is when you create a job from the Jobs tab, you select the assets while creating the job, where as when creating job from Assets tab, you select the assets first and then create deployment job to deploy patches on those assets. The assets are pre-populated for the job when creating deployment job from the Assets tab.

Simply go to Jobs > Create Job, and click **Deployment Job**.



STATUS	NA	SCHEDULE	PATCHES
Disabled	1 Created by quays_pg32 on Mar 0...	On-demand	200

Optionally, you can go to the Assets tab, select the assets on which you want to apply the patches and then go to Actions > Add to New Job.



OS FAMILIES	
Microsoft Windo...	1
Windows	1

STATUS	
Scanned	2

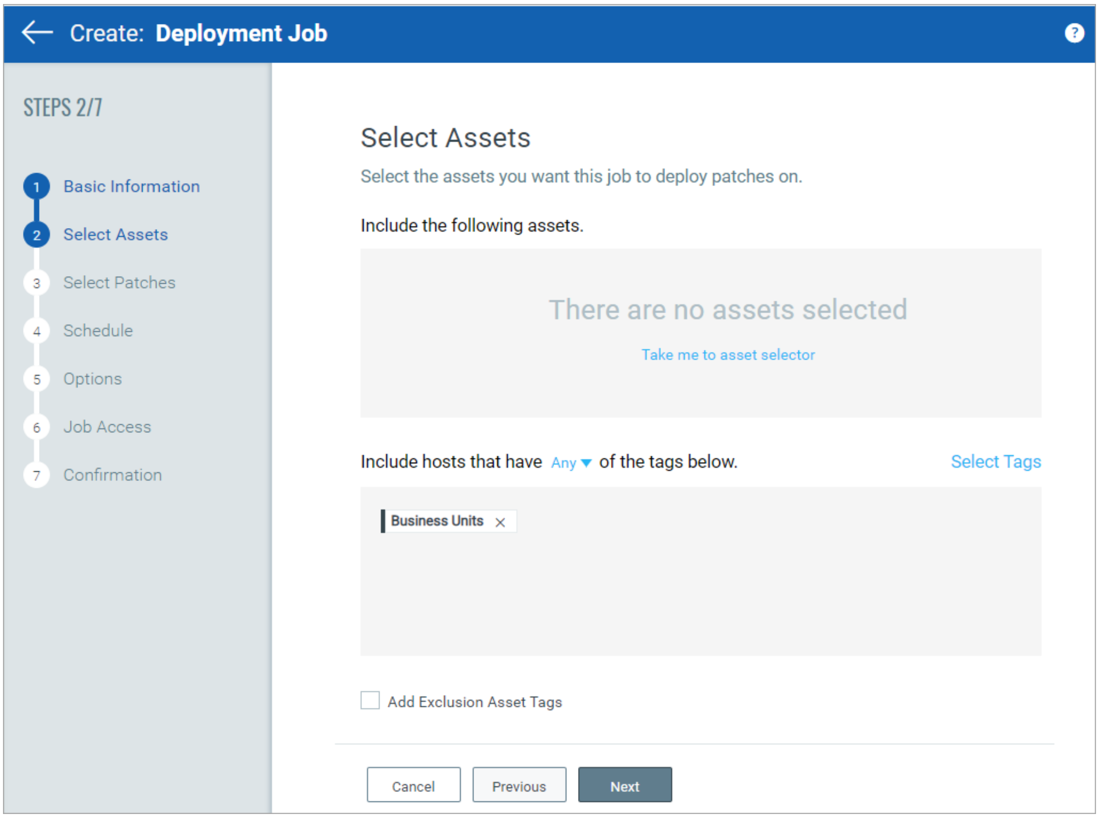
		SSET NAME	OS
☑	Scanned on May 06...	VIN10-97-71	Microsoft Windows 1...
	Scanned Scanned on May 09...	WIN12-97-72	Windows

Provide a job title, and then select assets or asset tags to apply the patches to.

Want to add assets later? Go to the Assets tab, and select one or more assets, then from the Quick Actions Menu of a single asset or from the Actions menu (bulk actions) click **Add to Existing Job** or click **Add to New Job**. You cannot add assets later to On-Demand or run-once (non recurring) jobs once they are enabled.

Note: Patches are deployed on the selected tags only for assets contained in the user's scope. When you select an asset tag, corresponding child tags get automatically selected. Select "Any" to include assets that have any of the selected tags. Select “All” to include only those assets in the patch deployment job that have ALL the selected tags.

Select “Add Exclusion Asset Tags” to exclude the assets from the deployment job that have All/ANY of the selected asset tags.


Create: **Deployment Job**

STEPS 2/7

1 Basic Information
2 Select Assets
3 Select Patches
4 Schedule
5 Options
6 Job Access
7 Confirmation

Select Assets

Select the assets you want this job to deploy patches on.

Include the following assets.

There are no assets selected

Take me to asset selector

Include hosts that have Any of the tags below. Select Tags

Business Units ×

□ Add Exclusion Asset Tags

Cancel | Previous | Next

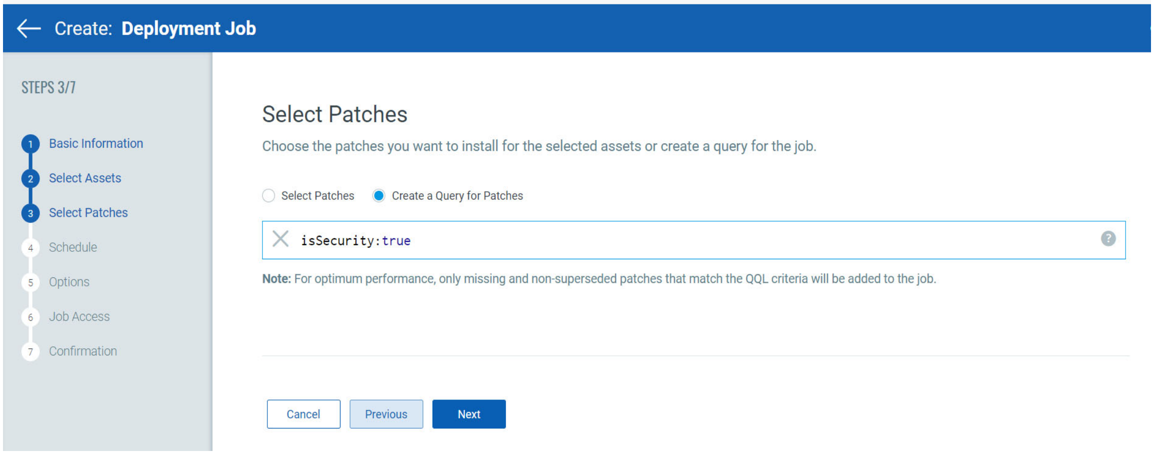
Select patches to apply to the assets. Use the patch selector link to select patches. On the Patch Selector page you can use the Within Scope option to view patches within the scope of the selected assets or view all available patches. Select the desired patches and click Add to Job and then click Close. On the Select Patches pane of the deployment job wizard, click Available Patches if you want to add more patches to the job.

You can use the Qualys Query Language (QQL) to create a criteria to automate the patches that are installed for a job. The query can be used for run-once and recurring jobs. You cannot use a combination of a QQL and Patch list to select patches that are added to a job. You must create a job that is executed based on the query or select the patches from the Patch List.

Want to add patches later? Go to the Patches tab, and select one or more patches, then from the Quick Actions Menu of a single patch or from the Actions menu (bulk actions) click **Add to Existing Job** or click **Add to New Job**. You cannot add patches later to On-Demand or run-once (non recurring) jobs once they are enabled.

Note that when you modify a patch job using the **Add to Existing Job** option from the Patches tab, you can add patches, but cannot add target assets or asset tags. To apply patches to an asset that is not added to the job, you can 1) edit an existing job from the Jobs tab, 2)select the asset from the Assets tab and use the **Add to Existing Job** option or 3) create a new patch job for that asset.

Note: You can add maximum 2000 patches to a single job. Create another job to add patches above 2000.



Select Patches

Choose the patches you want to install for the selected assets or create a query for the job.

○ Select Patches ● Create a Query for Patches

isSecurity:true

Note: For optimum performance, only missing and non-superseded patches that match the QQL criteria will be added to the job.

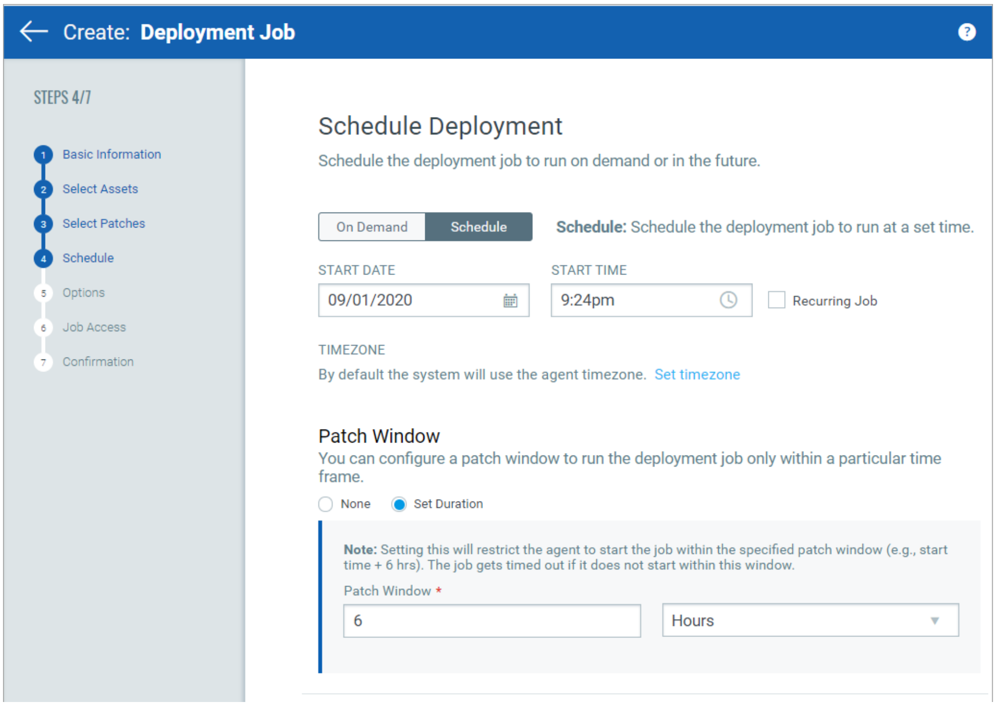
Choose when to install the patches, whether On-Demand or Schedule. The On-Demand option allows you to install the patches immediately once the job is created and enabled. The Schedule option allows you to install the patches at a set time. You can choose to make a scheduled job recur daily, weekly, or monthly. See Schedule Job Settings.

In case of scheduled jobs, you can enable opportunistic patch download from Options > Additional Job Settings to allow the Cloud Agent to download the required patches before a scheduled job run begins. This will help the Cloud Agent to deploy patches in less amount of time instead of waiting to download the patches only after a job run starts. The “Enable opportunistic patch download” is recommended to be enabled only for Jobs Scheduled beyond 3 hours of current time. Jobs scheduled less than 3 hours ahead are ideal for being an On-Demand job instead.

Note that Jobs are marked "Completed" once the patch window duration set for the job is elapsed. We show Completed status only for On-Demand and run-once jobs. The scheduled recurring jobs are never marked Completed.

In case of scheduled jobs, you can enable opportunistic patch download from Options > Additional Job Settings to allow the Cloud Agent to download the required patches before a scheduled job run begins. This will help the Cloud Agent to deploy patches in less amount of time instead of waiting to download the patches only after a job run starts.

Note: Monthly jobs which are scheduled to run on the 31st of the month will be scheduled every two months (where 31st date is available). Recurring jobs (Daily, Weekly, Monthly) should be enabled three hours prior to the scheduled time otherwise next eligible schedule will be considered.



Schedule Deployment

Schedule the deployment job to run on demand or in the future.

Schedule: Schedule the deployment job to run at a set time.

START DATE: 09/01/2020

START TIME: 9:24pm

□ Recurring Job

TIMEZONE

By default the system will use the agent timezone. Set timezone

Patch Window

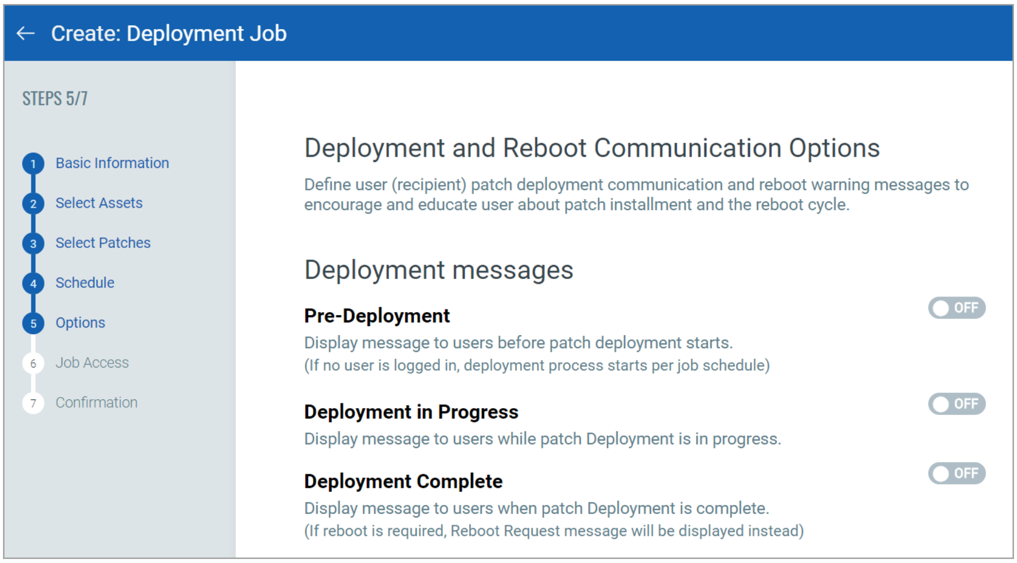
You can configure a patch window to run the deployment job only within a particular time frame.

