

LAB07: Keep your Azure Arc-enabled servers patched using Azure Update Manager

Student Lab Manual

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Lab overview

Azure Update Manager is the service that unifies all VMs running in Azure together with Azure Arc, putting all update tasks in 1 common area for all supported Linux and Windows versions.

In this Lab, you will setup Azure update manager and learn how to enable it to efficiently manage all updates for your machines, regardless of where they are. You will also see some of the default reports using workbooks to monitor your Azure update manager environment.

Exercise 1 - Enable Azure update manager for the Arc-enabled servers.

Objective

In this exercise, the goal is to see all the Arc-enabled servers in the Azure update manager portal and to be able to create an automatic recurring task to refresh the status of your machines.

Estimated Time to complete this lab

20 minutes

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Task 1: Use the Azure portal and search for Azure Update manager

- ☐ Find the Azure Update Manager in the Azure portal then click on "Machines" in the left blade to view all your Azure machines.

Note that all Azure VMs and Arc Server VMs are already visible in this Azure Update Manager service. In addition, the required extensions are installed on the *ArcBox-Win2k25* and *Arcbox-Ubuntu-01* Arc-enabled machines so that you can perform the tasks in this lab faster should you want to do that. As such these two machines might already show that they require some updates before carrying out the assessment in the following steps.

The screenshot shows the Azure Update Manager interface. The left sidebar has a 'Machines' button highlighted with a red box. The main area displays summary statistics: Total machines (4), No updates data (1), No pending updates (0), Pending updates (3), and Pending reboot (0). Below this is a table of machine details:

Name	Update status	ESU Status	Operating system	Resource type
ArcBox-Client	5 pending updates	N/A	Windows	Azure virtual machine
Arcbox-Ubuntu-01	45 pending updates	N/A	Linux	Arc-enabled server
ArcBox-Win2K22	No updates data	N/A	Windows	Arc-enabled server
Arcbox-Win2k25	4 pending updates	N/A	Windows	Arc-enabled server

- ☐ Select the Arc-enabled machines and click on the refresh button to refresh the current status of the selected VMs.

The screenshot shows the Azure Update Manager Machines page. At the top, there are summary cards for Total machines (5), No updates data (2), No pending updates (0), Pending updates (3), Pending reboot (0), and Unsupported (0). Below this is a table listing five machines: Arcbox-Client, Arcbox-Ubuntu-01, arcbox-ubuntu-02, ArcBox-Win2k22, and Arcbox-Win2k25. The first four machines are highlighted with a red box. The table includes columns for Name, Update status, ESU Status, Operating system, Resource type, Patch orchestration, and Periodic assessment.

Name	Update status	ESU Status	Operating system	Resource type	Patch orchestration	Periodic assessment
Arcbox-Client	1 pending updates	N/A	Windows	Azure virtual machine	Customer Managed Sched...	No
Arcbox-Ubuntu-01	45 pending updates	N/A	Linux	Arc-enabled server	N/A	Yes
arcbox-ubuntu-02	No updates data	N/A	Linux	Arc-enabled server	N/A	No
ArcBox-Win2k22	No updates data	N/A	Windows	Arc-enabled server	N/A	Yes
Arcbox-Win2k25	4 pending updates	N/A	Windows	Arc-enabled server	N/A	Yes

3. **Optional** - you can enable automatic recurring task for at scale refresh once every 24 hours.

select the Arc-enabled servers, click on settings then choose update settings, and set the periodic assessment drop down to enable.

Note that the rest of the VMs will automatically be enabled.

The screenshot shows the 'Change update settings' page. It displays update settings for four selected machines: ArcBox-Win2k22, Arcbox-Win2k25, Arcbox-Ubuntu-01, and arcbox-ubuntu-02. The 'Periodic assessment' dropdown is set to 'Enable (current)' for all machines. The 'Hotpatch' dropdown is set to 'Not available' for ArcBox-Win2k22 and Arcbox-Ubuntu-01, and 'Enrollment available' for Arcbox-Win2k25 and arcbox-ubuntu-02. The 'Patch orchestration' dropdown is set to 'Select and apply to all' for all machines. At the bottom, there are 'Save' and 'Cancel' buttons.