○ None ● Set Duration

Note: Setting this will restrict the agent to start the job within the specified patch window (e.g., start time + 6 hrs). The job gets timed out if it does not start within this window.

Patch Window *: 6 Hours

You can configure how to notify the users about the patch deployment. You can configure pre-deployment messages, deferring the patch deployment certain number of times.



Deployment and Reboot Communication Options

Define user (recipient) patch deployment communication and reboot warning messages to encourage and educate user about patch installment and the reboot cycle.

Deployment messages

Pre-Deployment — OFF

Display message to users before patch deployment starts.
(If no user is logged in, deployment process starts per job schedule)

Deployment in Progress — OFF

Display message to users while patch Deployment is in progress.

Deployment Complete — OFF

Display message to users when patch Deployment is complete.
(If reboot is required, Reboot Request message will be displayed instead)

You can also provide progress and completion messages. Finally, you can prompt the user or choose suppress reboot when asset reboot is required post patch installation. See Reboot Settings.

These are the reboot options:

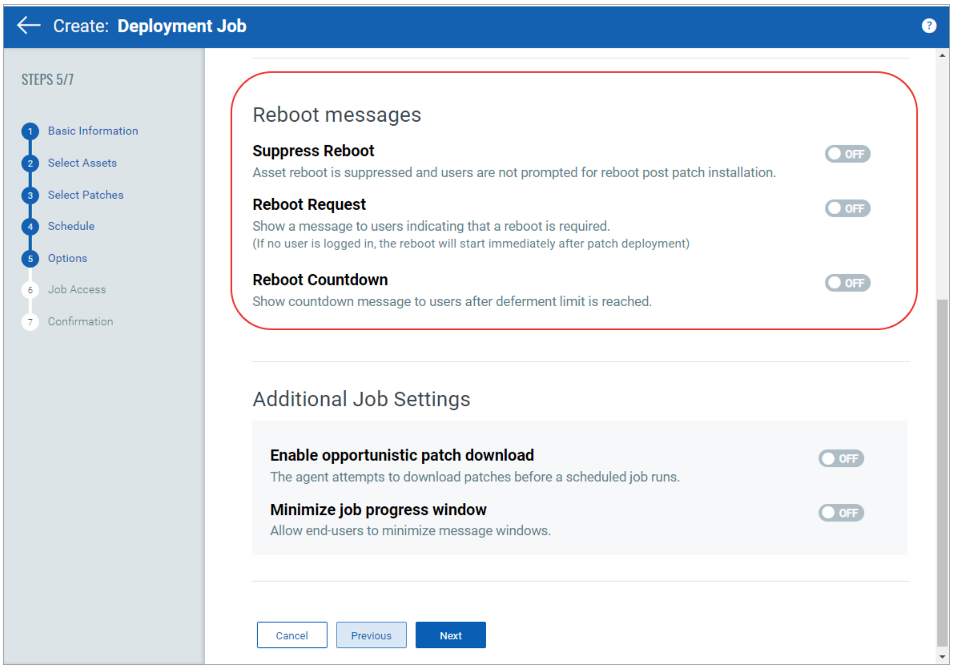
Suppress Reboot - This option allows you to patch systems in advance and defer reboot till the maintenance window.

Reboot Request - Many patches require reboot in order to take effect. When enabled, it will show a message to users indicating that a reboot is required. If no user is logged in, the reboot will start immediately after patch deployment.

You can configure this option to give the user the option to either reboot the machine immediately after the patch is deployed or defer the reboot "x" number of times so that the user can save the work and complete other tasks. Reboot will defer until 1) the user clicks OK when reboot message is shown or 2) maximum number of deferments are reached.

Reboot Countdown - Show countdown message to users after deferment limit, if set in the Reboot Request option, is reached. When reboot countdown is enabled, this gives the end user an indication of how long it will take before the system is rebooted.

We highly recommend that when you create the job, fill out both the message and description fields for these options as this has proven to have better performance in the agent/platform acknowledging the requests. Keep the messages very brief and the descriptions as detailed as possible.



Reboot messages

Suppress Reboot — OFF
Asset reboot is suppressed and users are not prompted for reboot post patch installation.

Reboot Request — OFF
Show a message to users indicating that a reboot is required.
(If no user is logged in, the reboot will start immediately after patch deployment)

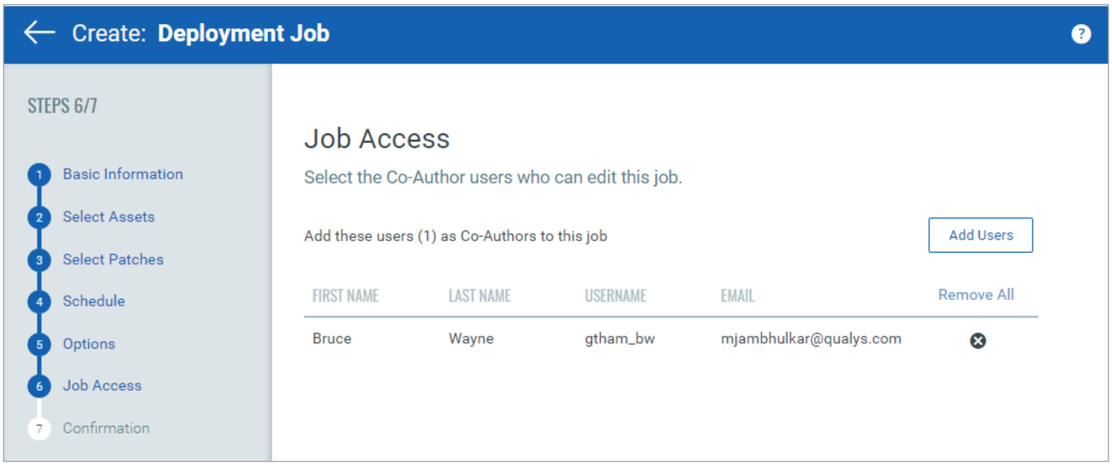
Reboot Countdown — OFF
Show countdown message to users after deferment limit is reached.

Additional Job Settings

Enable opportunistic patch download — OFF
The agent attempts to download patches before a scheduled job runs.

Minimize job progress window — OFF
Allow end-users to minimize message windows.

Finally, choose Co-Authors for this job. Besides the owner, the selected Co-Authors can edit this job.



Job Access

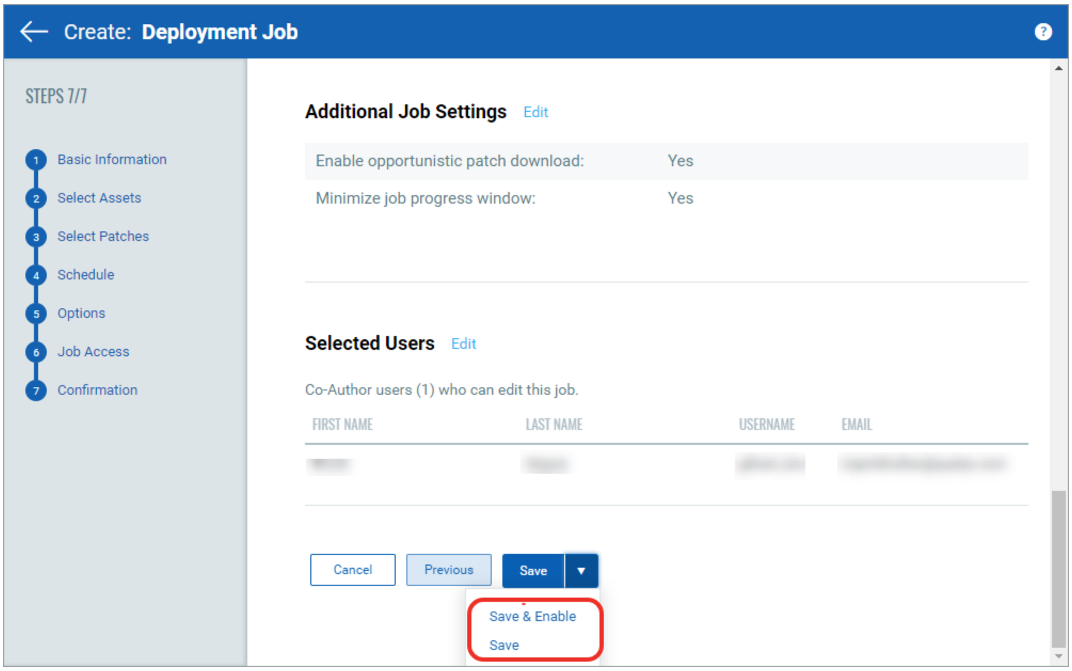
Select the Co-Author users who can edit this job.

Add these users (1) as Co-Authors to this job

FIRST NAME	LAST NAME	USERNAME	EMAIL
Bruce	Wayne	gtham_bw	mjambhulkar@qualys.com

Next, review the configuration.

Job can either be created in ENABLED state by using the **Save & Enable** option or in DISABLED state by using the **Save** button.



Additional Job Settings Edit

Enable opportunistic patch download:	Yes
Minimize job progress window:	Yes

Selected Users Edit

Co-Author users (1) who can edit this job.

FIRST NAME	LAST NAME	USERNAME	EMAIL
[redacted]	[redacted]	[redacted]	[redacted]

You must enable the disabled job in order to run it. To enable a disabled job, simply go to the **Jobs** tab, then from the **Quick Actions** menu of a job, click **Enable**. The **Save & Enable** option should be chosen only when you are confident that job is correctly configured, because this job will begin executing as soon as you “Save” the job. This option is available only when creating a Job the first time, not during editing the job.

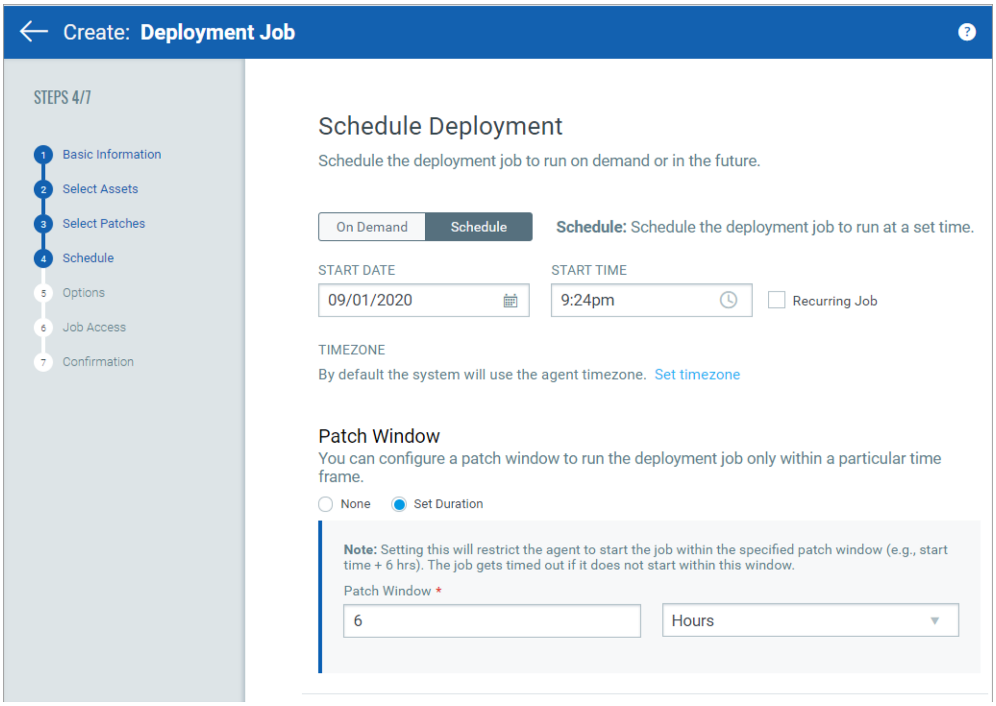
Tip: You can use the **Disable** option to temporarily disable a scheduled job. You can then re-enable the job later at your convenience. On-Demand or run-once (non recurring) jobs cannot be edited or disabled once they are enabled. See Enable/Disable Jobs.

Want to uninstall patches? See Uninstall Patches from Assets.

Note that the Patch Manager super user can change the job status (enable/disable), delete and edit the job.

Schedule Job Settings

You can schedule a (deployment and uninstall) job to run immediately (when enabled) or in the future - once or on a recurring basis. The Patch Management module allows creation of Run-Once and Recurring jobs. Run-Once jobs are the default type of jobs for Patching.



Schedule Deployment

Schedule the deployment job to run on demand or in the future.

Schedule: Schedule the deployment job to run at a set time.

START DATE: 09/01/2020

START TIME: 9:24pm

□ Recurring Job

TIMEZONE

By default the system will use the agent timezone. Set timezone

Patch Window

You can configure a patch window to run the deployment job only within a particular time frame.

○ None ● Set Duration

Note: Setting this will restrict the agent to start the job within the specified patch window (e.g., start time + 6 hrs). The job gets timed out if it does not start within this window.

Patch Window *: 6 Hours

Run-Once Jobs

By default 2 types of schedules are available for a Run-Once job.

1) On Demand - The On-Demand option allows you to install the patches immediately once the job is created and enabled.

2) Scheduled - The Scheduled option allows you to install the patches later at a set time and are generally used for planned one-time activities. Such jobs will begin executing, as soon as they are enabled on the server side. However, the patch installation on the assets will happen only at the scheduled time or later. For Run-Once jobs, patches installation/upgrade on assets begins only after scheduled time of the job and manifest reaching the agent. Run-Once jobs have NO end time except if a patching window is defined. That means the job will be active as long as the patches installation is not attempted on all the assets added to the patch job.

Note: Run-Once jobs when saved/created in the Enabled state, CANNOT be Disabled, Edited. They can however be Deleted.

Recurring jobs

Scheduled recurring jobs can be created by selecting the “Recurring Job" check box next to the Start Date. The start date and time when the job will repeat can be fine tuned for subsequent runs. Recurring jobs can be scheduled to run Daily, Weekly or Monthly.

1) Daily - Select this option to schedule the job to run once every day of week, whether a working day or weekend (since security is a 24x7 business priority).

2) Weekly - Select this option to schedule the job to run one or more day(s) of the week.

3) Monthly - Select this option to schedule the job to run on a specific date or day of a specific week.

Note: Recurring jobs do not have end-date and it will run perpetually until you disable the job i.e. revoke its execution. You can Disable a job i.e. Revoke its execution any time. Similarly, you can Re-Enable a job again as needed. Recurring jobs can be Enabled & Disabled any number of times.

Time Zone

1) When creating jobs you should be mindful of the time zone. By default, the schedule time is interpreted as the local time (zone) of the endpoint/asset. This option is best suited for larger organizations, spread across geographies with time zones of the assets associated with a job are varying i.e. across multiple time zones. This would effectively stagger the job execution as per the local time zone of the agent.

If an organization is NOT spread across geographies OR consolidated in one time zone only, the default Agent time zone will be as good as the Server time zone schedule. This is like enforcing a schedule relative to the time zone of the server.

2) The second option is to schedule a job at a specific time zone, irrespective of the agent and server time zones. With assets spread across multiple time zones and complications like DST, etc, you can explicitly define a very specific time zone. The specific time zone option is an offset from GMT which does not change during DST or other adjustments, allowing you to run the job on all assets at a specific time.

Tip: You should select the time zone and consistently use the same settings across all jobs to reduce conflicts across multiple jobs.

Patching Window

A Patching Window is generally defined to enforce time-bound execution. Set the patching window to avoid 1) interference/impact of patching during some important event and 2) perpetual running of the job resulting in job getting finished in a set duration. Setting a patch window will restrict the agent to start the job within the specified patch window (e.g., start time + 6 hrs). The job gets timed out if it does not start within this window. The default Patching window is perpetual i.e. Patch Window (Duration/End time) is set to None. Setting no patch window allows the Cloud Agent to take the time it needs to complete the job.

Note that the job may timeout if the asset is Offline or the Cloud Agent does not have sufficient time to download the patch after the asset comes Online. We show Completed status only for Run-Once jobs (On-Demand and non-recurring Scheduled job). An On-

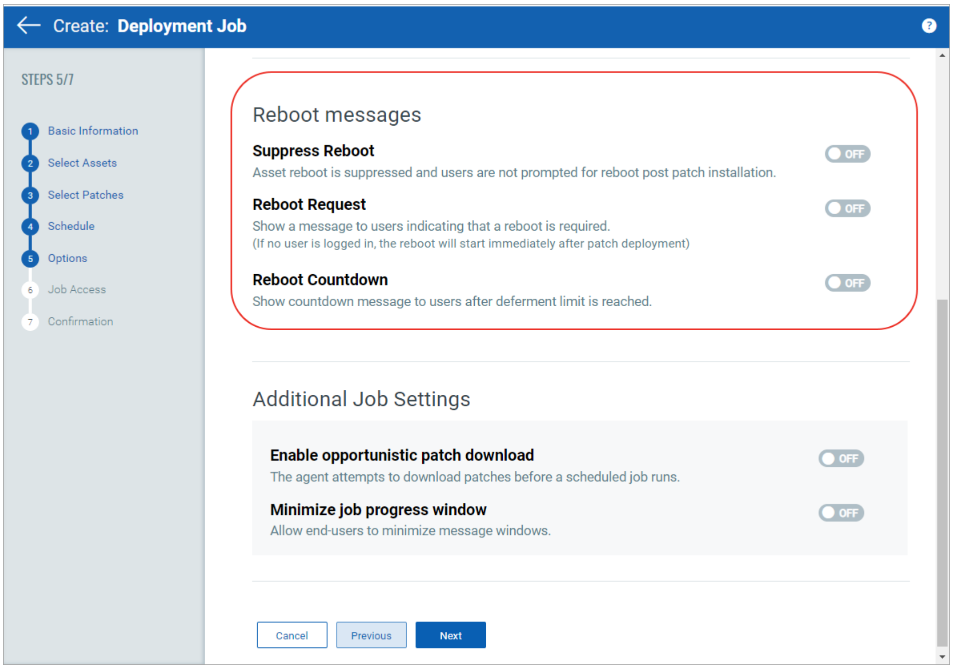
Demand job is marked "Completed" when it is Enabled. A Run-Once job (non-recurring Scheduled job) is marked Completed after the start time of the job on the asset on the last time zone. The scheduled recurring jobs are never marked Completed.

The Patch Window can be set between 30 minutes to 168 hours or 10080 minutes, which is 1 week. More than a week is contradictory to the very concept of a Patching window. Any job failing to start within a week, should be marked as failed and retried later, if needed. If you think you would like it to be more than 168 hours, we would suggest you turn off the "Patch Window" option itself, by changing it to "None".

Note: If Patching window is not defined, the job can run perpetually till it successfully completes or fails with an explicit error.

Reboot Settings

You may have patches in your job that require system to reboot after they are installed or unistalled. You can configure a job to either suppress a reboot for an indefinite period of time or defer it by a Y time duration for an X number of times where X and Y is configurable. You can configure these options in the Options tab in the Create/Edit Job wizard. The "Reboot messages" section in the Options tab allows you to 1) suppress a reboot or 2) defer a reboot and show countdown after the deferment limit is reached.



Reboot messages

Suppress Reboot OFF
Asset reboot is suppressed and users are not prompted for reboot post patch installation.

Reboot Request OFF
Show a message to users indicating that a reboot is required.
(If no user is logged in, the reboot will start immediately after patch deployment)

Reboot Countdown OFF
Show countdown message to users after deferment limit is reached.

Additional Job Settings

Enable opportunistic patch download OFF
The agent attempts to download patches before a scheduled job runs.

Minimize job progress window OFF
Allow end-users to minimize message windows.

Suppress Reboot

Suppress reboot option allows you to patch systems in advance and defer reboot till the maintenance window. To enable this option, go to the Create and Edit wizard job, navigate to the "Options" tab and enable "Suppress Reboot" in the "Reboot messages" section. You can suppress reboot indefinitely, as maybe required for the Server class Windows machines. Although this option is recommended for Server class assets only, it can be used for non-server assets too.

Microsoft claims that a system is in a “Volatile” state, after upgrades are carried out and before the necessary reboots.

Volatile systems may display undesirable and unpredictable behavior or side effects. That is why we recommend to keep the time interval between patching your assets and rebooting them as minimum as possible. Exercise personal judgement before activating this option.

A patch that is marked as “Reboot required” is NOT completely applied till the Reboot actually happens, after the job is run. A “Suppress Reboot” should be used with caution as it blocks all subsequent jobs till the reboot happens which allows the job to be marked as complete. Such a job will also be reported as "Pending Reboot", tillthe manual reboot is applied.

Note: For patches dependent on other “Reboot required” patches, in some cases are as good as NOT applied, if the reboot is suppressed.

Reboot Request

Reboot is an option on the level of a job, not per patch. If no user is logged in, the reboot will start immediately after completing patch deployment. Need for a reboot is determined on a job level, based on patches in the job. A user can override auto reboot of a job by manually rebooting the system before the scheduled reboot time. In case of multiple patches requiring reboot, deployment of all patches needs to be completed/ attempted before the reboot can be applied. Some patches initially indicate “Reboot required” but may actually NOT require it, based on the context/state of the system. In such cases, the reboot prompts are suppressed automatically, for being Not Applicable.

Defer Reboot

You can configure the Reboot Request option to defer a reboot for a duration between 1 minute and 1440 minutes/24 hours. You can defer a reboot between 1 – 9 times, for a period of 1 – 1440 minutes each time.

Ideal reboot configurations recommended are as follows:

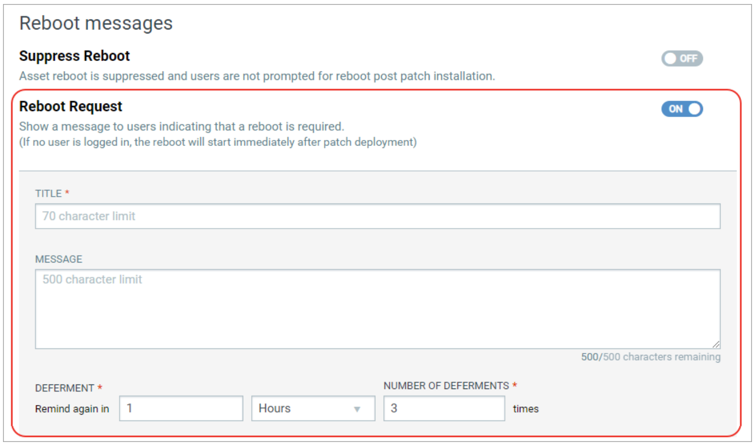
- Defer reboot by 1 – 15 minutes for 1 – 5 times for Urgent rollout of Critical Patches.

- Defer reboot by 1 hour for 9 – 12 times. Allows you to defer for maximum of 1 working day. 1 hour interval allows a more granular control but too frequent interruption to user. 2- 4 hours deferments 3 – 6 times can also help achieve the same. Best choice depends on the organizational context.

- Defer reboot by 8 hours for 3 times. Allows you to defer reboot for maximum of 1 working day at 8 hours interval.

- Defer reboot by 24 hours for 2 – 7 times. Allows you to defer till end of the working week/ calendar week.

Deferring beyond a week is NOT recommended. For any reason, if you need to defer reboot beyond a week then we recommend using Suppress Reboot option.



Reboot messages

Suppress Reboot
Asset reboot is suppressed and users are not prompted for reboot post patch installation.

Reboot Request
Show a message to users indicating that a reboot is required.
(If no user is logged in, the reboot will start immediately after patch deployment)

TITLE *
70 character limit

MESSAGE
500 character limit
500/500 characters remaining

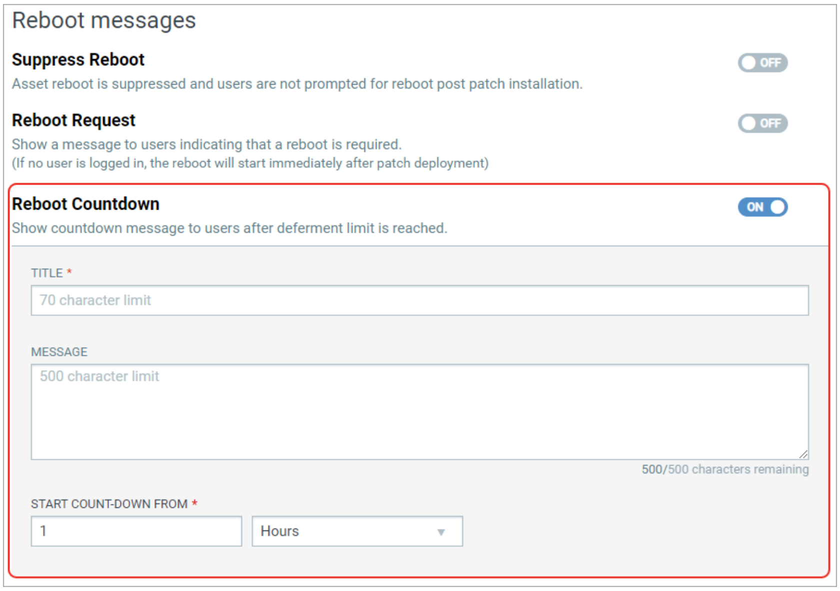
DEFERMENT *
Remind again in 1 Hours

NUMBER OF DEFERMENTS *
3 times

Reboot Countdown

The "Reboot Countdown" is recommended to be enabled whenever reboot is NOT suppressed.

If deferment limit is set in the Reboot Request, then setting this option shows countdown message to users after deferment limit is reached. It ensures an explicit indication of remaining time before a reboot, so that end user is not surprised by a sudden reboot. Reboot countdown can be configured to show the countdown message before minimum 1 minute and maximum 24 hours/1440 minutes. We recommend you to set the reboot countdown of 15 minutes for your assets.



Reboot messages

Suppress Reboot
Asset reboot is suppressed and users are not prompted for reboot post patch installation.