Task 1 has been completed

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Exercise 2 - Apply machine updates for the Arc-enabled servers using Azure update manager

Objective

In this exercise, the goal is to apply machine updates for your Azure VMs including Azure Arc-enabled VMs using maintenance configuration and one time updates.

Estimated Time to complete this lab

30 minutes

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Task 1: Create a maintenance configuration from Azure update manager.

- Click on *Maintenance configuration* under the "Manage" blade on the left as shown below, then select *Create maintenance configuration*.

Name	Update status	ESU Status	Operating system	Resource type	Patch orchestration	Periodic assessment	Associated schedules	Status
Arclbox-Client	2 pending updates	N/A	Windows	Azure virtual machine	Customer Managed Sched...	Yes	-	VM deallocated
Arclbox-Ubuntu-01	24 pending updates	N/A	Linux	Arc-enabled server	N/A	Yes	-	Disconnected
Arclbox-ubuntu-02	20 pending updates	N/A	Linux	Arc-enabled server	N/A	Yes	-	Disconnected
Arclbox-Win2K22	1 pending update	N/A	Windows	Arc-enabled server	N/A	Yes	-	Disconnected
Arclbox-Win2K25	No updates data	N/A	Windows	Arc-enabled server	N/A	Yes	-	Disconnected

- Fill out the basics tab as shown below, make sure you choose a region based on your location. Leave the rest as default.

Note For countries in Asia and Europe, it is a good idea to use second Tuesday + 1 day to coincide with Patch Tuesday. Do not use "Second Wednesday of the month".

3. **Optional** click on dynamic scopes > click on the subscriptions where your Arc-enabled machines are > click on "filter by" option and choose how machines are added to this maintenance configuration (by OS, location, resource group)

In this guide, we filtered by the OS type as shown below.

The screenshot shows the 'Edit dynamic scope' page in the Azure Update Manager. On the left, there's a table titled 'Preview of machines based on above scope' listing five machines: ArcBox-Client, ArcBox-Ubuntu-01, arcbox-ubuntu-02, ArcBox-Win2K22, and ArcBox-Win2K23. Each machine has a small icon, name, operating system (Windows or Linux), resource type (Virtual machine or Server - Azure Arc), patch orchestration status (Customer Managed Schedules or -), and current status (VM running or Connected). Below the table are 'Save' and 'Cancel' buttons. On the right, a sidebar titled 'Select filter by' is open, showing a tree structure for filtering: Resource groups (No items selected), Resource types (All items selected), Locations (No items selected), OS types (All items selected), and Tags (No tags selected). Under OS types, 'Linux' and 'Windows' are checked. At the bottom of the sidebar are 'Filter items...', 'Select all', and 'Ok' buttons, with 'Ok' also being highlighted with a red box.

Note: If you want to enable dynamic scopes, you will need to enable the "Dynamic Scoping" preview feature in the subscription.

The screenshot shows the 'Subscriptions' page in the Azure portal. On the left, there's a sidebar with 'Subscriptions' and a search bar. The main area shows a single subscription named 'LODS-Prod-MCA (LODSPRODMCA.onmicrosoft.com)'. Below it, there are filters for 'Subscriptions : Filtered (1 of 1)' and 'Subscription name'. On the right, a 'Preview features' blade is open under the 'Settings' tab. It shows a search bar with 'dynamic' and a list of preview features. One feature, 'Dynamic Scoping', is highlighted with a red box. The blade also includes sections for 'Exploring pre-release features with Preview Features' and 'Display Name' and 'State' columns for the listed features.

4. Click on the *Resources* tab to choose machines specifically instead of dynamically.

The screenshot shows the 'Create a maintenance configuration' page in the Azure Update Manager. The 'Resources' tab is highlighted with a red box. Below it, a note says: 'Assign resources to this maintenance configuration now, or assign them after the maintenance configuration deploys. You're limited to five resource assignments now, but you can add as many as you like after deployment.' A 'Add resources' button is also highlighted with a red box. The main table has columns for Name, Type, Resource group, Location, and Subscription.