Reboot Request
Show a message to users indicating that a reboot is required.
(If no user is logged in, the reboot will start immediately after patch deployment)

Reboot Countdown
Show countdown message to users after deferment limit is reached.

TITLE *
70 character limit

MESSAGE
500 character limit
500/500 characters remaining

START COUNT-DOWN FROM *
1 Hours

Enable/Disable Jobs

Use the Enable option to “Submit a Job for Execution” and the Disable option to "Temporary Withdraw a Job from Execution”. A patching job is not enabled (submitted for execution) immediately when you define a job to safeguard against any configuration errors. You should review the configuration and ensure that job is correctly configured before enabling it. You can right-click on the job name in the job list page to enable the job.

A job can also be enabled by choosing the "Save & Enable” option on the job Confirmation page. This option should be chosen only when you are confident about the options chosen, because this job will begin executing as soon as you “Save” the job. This option is available only when creating the Job the first time, not during later edits to the job.

Run-Once/Scheduled Jobs

For the Run-Once jobs i.e. “On-Demand” and “Scheduled”, you can submit them for Execution only once, since they are going to run only once.

In summary, Run-Once jobs can only be enabled once. They cannot be disabled. Run-Once jobs can also be edited only before you enable them. Once you Enable them, the job configuration can not be modified.

The only difference between the “On-Demand” and “Scheduled” job is that the first option initiates execution of the job right away, while the second option waits till the scheduled time or past it.

Run-Once jobs ideally do not expire. They are guaranteed to run once, even if you enable them past their schedule time. The only exception where such jobs expire is if you "Set Duration" within "Patch Window" to anything other than “None”.

Remember that patch window cannot be greater than 7 days i.e. 168 hours. If you think you would like it to be more than 168 hours, we would suggest you turn off the "Patch Window" option itself, by changing it to 'None'.

Recurring Jobs

Recurring Jobs on the other hand can be enabled and disabled multiple times. They can also be edited in both enabled as well as disabled state, but the changes will reflect in the next run only. The next run is a loaded term as it depends on multiple parameters of a job configuration. Some of these parameters are explained below:

- The scheduled time of the job (minus 3 hours) should be a point in time later in the day.

- If the job is scheduled for the Agent time zone, which is the default value, then it is possible that for some endpoints the run may have executed and for some it is pending.

Those pending for execution more than 3 hours later from the time of saving configuration (and re-enabling the job, if disabled) will reflect change of behavior in the current run while the ones where it has already been executed or pending for execution less than 3 hours later will reflect in the next run.

Depending on the schedule of the job i.e. daily, weekly, etc, next run could be few days or weeks later. Technically, it could be few hours later too but we would recommend you to configure schedule cycles for the job a day apart, at the least.

Use QQL to Automate Patch Selection for Jobs

You can use Qualys Query Language (QQL) to provide the criteria that associates selective patches to a deployment job. QQL ensures that all the latest patches that qualify based on the criteria are automatically associated to a job without a manual intervention. This saves time and ensures that the critical patch updates are installed regularly.

Although, you can use QQL for a run-once job, QQL is optimally utilized for recurring jobs.

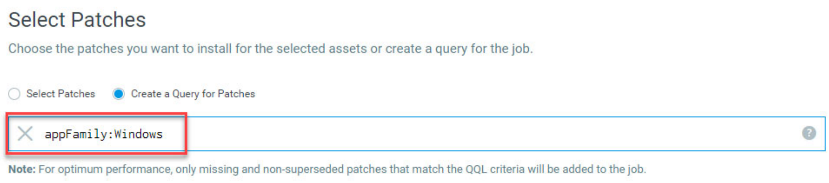
QQL is available only for the deployment jobs and not for the uninstall jobs. Since uninstall patch jobs are executed for selective patches and rarely used, the QQL option is not provided for the uninstall job. See “Jobs to Deploy Patches on Assets” on page 28.

Example 1 Installing patches released on Patch Tuesday automatically

Generally, an admin has to keep an eye on the patches that are released on every Patch Tuesday by Microsoft and manually select these patches that must be deployed on assets. You can create a job based on QQL and schedule a recurring job on every 2nd Thursday of a month.

To automate the patch installation, create a deployment job with the following parameters:

To automate the patch installation, create a deployment job with the following parameters:



Select Patches

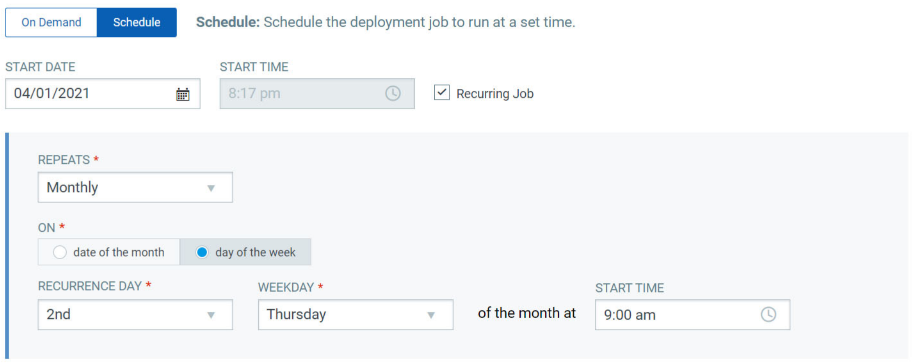
Choose the patches you want to install for the selected assets or create a query for the job.

○ Select Patches ● Create a Query for Patches

appFamily:Windows

Note: For optimum performance, only missing and non-superseded patches that match the QQL criteria will be added to the job.

Create the following job schedule:



Schedule: Schedule the deployment job to run at a set time.

START DATE: 04/01/2021

START TIME: 8:17 pm

☑ Recurring Job

REPEATS *: Monthly

ON *: ○ date of the month ● day of the week

RECURRENCE DAY *: 2nd

WEEKDAY *: Thursday

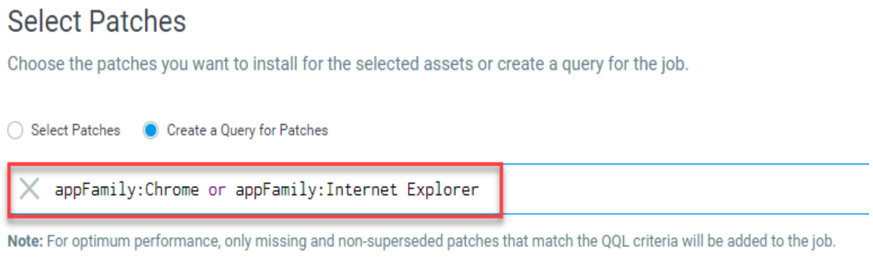
of the month at

START TIME: 9:00 am

Example 2 Installing critical patches for Chrome and Internet Explorer

To ensure that the browsers receive the critical updates, you can create a weekly recurring job to ensure critical patches are deployed.

To automate patch installation for Google Chrome and Microsoft Internet Explorer, create a job with following parameters:



Select Patches

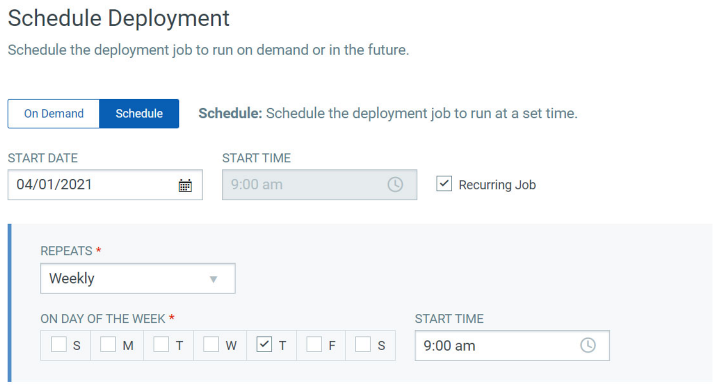
Choose the patches you want to install for the selected assets or create a query for the job.

○ Select Patches ● Create a Query for Patches

```
appFamily:Chrome or appFamily:Internet Explorer
```

Note: For optimum performance, only missing and non-superseded patches that match the QQL criteria will be added to the job.

Create the following job schedule:



Schedule Deployment

Schedule the deployment job to run on demand or in the future.

Schedule: Schedule the deployment job to run at a set time.

START DATE: 04/01/2021

START TIME: 9:00 am

☑ Recurring Job

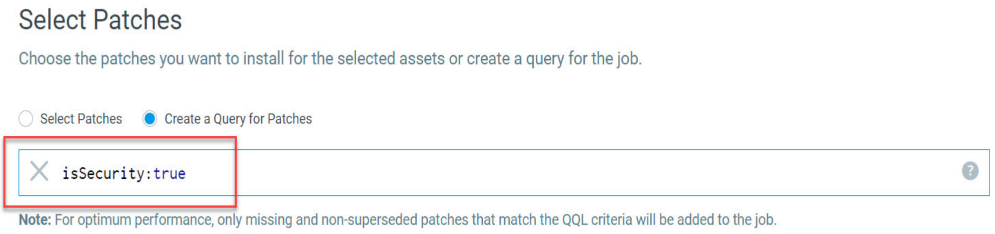
REPEATS *: Weekly

ON DAY OF THE WEEK *: □ S □ M □ T □ W ☑ T □ F □ S

START TIME: 9:00 am

Example 3 QQL for security patches

To ensure that none of the important security patches are missed, you can setup a job with the following parameters.



Select Patches

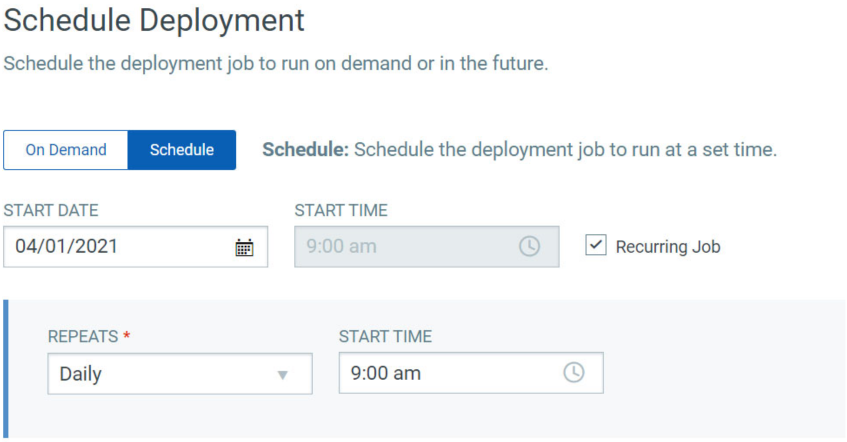
Choose the patches you want to install for the selected assets or create a query for the job.

○ Select Patches ● Create a Query for Patches

```
isSecurity:true
```

Note: For optimum performance, only missing and non-superseded patches that match the QQL criteria will be added to the job.

Create the following job schedule:



Schedule Deployment

Schedule the deployment job to run on demand or in the future.

Schedule: Schedule the deployment job to run at a set time.

START DATE: 04/01/2021

START TIME: 9:00 am

☑ Recurring Job

REPEATS *: Daily

START TIME: 9:00 am

Clone a Job

Cloning a patch job lets you quickly copy an existing job and create a new one from it with minimal edits. Creating a job in less time means you can promptly patch your mission critical assets to mitigate the vulnerabilities, which reduces the risk of attack.

Cloning a job is very simple. From the Jobs tab, select any job with configurations that you want to have for the new patch job and then use the Clone option to create an exact copy of the job. When you clone a job, we will copy the assets, patches, schedule and options information as it is to the new job. To uniquely identify the job, the cloned job name has a prefix 'Copy of ' and suffix <epochtime> in the job title. The cloned job needs to be saved explicitly.

You can modify the job name, assets, tags, patch, options and users who can edit the job as a part of the job definition while cloning a job.

Only one job can be cloned at a time, but a job can be cloned any number of times. A cloned job can be cloned again too. Cloned jobs have no interrelation between them or with the source job.

When cloning a Run-Once job, schedule will NOT be copied, if the schedule time is in the past. You will be prompted to provide a new schedule, before saving the copy. For a Run-Once job with schedule in the future, the schedule need not be revised, but you can edit it, if needed. For a Recurring job, the cloned job will also have the same schedule and recurrence. You are expected to change the schedule as needed, before enabling the cloned job.

Partially Configured Job when cloned will create a Partially Configured Job. No default value changes are made as part of Cloning, except the Job state. A cloned job is always in the Disabled state, just like during job creation – to protect the user against accidental runs.

Note that if a Partially Configured Job has an owner, then the user who will be cloning the job will become the owner of the cloned job, but if no owner is established for the Partially Configured Job, then the cloned job will have no owner.

Execution of a cloned job is restricted by the tag scope of the new owner.

Permissions required to clone a job

To clone a job, you must have a create job permission and you must satisfy one of these conditions: either you should have permission to view any job or view assigned job and you should be either co-author or owner of the job.

Good to Know

- The user creating the job will be the owner of the job.

- Any user can clone the job of another user.

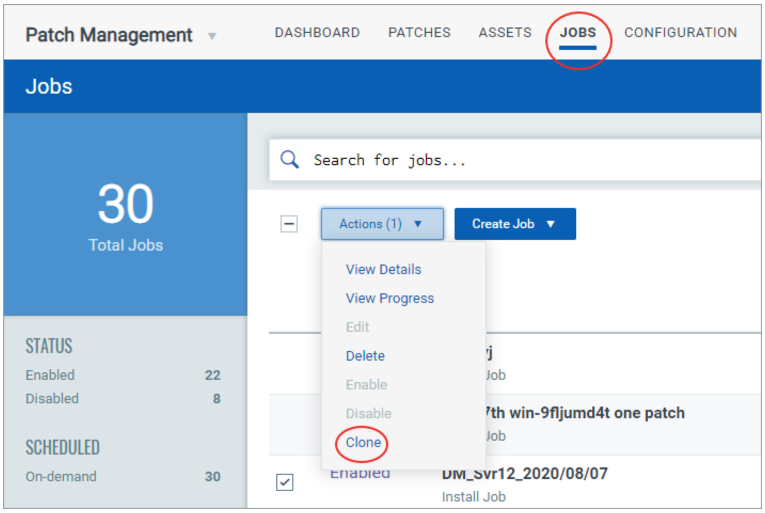
- Execution of the new job is restricted by the tag scope of the owner.

Cloning a Job

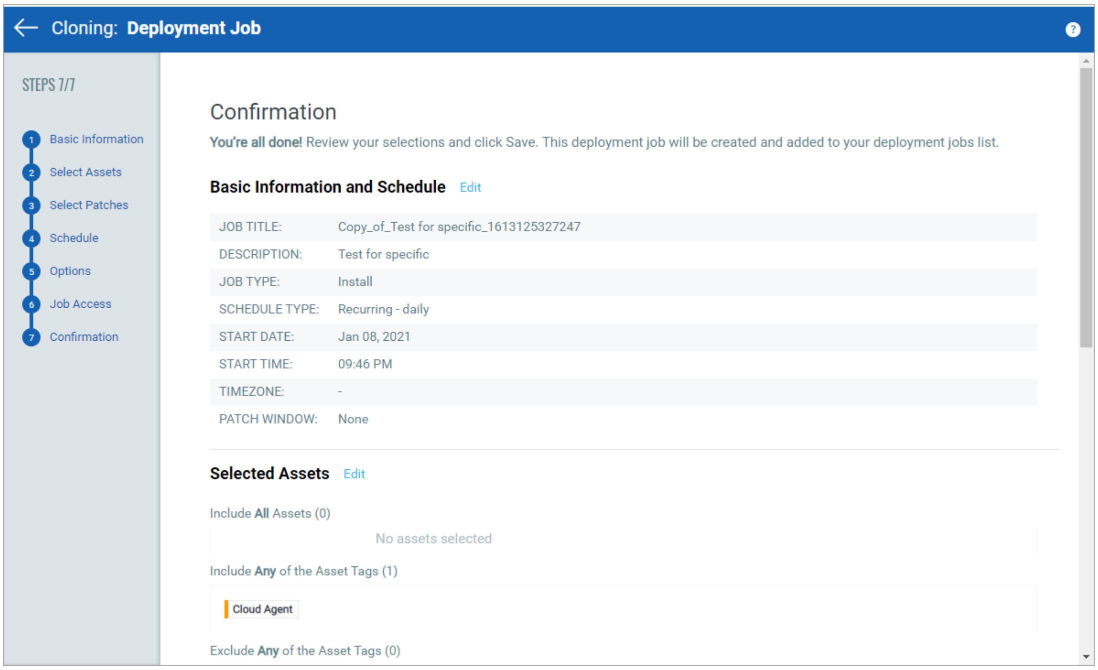
1) Go to the Jobs tab, and select a job.

2) From the Actions menu, select the Clone option. The configurations specified in the selected job are copied to the new cloned job and we will directly take you to the Confirmation step.

Note: In case the schedule of the cloned job is run once, then we check the date and time of the job. If the date and time of job is set to an older date and time then we will take you to the Schedule screen where you can change the start date and time. An error message is shown if you try to proceed without specifying a valid date and time for the job.



3) Review the configurations of the job. As per your need, you can edit the job to change the title of the job, add or remove assets and patches, change the job schedule and other configurations.



Confirmation

You're all done! Review your selections and click Save. This deployment job will be created and added to your deployment jobs list.

Basic Information and Schedule Edit

JOB TITLE:	Copy_of_Test for specific_1613125327247
DESCRIPTION:	Test for specific
JOB TYPE:	Install
SCHEDULE TYPE:	Recurring - daily
START DATE:	Jan 08, 2021
START TIME:	09:46 PM
TIMEZONE:	-
PATCH WINDOW:	None

Selected Assets Edit

Include **All** Assets (0)

No assets selected

Include **Any** of the Asset Tags (1)

Cloud Agent

Exclude **Any** of the Asset Tags (0)

4) Click Save to create the Job. Job can either be created in ENABLED state by using the **Save & Enable** option or in DISABLED state by using the **Save** button.

Change Job Ownership

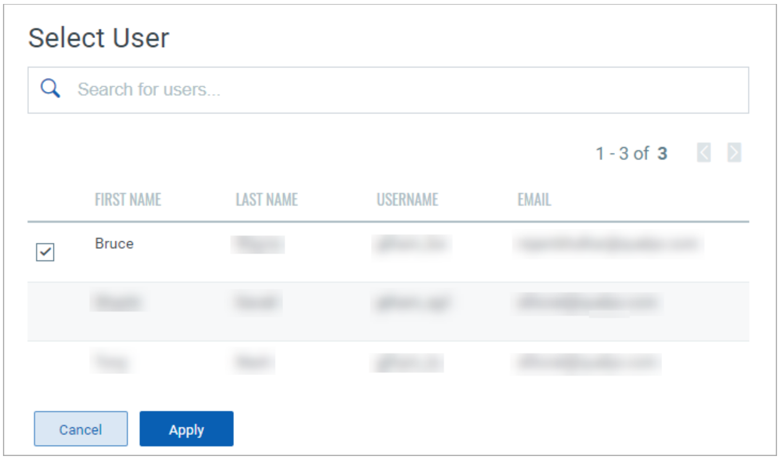
Our earlier RBAC model, was more restrictive enforcing a clear compartmentalization of users from each other and basic roles only. With the new RBAC model, we have added more roles, depicting the real-life hierarchies and responsibilities.

A job can now be shared with other users by making them Co-Authors of the job. Co-authors should have the same (or higher) role and same (or larger) asset scope assigned to them for administration so that they can edit/ operate the job equivalent to the creator (owner).

If you want to temporarily allow additional users to edit/ manage a job, you can make them Co-Author(s) of the job. This can be done by adding the users to the job under the Job Access options while creating a job.

If you want to permanently transfer ownership of a job to another user, you could achieve that by changing the ownership of the job.

To change the owner of the job, you must have "Change Owner" permission i.e. "Patch Manager" role. You can change ownership of jobs, in bulk or on individual jobs. From the Jobs tab, select a one or more job(s) and then from the Quick Actions menu, choose "Change Job Owner" option. Select the username of the new Job owner and click Apply. A message confirms that the job ownership is transferred to the selected user.



Select User

Search for users...

1 - 3 of 3

	FIRST NAME	LAST NAME	USERNAME	EMAIL
☑	Bruce	[redacted]	[redacted]	[redacted]
	[redacted]	[redacted]	[redacted]	[redacted]
	[redacted]	[redacted]	[redacted]	[redacted]

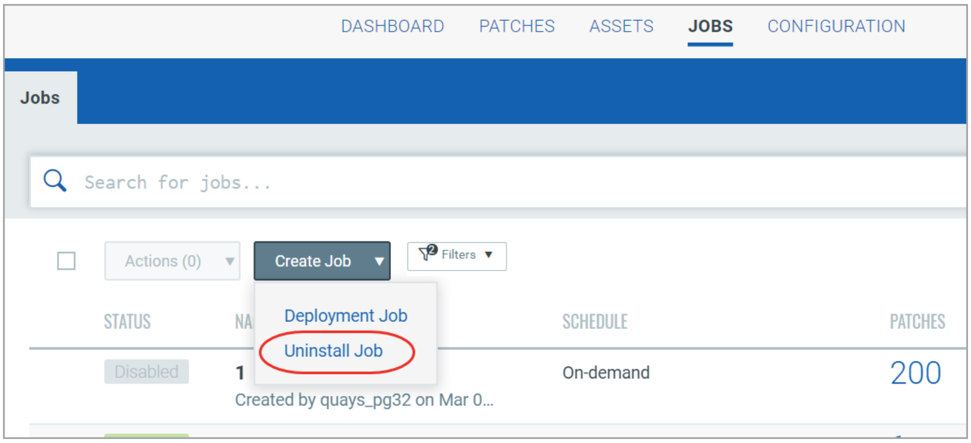
If the new owner has the same (or higher) role but a different asset scope assigned to them, the jobs could execute differently. The endpoints targeted by the job will be limited to the assets that are common between the asset scope of original owner and the new owner. A Patch Manager would need to revise the asset scope of the new user to ensure execution of the job as before the ownership change.

If the new owner has a role lower than Patch Manager OR Patch User, the jobs may not execute at all. If a job, especially a partially configured one, created as an advisory, it has No Owner. Ownership for such a job needs to be established by explicitly assigning an owner to such "Partially Configured Jobs".

Uninstall Patches from Assets

You can create a patch uninstall job to uninstall patches from assets.

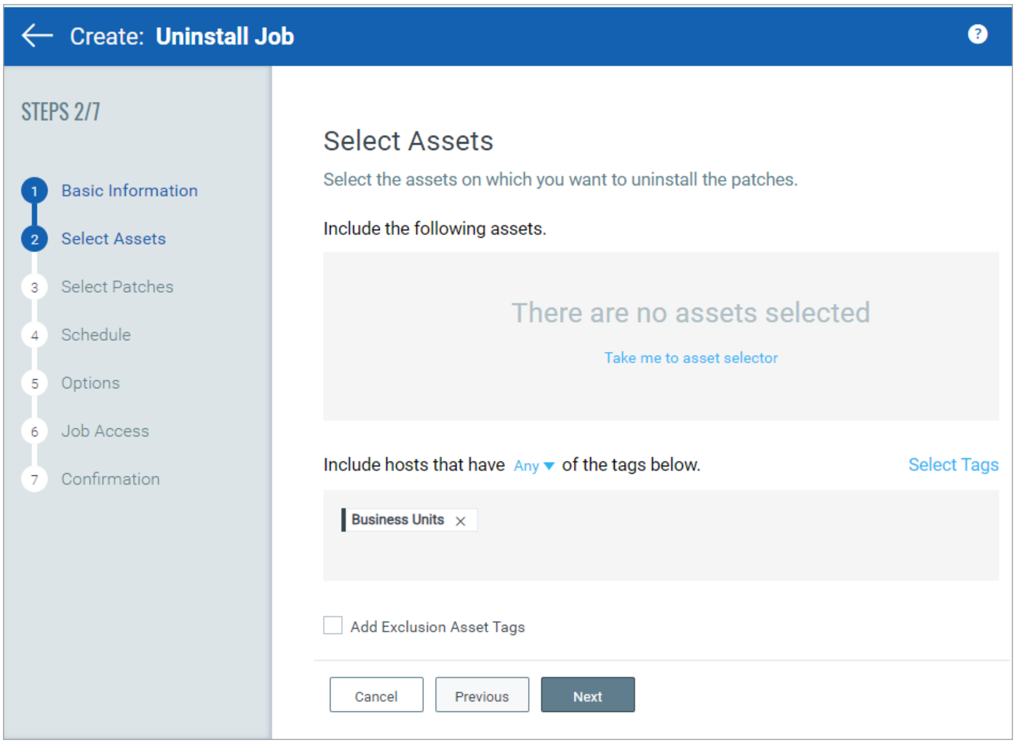
Simply go to Jobs > Create Job, and click **Uninstall Job**.



Provide a job title, and then select assets or asset tags to uninstall the patches from.

Note: Patches are uninstalled on the selected tags only for assets contained in the user's scope. When you select an asset tag, corresponding child tags get automatically selected. Select "Any" to include assets that have any of the selected tags. Select "All" to include only those assets in the patch uninstallation job that have ALL the selected tags.

Select "Add Exclusion Asset Tags" to exclude the assets from the uninstallation job that have All/ANY of the selected asset tags.


Create: Uninstall Job

STEPS 2/7

1 Basic Information
2 Select Assets
3 Select Patches
4 Schedule
5 Options
6 Job Access
7 Confirmation

Select Assets

Select the assets on which you want to uninstall the patches.

Include the following assets.