The screenshot shows the 'Select resources' dialog. It lists five Azure Arc virtual machines under the 'Available' section. The machines are: ArcBox-Client, Arcbox-Ubuntu-01, arcbox-ubuntu-02, ArcBox-Win2k22, and Arcbox-Win2k25. Each machine is listed with its name, type (Virtual machine or Server - Azure Arc), resource group (arcbox-levelup or arcbox), location (centralus), subscription (Windows or Linux), operating system (Windows or Linux), and patch orchestration options (Customer Managed Schedules). A note at the top says: 'Some virtual machines aren't available due to unsupported patch orchestration options. Some Arc virtual machines aren't available due to unsupported regions.' A 'Selected (0)' section is also present.

5. Click on the updates tab to choose what type of updates will be installed by this config as shown below.

Create a maintenance configuration

1. Updates tab selected.

2. Included classifications section highlighted.

3. Add button highlighted.

4. Review + create button highlighted.

Task 1 has been completed

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Task 2: Apply one-time updates from Azure update manager.

Instead of using maintenance configs with specific recurring cycles, you can also setup one-time updates (immediately!). Start by forcing an immediate refresh.

- Select your Arc-enabled machines, select "Check for updates" from the top menu

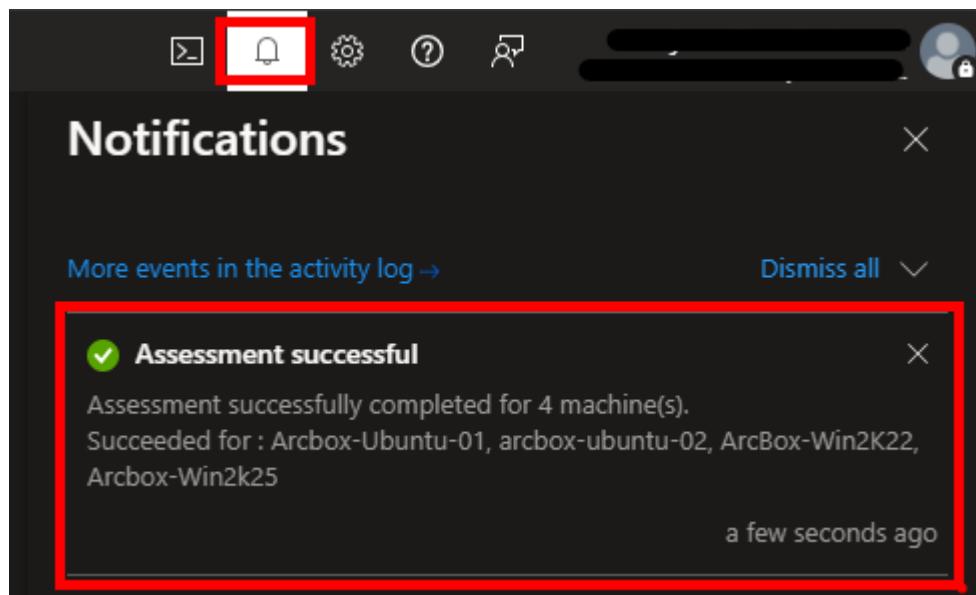
1. Machines selected in sidebar.

2. Check for updates button selected in top navigation.

3. Check for updates button selected in modal dialog.

Name	Update status	ESU Status	Operating system	Resource type	Patch orchestration	Periodic assessment
Arcbox-Client	5 pending updates	N/A	Windows	Azure virtual machine	Customer Managed Scheme	No
Arcbox-Ubuntu-01	45 pending updates	N/A	Linux	Arc-enabled server	N/A	No
arcbox-ubuntu-02	No updates data	N/A	Linux	Arc-enabled server	N/A	No
ArcBox-Win2K22	No updates data	N/A	Windows	Arc-enabled server	N/A	No
Arcbox-Win2k25	4 pending updates	N/A	Windows	Arc-enabled server	N/A	No

- Wait for the assessment to finish then select from the top as shown below.



This screenshot shows the 'Machines' tab in the Azure Update Manager. A red box highlights the 'One-time update' button in the top navigation bar. Below it, a modal dialog box is also highlighted with a red border. The dialog title is 'Install updates now for 4 selected machine(s)'. It contains a note: 'There may be never updates available to choose from. We strongly recommend you to check for updates prior to installing update(s.)'. It has 'Add machines' and 'Cancel' buttons. The main page shows summary statistics: Total machines (5), No updates data (0), No pending updates (0), Pending updates (5), Pending reboot (0), and Unsupported (0). Below is a detailed table of 5 selected machines, each with pending updates. The table includes columns for Name, Update status, ESU Status, Operating system, Resource type, Patch orchestration, and Periodic assessment.