There are no assets selected

Take me to asset selector

Include hosts that have Any of the tags below. Select Tags

Business Units ×

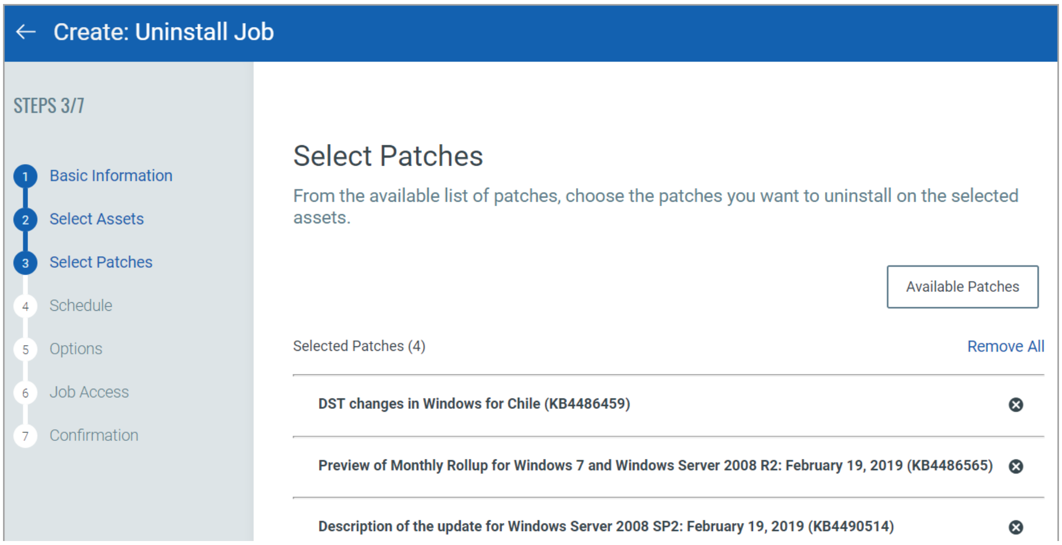
□ Add Exclusion Asset Tags

Select patches to uninstall from the assets. Use the patch selector link to select patches. On the Patch Selector page you can use the Within Scope option to view patches within the scope of the selected assets or view all available patches. Select the desired patches and click Add to Job and then click Close. On the Select Patches pane of the Uninstall Job wizard, click Available Patches if you want to add more patches to the job.

Want to add patches later? Go to the Patches tab, and select one or more patches, then from the Quick Actions Menu of a single patch or from the Actions menu (bulk actions) click **Add to Existing Job** or click **Add to New Job**. You cannot add patches later to OnDemand or run-once (non recurring) jobs once they are enabled.

Note that when you modify a patch job using the **Add to Existing Job** option from the Patches tab, you can add patches, but cannot add target assets or asset tags. To apply patches to an asset that is not added to the job, you can 1) edit an existing job from the Jobs tab, 2)select the asset from the Assets tab and use the **Add to Existing Job** option or 3) create a new patch job for that asset.

Note: You can add maximum 2000 patches to a single job. Create another job to add patches above 2000.



Select Patches

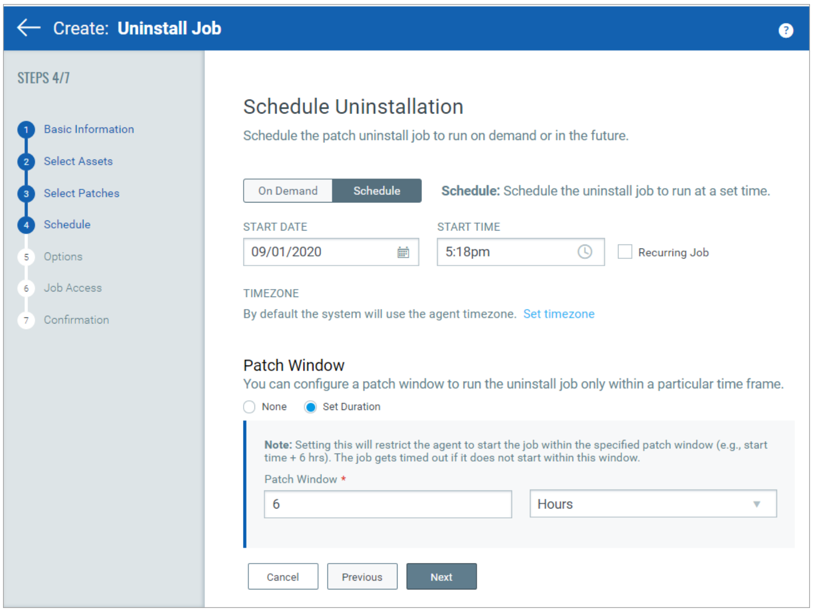
From the available list of patches, choose the patches you want to uninstall on the selected assets.

Selected Patches (4)

- DST changes in Windows for Chile (KB4486459)
- Preview of Monthly Rollup for Windows 7 and Windows Server 2008 R2: February 19, 2019 (KB4486565)
- Description of the update for Windows Server 2008 SP2: February 19, 2019 (KB4490514)

Choose when to uninstall the patches, whether On-Demand or Schedule. The On-Demand option allows you to uninstall the patches immediately once the job is created and enabled. The Schedule option allows you to uninstall the patches at a set time. You can choose to make a scheduled job recur daily, weekly, or monthly. See Schedule Job Settings.

Note: Monthly jobs which are scheduled to run on the 31st of the month will be scheduled every two months (where 31st date is available). Recurring jobs (Daily, Weekly, Monthly) should be enabled three hours prior to the scheduled time otherwise next eligible schedule will be considered.



Schedule Uninstallation

Schedule the patch uninstall job to run on demand or in the future.

Schedule: Schedule the uninstall job to run at a set time.

START DATE: 09/01/2020

START TIME: 5:18pm

□ Recurring Job

TIMEZONE

By default the system will use the agent timezone.

Patch Window

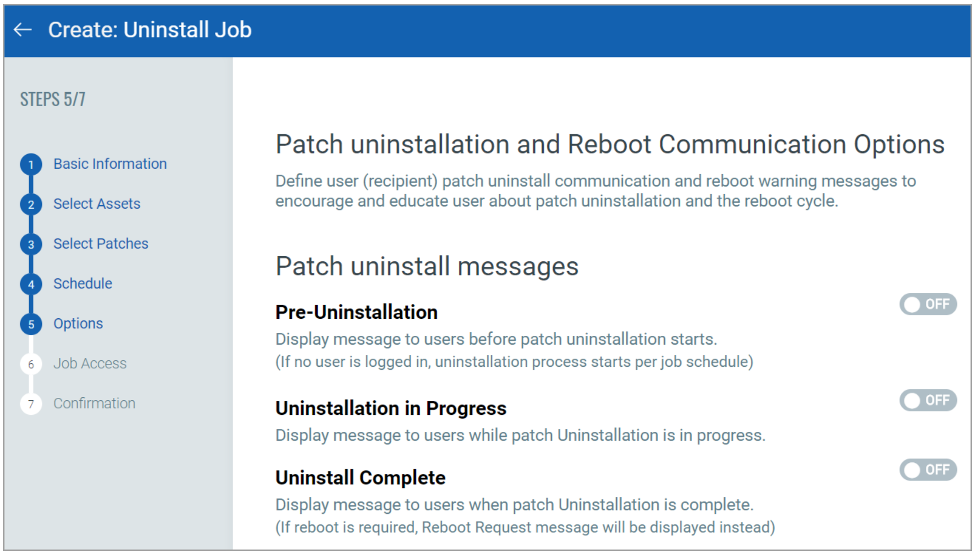
You can configure a patch window to run the uninstall job only within a particular time frame.

○ None ● Set Duration

Note: Setting this will restrict the agent to start the job within the specified patch window (e.g., start time + 6 hrs). The job gets timed out if it does not start within this window.

Patch Window *: 6 Hours

You can configure how to notify the users about the patch uninstallation. You can configure pre-uninstallation messages, deferring the patch uninstallation certain number of times. You can also provide progress and completion messages.



Patch uninstallation and Reboot Communication Options

Define user (recipient) patch uninstall communication and reboot warning messages to encourage and educate user about patch uninstallation and the reboot cycle.

Patch uninstall messages

Pre-Uninstallation OFF

Display message to users before patch uninstallation starts.
(If no user is logged in, uninstallation process starts per job schedule)

Uninstallation in Progress OFF

Display message to users while patch Uninstallation is in progress.

Uninstall Complete OFF

Display message to users when patch Uninstallation is complete.
(If reboot is required, Reboot Request message will be displayed instead)

Finally, you can prompt the user or choose suppress reboot when asset reboot is required post patch installation. See Reboot Settings.

These are the reboot options:

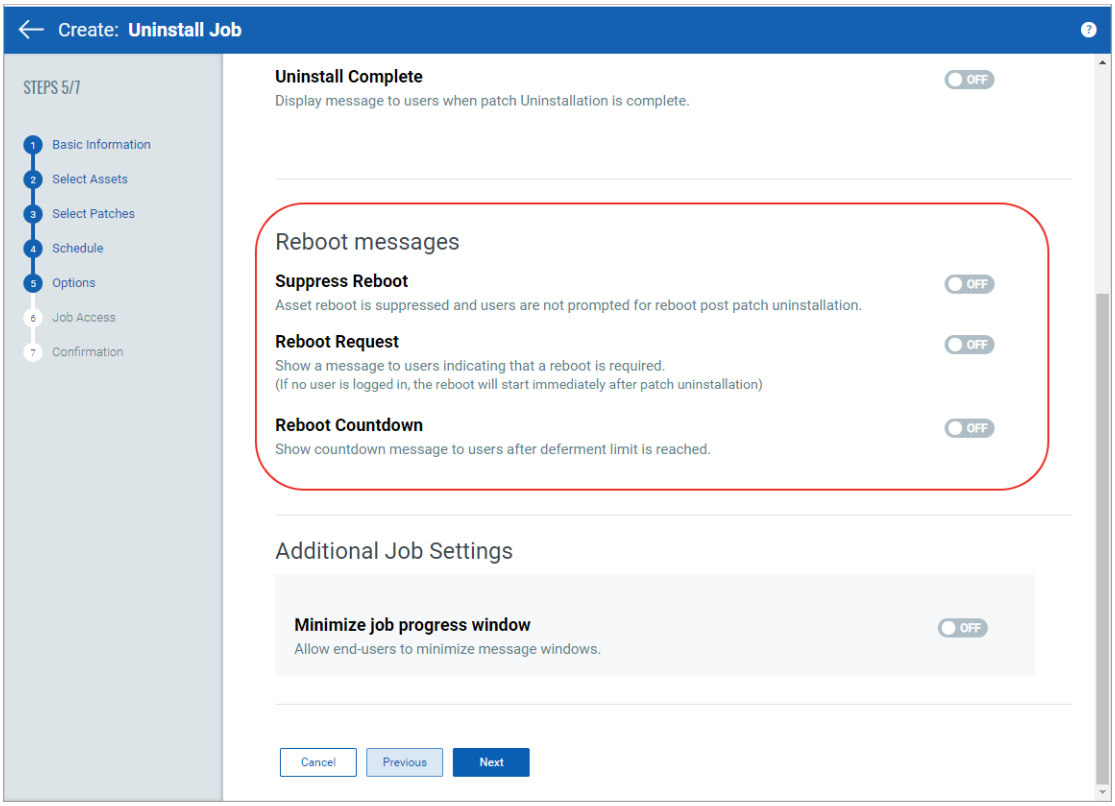
Suppress Reboot - This option allows you to patch systems in advance and defer reboot till the maintenance window.

Reboot Request - Many patches require reboot in order to take effect. When enabled, it will show a message to users indicating that a reboot is required. If no user is logged in, the reboot will start immediately after patch deployment.

You can configure this option to give the user the option to either reboot the machine immediately after the patch is deployed or defer the reboot "x" number of times so that the user can save the work and complete other tasks. Reboot will defer until 1) the user clicks OK when reboot message is shown or 2) maximum number of deferments are reached.

Reboot Countdown - Show countdown message to users after deferment limit, if set in the Reboot Request option, is reached. When reboot countdown is enabled, this gives the end user an indication of how long it will take before the system is rebooted.

We highly recommend that when you create the job, the user creating the job fill out both the message and description fields for these options as this has proven to have better performance in the agent/platform acknowledging the requests. Keep the messages very brief and the descriptions as detailed as possible.



Create: **Uninstall Job**

STEPS 5/7

1 Basic Information
2 Select Assets
3 Select Patches
4 Schedule
5 Options
6 Job Access
7 Confirmation

Uninstall Complete OFF
Display message to users when patch Uninstallation is complete.

Reboot messages

Suppress Reboot OFF
Asset reboot is suppressed and users are not prompted for reboot post patch uninstallation.

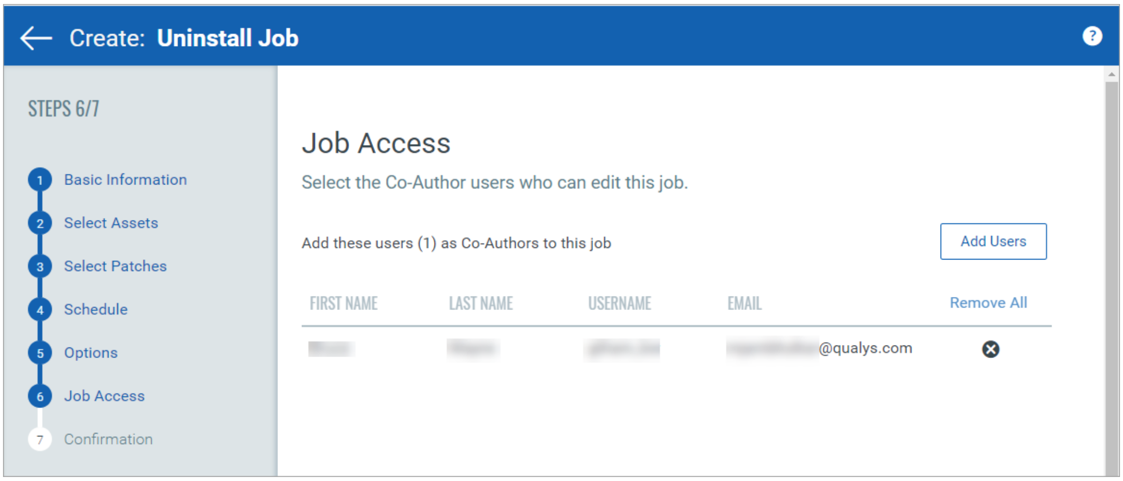
Reboot Request OFF
Show a message to users indicating that a reboot is required.
(If no user is logged in, the reboot will start immediately after patch uninstallation)

Reboot Countdown OFF
Show countdown message to users after deferment limit is reached.

Additional Job Settings

Minimize job progress window OFF
Allow end-users to minimize message windows.

Finally, choose Co-Authors for this job. Besides the owner, the selected Co-Authors can edit this job.



Create: **Uninstall Job**

STEPS 6/7

1 Basic Information
2 Select Assets
3 Select Patches
4 Schedule
5 Options
6 Job Access
7 Confirmation

Job Access

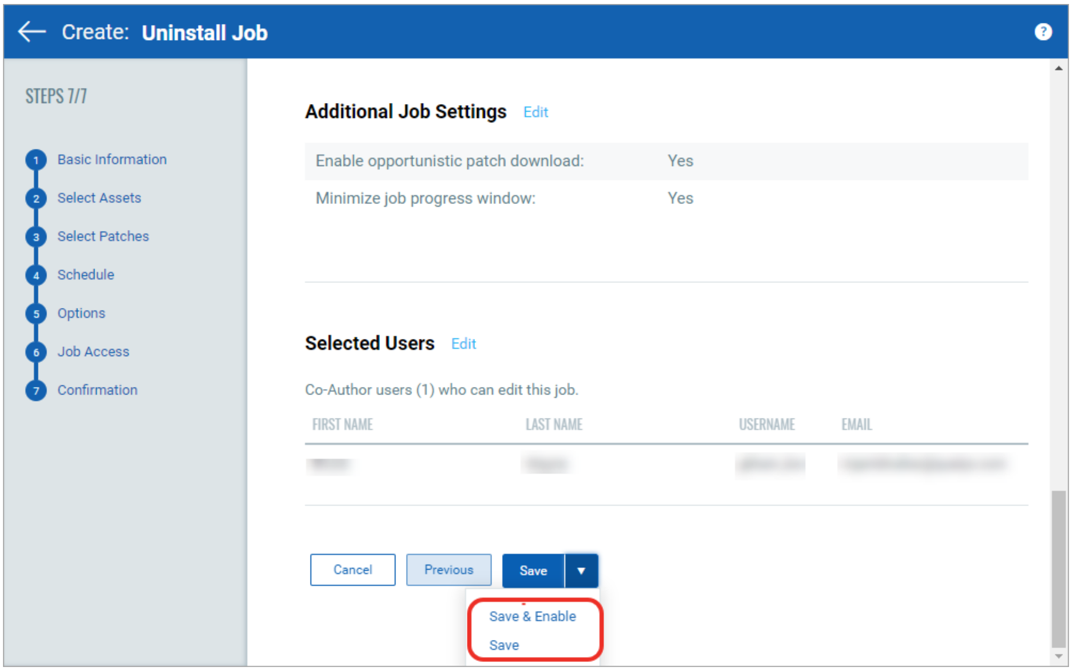
Select the Co-Author users who can edit this job.

Add these users (1) as Co-Authors to this job

FIRST NAME	LAST NAME	USERNAME	EMAIL	Remove All
[redacted]	[redacted]	[redacted]	[redacted]@qualys.com	⊗

Next, review the configuration.

Job can either be created in ENABLED state by using the **Save & Enable** option or in DISABLED state by using the **Save** button.



Additional Job Settings

Enable opportunistic patch download:	Yes
Minimize job progress window:	Yes

Selected Users

Co-Author users (1) who can edit this job.

FIRST NAME	LAST NAME	USERNAME	EMAIL
[redacted]	[redacted]	[redacted]	[redacted]

You must enable the disabled job in order to run it. To enable a disabled job, simply go to the **Jobs** tab, then from the **Quick Actions** menu of a job, click **Enable**. The **Save & Enable** option should be chosen only when you are confident that job is correctly configured, because this job will begin executing as soon as you “Save” the job. This option is available only when creating a Job the first time, not during editing the job.

Tip: You can use the **Disable** option to temporarily disable a scheduled job. You can then re-enable the job later at your convenience. On-Demand or run-once (non recurring) jobs cannot be edited or disabled once they are enabled. See Enable/Disable Jobs

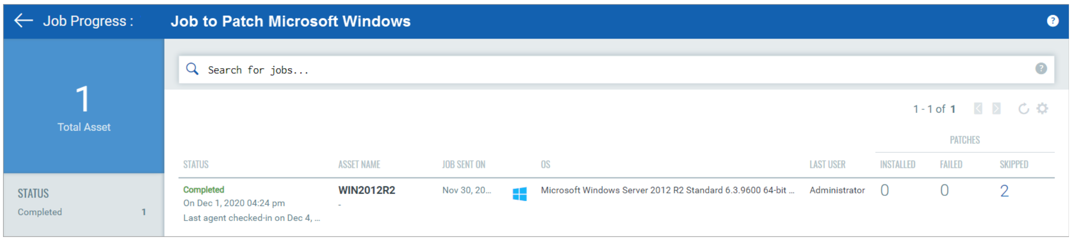
Note that the Patch Manager super user can change the job status (enable/disable), delete and edit the job.

Review Job Results

Once the deployment / uninstall job is created it runs immediately (OnDemand) or on a specified schedule. You can view the results of a job run, whether all patches got successfully installed / uninstalled or there are failures.

To view the job results, go to Jobs, then from the Quick Actions Menu of a job, click **View Progress**. You can see the assets on which the patch deployment / uninstall job was run, and the results in the Progress column.

On this screen, we also show you the assets that are not licensed in Patch Management. We skip patch installation for these assets.



1
Total Asset

STATUS
Completed 1

					PATCHES		
STATUS	ASSET NAME	JOB SENT ON	OS	LAST USER	INSTALLED	FAILED	SKIPPED
Completed On Dec 1, 2020 04:24 pm Last agent checked-in on Dec 4, ...	WIN2012R2 -	Nov 30, 20...	Microsoft Windows Server 2012 R2 Standard 6.3.9600 64-bit ...	Administrator	0	0	2

Job activities corresponding to the reboot messages and notifications displayed on the asset, are logged at the following location:

%USERPROFILE%\AppData\Local\Qualys\QualysAgent\QAgentUiLog.txt

Asset, Deployment, and Patch Statuses

Asset Statuses List

We run certain patch related operations on your assets in background. You can go to the Assets tab to view the current status of the operation for an asset. Here is the list of statuses and their description that we show for the various activities.

Status	Description
Assigning	This status means job manifest is successfully downloaded on the asset.
Assigned	This status means job manifest is successfully parsed on the asset.
Assigning - Failed	This status is shown for jobs when any one of the following event occurs: - Job Manifest downloading is failed. - Job Manifest parsing is failed.
Configuring	This status means Configuration Manifest is successfully downloaded on the asset.
Configuring - Failed	This status means Configuration Manifest download is failed for the asset.
Configured	This status means configuration manifest is parsed successfully.
Deactivated	This status means the patch agent is deactivated on the asset.
Disabled	This status means the patch scan is disabled on the asset.
Enabled	This status means the patch agent is enabled on the asset.
Failed	This status is shown for assets when any one of the following event occurs: - Agent failed to complete the prerequisites steps on the asset. - Agent failed to complete the patch scan activity on the asset.
Preparing	This status is shown for assets when any one of the following event occurs: - Prerequisite Manifest is downloaded successfully. - Prerequisite Manifest is parsed successfully. - Patch components downloading are in progress. - Patch definitions downloading are in progress.
Preparing - Failed	This status is shown for assets when any one of the following event occurs: - Prerequisite Manifest downloading is failed. - Prerequisite Manifest parsing is failed.
Ready	This status means agent has completed the prerequisite steps on the asset and is ready for patch management activities.
Scanned	This status means that agent has completed patch scan activity on the asset.

Deployment Job Statuses List

Here is the list of statuses and their descriptions that you may see for your deployment jobs on the Job Results tab.

Status	Description
Canceled - Blackout	This status means the patch deployment job is canceled on the asset due to blackout window.
Completed	This status means the patch deployment job is completed on the asset.
Downloaded	This status means patch file is successfully downloaded on the asset.
Downloading - Failed	This status means patch failed to download on the asset.
Not Licensed	This status means job manifest can not be sent as the asset does not have Patch Management license.
Job Started	This status means the agent has started the job.
Job Resumed	This means the asset is restarted and agent has resumed the job.
Job Failed	This means the agent encounters an error while executing the job.
Patching	This status means the patch job is running on the asset.
Pending	This status means the patch job is pending for execution on the asset.
Pending Reboot	This status means reboot activity is pending for the asset.
Rebooted	This status means asset is restated after patch installation.
Timed Out	This status means job is timed out.

Patch Specific Failure Reason Codes List

Here is the list of patch specific failure reason codes shown for patch jobs in the Jobs Results tab.

Code	Status	Description
3	LanguageDownloadNot Available	This means patch is not available for the selected language.
4	FileDownloadFailed	This means the vendor patch file failed to download. As a result, installation will not happen.
5	UnspecifiedAgentError	This means an unspecified error occurred during the execution of the agent that caused patch deployment failure, e.g. out of memory.
7	FileValidationFailed	This means the vendor patch file is either not signed, or the file signature fails the validation requested by the content provider.
8	Cancelled	This means the patch installation was aborted on command.
9	InstallerFailed	This means the installer failed to deploy the patch.

10	DeployerProcessCrashed	This means the patch deployment engine (STDeploy.exe) crashed / terminated unexpectedly.
11	FileSignatureFailed	This means the vendor patch file failed the signature validation.
12	FileHashValidationFailed	This means vendor patch file failed the hash validation.
13	PatchURLMissing	This means the vendor patch has no URL.

Exporting Patch Data

You can export detailed patch data from the Patches and Assets tabs. You can download job progress details from the Job Progress option on the Jobs tab. You must have an active Patch License to be able to export the data.

You can also view the list of reports generated and their statuses. Exporting the patch data allows to import the data to a preferred analytic tool, such as Tableau. For example, you can analyze the data and calculate compliance ratio to make sound decisions or you can use the patch data to identify patches that were missed based on the severity of the critical assets.

You can now overlay the Patch data with other business data to set a new context for analysis. Exporting allows you to integrate data from different systems and view it on a single pane of glass.

Note the following important points:

- At a given time, you can access only 5 latest reports per user.

- The generated report files are retained for 7 days. After that the report data is deleted.

- You can use filters or search functionality to select the data that you want to export.

- You can download the reports in the CSV format in a Gzip file. The reports are available to download in the universal CSV format separated by commas and enclosed in double quotes. Due to repetitive text items in the CSV file, we have provided a compressed version in a Gzip file for a quick and efficient access.

- We recommend that you use 7zip or any other zipping tool to unzip the report file.

- Currently, we support only the fixed columns shown on the UI that are exported in the report.

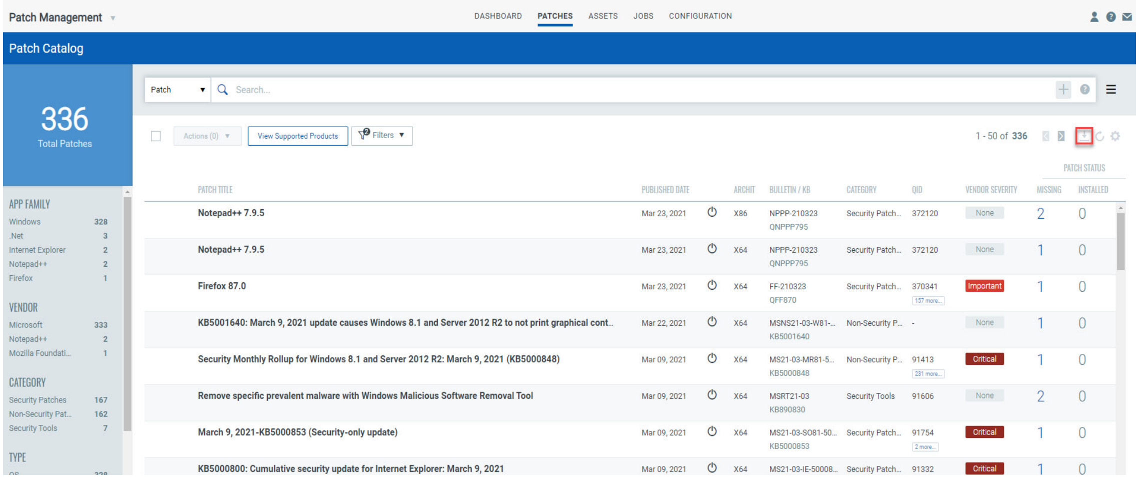
- The report file size is limited to 1 GB after the data is compressed.

- Any references to data or time in the report should be considered in the UTC

time stamps.

How to Export Patch Data?

To export patch data, go to the Patches or Assets tab and click Download:



APP FAMILY

Windows	328
.Net	3
Internet Explorer	2
Notepad++	2
Firefox	1

VENDOR

Microsoft	333
Notepad++	2
Mozilla Foundati...	1

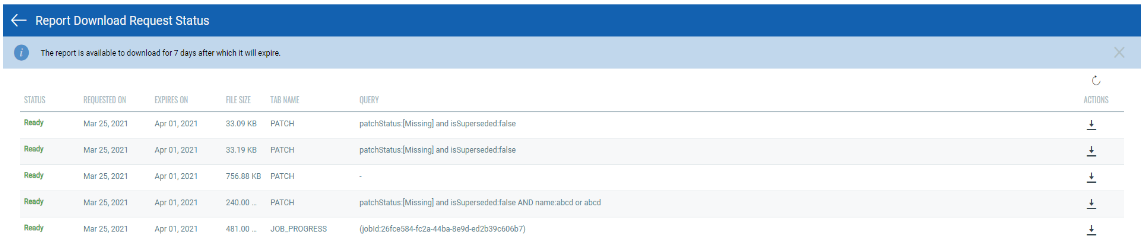
CATEGORY

Security Patches	167
Non-Security Pat...	162
Security Tools	7

TYPE

								PATCH STATUS	
PATCH TITLE	PUBLISHED DATE		ARCHIT	BULLETIN / KB	CATEGORY	QID	VENDOR SEVERITY	MISSING	INSTALLED
Notepad++ 7.9.5	Mar 23, 2021	⏻	X86	NPPP-210323 QNPPP795	Security Patch...	372120	None	2	0
Notepad++ 7.9.5	Mar 23, 2021	⏻	X64	NPPP-210323 QNPPP795	Security Patch...	372120	None	1	0
Firefox 87.0	Mar 23, 2021	⏻	X64	FF-210323 QFF870	Security Patch...	370341 157 more...	Important	1	0
KB5001640: March 9, 2021 update causes Windows 8.1 and Server 2012 R2 to not print graphical cont...	Mar 22, 2021	⏻	X64	MSNS21-03-W81-... KB5001640	Non-Security P...	-	None	1	0
Security Monthly Rollup for Windows 8.1 and Server 2012 R2: March 9, 2021 (KB5000848)	Mar 09, 2021	⏻	X64	MS21-03-MR81-5... KB5000848	Non-Security P...	91413 231 more...	Critical	1	0
Remove specific prevalent malware with Windows Malicious Software Removal Tool	Mar 09, 2021	⏻	X64	MSRT21-03 KB890830	Security Tools	91606	None	2	0
March 9, 2021-KB5000853 (Security-only update)	Mar 09, 2021	⏻	X64	MS21-03-SO81-50... KB5000853	Security Patch...	91754 2 more...	Critical	1	0
KB5000800: Cumulative security update for Internet Explorer: March 9, 2021	Mar 09, 2021	⏻	X64	MS21-03-IE-50008...	Security Patch...	91332	Critical	1	0

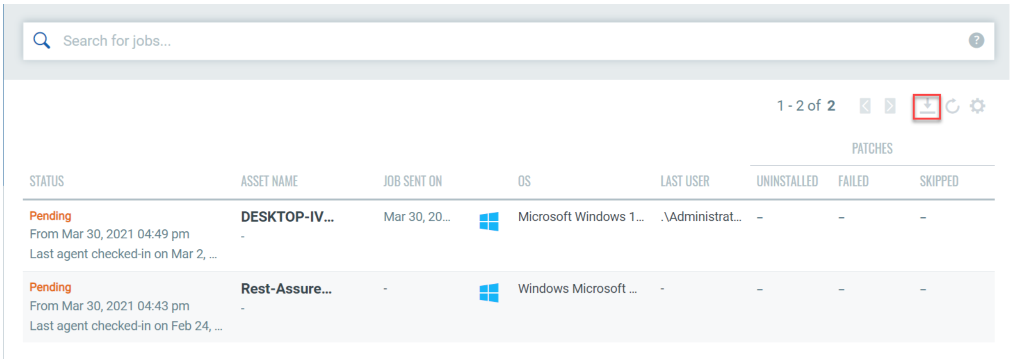
The Report Download Request Status page lists all the reports that are ready to download or are being generated. Once the reports are generated, click to download the report and then simply unzip the file to view the data.



The report is available to download for 7 days after which it will expire.

STATUS	REQUESTED ON	EXPIRES ON	FILE SIZE	TAB NAME	QUERY	ACTIONS
Ready	Mar 25, 2021	Apr 01, 2021	33.09 KB	PATCH	patchStatus:[Missing] and isSuperseded:false	⤓
Ready	Mar 25, 2021	Apr 01, 2021	33.19 KB	PATCH	patchStatus:[Missing] and isSuperseded:false	⤓
Ready	Mar 25, 2021	Apr 01, 2021	756.88 KB	PATCH	-	⤓
Ready	Mar 25, 2021	Apr 01, 2021	240.00 ...	PATCH	patchStatus:[Missing] and isSuperseded:false AND name:abcd or abcd	⤓
Ready	Mar 25, 2021	Apr 01, 2021	481.00 ...	JOB_PROGRESS	(jobId:26fce584-fc2a-44ba-8e9d-ed2b39c606b7)	⤓

You can also export the data from the Job Progress tab. To download the individual job details. go to Jobs > Quick Actions > View Progress > Download.



						PATCHES		
STATUS	ASSET NAME	JOB SENT ON		OS	LAST USER	UNINSTALLED	FAILED	SKIPPED
Pending From Mar 30, 2021 04:49 pm Last agent checked-in on Mar 2, ...	DESKTOP-IV... -	Mar 30, 20...	⊞	Microsoft Windows 1...	.\Administrat...	–	–	–
Pending From Mar 30, 2021 04:43 pm Last agent checked-in on Feb 24, ...	Rest-Assure... -	-	⊞	Windows Microsoft ...	-	–	–	–

URLs to be Whitelisted For Patch Download

This section provides a list of URLs that you must whitelist for the Cloud Agent to successfully download patches on your assets.

These URLs must be allowed access through firewalls or other content blocking methods to properly retrieve patches from the patch vendors. The Qualys Cloud Agent must get access to these URLs to successfully download patches. If you are using a Qualys Gateway Service (QGS) proxy, ensure that it has access to the URLs as well so that it can download and cache the patches.

NOTE: To obtain the IP Address for vendor sites you can ping the vendor site or contact the vendor to obtain this information. We are unable to provide a list of IP addresses due to the varied dynamic IP addresses being used by the vendors.

It may be easier to create an exception for an entire domain rather than entering all specific URLs. You can usually do so by entering the exception in this format:

```
*.domain.com
```

List of URLs to be whitelisted

ftp://ftp.attglobal.net

http://34e34375d0b7c22eafcf-c0a4be9b34fe09958cbea1670de70e9b.r87.cf1.rackcdn.com

http://airdownload.adobe.com

http://appldnld.apple.com

http://appldnld.apple.com.edgesuite.net

http://ardownload.adobe.com

http://au.v4.download.windowsupdate.com

http://b1.download.windowsupdate.com

http://cache-download.real.com

http://cache.lumension.com

http://ccmdl.adobe.com

http://cdn01.foxitsoftware.com

http://cdn02.foxitsoftware.com

http://cdn03.foxitsoftware.com

http://cdn06.foxitsoftware.com

http://cdn09.foxitsoftware.com

http://cdn1.evernote.com

http://citrixreceiver491000.html

http://citrixreceiver492000.html

http://citrixreceiver493000.html

http://content.ivanti.com

http://dl.delivery.mp.microsoft.com

http://dl.google.com

http://dl3.xmind.net

http://download-origin.cdn.mozilla.net

http://download.adobe.com

http://download.autodesk.com

http://download.betanews.com

http://download.ccleaner.com

http://download.cdburnerxp.se

http://download.gimp.org

http://download.macromedia.com

http://download.microsoft.com

http://download.notepad-plus-plus.org

http://download.oldfoss.com

http://download.pdfforge.org

http://download.piriform.com

http://download.royalapplications.com

http://download.teamviewer.com

http://download.techsmith.com

http://download.videolan.org

http://download.virtualbox.org

http://download.windowsupdate.com

http://download.winzip.com

http://download2.operacdn.com

http://download3.operacdn.com

http://download3.vmware.com

http://download3.xnview.com

http://download4.operacdn.com

http://downloadarchive.documentfoundation.org

http://downloads.hpe.com

http://downloads.pdf-xchange.com

http://downloads.sourceforge.net

http://dwnld.windvdpro.com

http://files2.zimbra.com

http://fpdownload.macromedia.com

http://ftp.adobe.com

http://ftp.gimp.org

http://ftp.opera.com

http://ftp.osuosl.org

http://get.geo.opera.com

http://gigenet.dl.osdn.jp

http://install.nitropdf.com

http://jaist.dl.sourceforge.net

http://javadl.oracle.com

http://javadl.sun.com

http://jsimlo.sk

http://knowledge.autodesk.com

http://osdn.dl.osdn.jp

http://pspad.poradna.net

http://pumath.dl.osdn.jp

http://releases.mozilla.org

http://silverlight.dlservice.microsoft.com

http://sourceforge.net

http://support.citrix.com

http://support1.uvnc.com

http://updates-http.cdn-apple.com

http://www.7-zip.org

http://www.aimp.ru

http://www.coreftp.com

http://www.download.windowsupdate.com

http://www.fosshub.com

http://www.getpaint.net

http://www.goodsync.com

http://www.jam-software.com

http://www.rarlab.com

http://www.tightvnc.com

http://www.uvnc.com

http://www.wireshark.org

http://zoom.us

https://2.na.dl.wireshark.org

https://aimp.su

https://airdownload.adobe.com

https://allwaysync.com

https://app.ringcentral.com

https://archive.apache.org

https://archive.mozilla.org

https://ardownload2.adobe.com

https://assets.cdngetgo.com

https://astuteinternet.dl.sourceforge.net

https://atlassian.jfrog.io

https://ayera.dl.sourceforge.net

https://az764295.vo.msecnd.net

https://binaries.webex.com

https://builds.cdn.getgo.com

https://cdn.azul.com

https://cdn.gomlab.com

https://cdn01.foxitsoftware.com

https://cdn1.evernote.com

https://cfhcable.dl.sourceforge.net

https://clientupdates.dropboxstatic.com

https://content.ivanti.com

https://corretto.aws

https://cran.r-project.org

https://d11yldzmag5yn.cloudfront.net

https://d3pxv6yz143wms.cloudfront.net

https://data-cdn.mbamupdates.com

https://desktopassets.prezi.com

https://dl.bandicam.com/bandicut

https://dl.google.com

https://dl.teamviewer.com

https://dl.tvcdn.de

https://dl1.cdn.filezilla-project.org

https://dl3.cdn.filezilla-project.org

https://dl3.xmind.net

https://download-installer.cdn.mozilla.net

https://download.adobe.com

https://download.ccleaner.com

https://download.cdburnerxp.se

https://download.filezilla-project.org

https://download.gimp.org

https://download.microsoft.com

https://download.oracle.com

https://download.qsrinternational.com

https://download.royalapplications.com

https://download.skype.com

https://download.splunk.com

https://download.sublimetext.com

https://download.teamviewer.com

https://download.techsmith.com

https://download.tortoisegit.org

https://download.videolan.org

https://download.virtualbox.org

https://download.visualstudio.microsoft.com

https://download.winzip.com

https://download.xnview.com

https://download1.operacdn.com

https://download3.xnview.com

https://downloadplugins.citrix.com

https://downloads.hpe.com

https://downloads.jam-software.de

https://downloads.pdf-xchange.com

https://downloads.plex.tv

https://downloads.ringcentral.com

https://downloads.slack-edge.com

https://downloads.sourceforge.net

https://downloads.tableau.com

https://downloadus2.teamviewer.com

https://downloadus4.teamviewer.com

https://e3.boxcdn.net

https://endpoint920510.azureedge.net

https://files.zimbra.com

https://fpdownload.adobe.com

https://fpdownload.macromedia.com

https://ftp.opera.com

https://gensho.ftp.acc.umu.se

https://gigenet.dl.sourceforge.net

https://github.com

https://iweb.dl.sourceforge.net

https://jabraxpressonlineprdstor.blob.core.windows.net

https://knowledge.autodesk.com

https://launch.getgo.com

https://managedway.dl.sourceforge.net

https://master.dl.sourceforge.net

https://media.inkscape.org

https://meetings.webex.com

https://mirror.clarkson.edu

https://mirrors.gigenet.com

https://mirrors.xtom.com

https://msedge.sf.dl.delivery.mp.microsoft.com

https://neevia.com

https://netactuate.dl.sourceforge.net

https://nmap.org

https://nodejs.org

https://notepad-plus-plus.org

https://osdn.mirror.constant.com

https://osdn.net

https://packages.vmware.com

https://phoenixnap.dl.sourceforge.net

https://pilotfiber.dl.sourceforge.net

https://product-downloads.atlassian.com

https://razaoinfo.dl.sourceforge.net

https://s3.amazonaws.com/files.zimbra.com

https://secure-appldnld.apple.com

https://secure.logmein.com

https://secure.mozy.com

https://slack-ssb-updates.global.ssl.fastly.net

https://sourceforge.net

https://statics.teams.cdn.office.net

https://storage.googleapis.com

https://support.citrix.com

https://swdl.bluejeans.com

https://the.earth.li

https://versaweb.dl.sourceforge.net

https://web.mit.edu

https://www.7-zip.org

https://www.citrix.com

https://www.crowdstrike.com

https://www.fosshub.com

https://www.goodsync.com

https://www.irfanview.info

https://www.jam-software.com

https://www.mercurial-scm.org

https://www.morphisec.com

https://www.oracle.com

https://www.poly.com

https://www.rarlab.com

https://www.realvnc.com

https://www.scootersoftware.com

https://www.tightvnc.com

https://www.tracker-software.com

https://www.uvnc.com

https://www.wireshark.org