Name	Update status	ESU Status	Operating system	Resource type	Patch orchestration	Periodic assessment
ArcBox-Client	5 pending updates	N/A	Windows	Azure virtual machine	Customer Managed Sch...	No
Arcbox-Ubuntu-01	40 pending updates	N/A	Linux	Arc-enabled server	N/A	No
arcbox-ubuntu-02	80 pending updates	N/A	Linux	Arc-enabled server	N/A	No
ArcBox-Win2K22	4 pending updates	N/A	Windows	Arc-enabled server	N/A	No
Arcbox-Win2k25	4 pending updates	N/A	Windows	Arc-enabled server	N/A	No

3. Confirm your machines selection from the machines tab.

This screenshot shows the 'Install one-time updates' page. A red box highlights the 'Updates' tab in the top navigation bar. Below it, a table lists the selected machines for update installation. The table includes columns for Machine Name, Update status, Operating system, and Resource type. Each machine row has a checkbox next to it.

Machine Name	Update status	Operating system	Resource type
Arcbox-Ubuntu-01	40 pending updates	Linux	Arc-enabled server
arcbox-ubuntu-02	80 pending updates	Linux	Arc-enabled server
arcbox-win2k22	4 pending updates	Windows	Arc-enabled server
Arcbox-Win2k25	4 pending updates	Windows	Arc-enabled server

4. Click on the updates tab and select updates of your choice to apply to your machines.

The screenshot shows the 'Install one-time updates' section of the Azure Update Manager. At the top, there are filtering options: '+ Select by update classification', '+ Include by KB ID/package', '+ Exclude by KB ID/package', and '+ Include by maximum patch publish date'. Below this is a table for 'Operating system' and 'Selected classifications'.

Operating system	Selected classifications	Included KB ID/packages	Excluded KB ID/packages	Exclude KBs requiring reboot	Included maximum patch publish date
Windows	All classifications	None	None	No	None
Linux	All classifications	None	None	N/A	N/A

Preview of selected updates to install

Windows updates to install (7)

Updates listed here are as per the last assessment done on respective machines. Newer updates may not have been added to the list below. To get information on the latest available updates, we recommend you perform a fresh assessment before installing updates.

Filter by name, KBID... Classifications : All Updates added by : All Reboot behavior : All Maximum publish date

Showing 7 updates

Update name	Classification	Added By	KBID/version	Applied to machines	Reboot status	Published date
Windows Malicious Software Remo... UpdateRollup	Classification	890830	2	CanRequestReboot	11/12/2024, 12:00:00 AM	
Security Intelligence Update for Mi... Definition	Classification	2267602	2	NeverReboots	11/19/2024, 12:00:00 AM	
PowerShell v7.4.6 (x64)	Updates	Classification	2	CanRequestReboot	10/29/2024, 12:00:00 AM	
2024-11 Cumulative Update for Wi... Security	Classification	5046615	1	CanRequestReboot	11/12/2024, 12:00:00 AM	

Previous Next 118 updates selected across 4 machines

5. Click on the properties tab and select "reboot if required" and "60 minutes" for the Maintenance window.

The screenshot shows the 'Properties' tab of the 'Install one-time updates' wizard. It has tabs for 'Machines', 'Updates', 'Properties' (which is selected), and 'Review + install'. The 'Properties' section title is 'Install one-time updates on your machines. The properties below will be applied to all selected machines.' Below this are two configuration fields:

- Reboot option ***: A dropdown menu set to 'Reboot if required'.
- Maintenance window (in minutes) ***: An input field containing the value '60'.

At the bottom are 'Previous' and 'Next' buttons.

6. Wait for a few hours and a few reboots - this can take repeated forcing for machines that have not been updated for a long time.

Task 2 has been completed

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Exercise 3 - Monitor Azure update manager using the update reports.

Objective

In this exercise, the goal is to view different reports in Azure update manager that relate to your Azure Arc-enabled servers and how to navigate through them.

Estimated Time to complete this lab

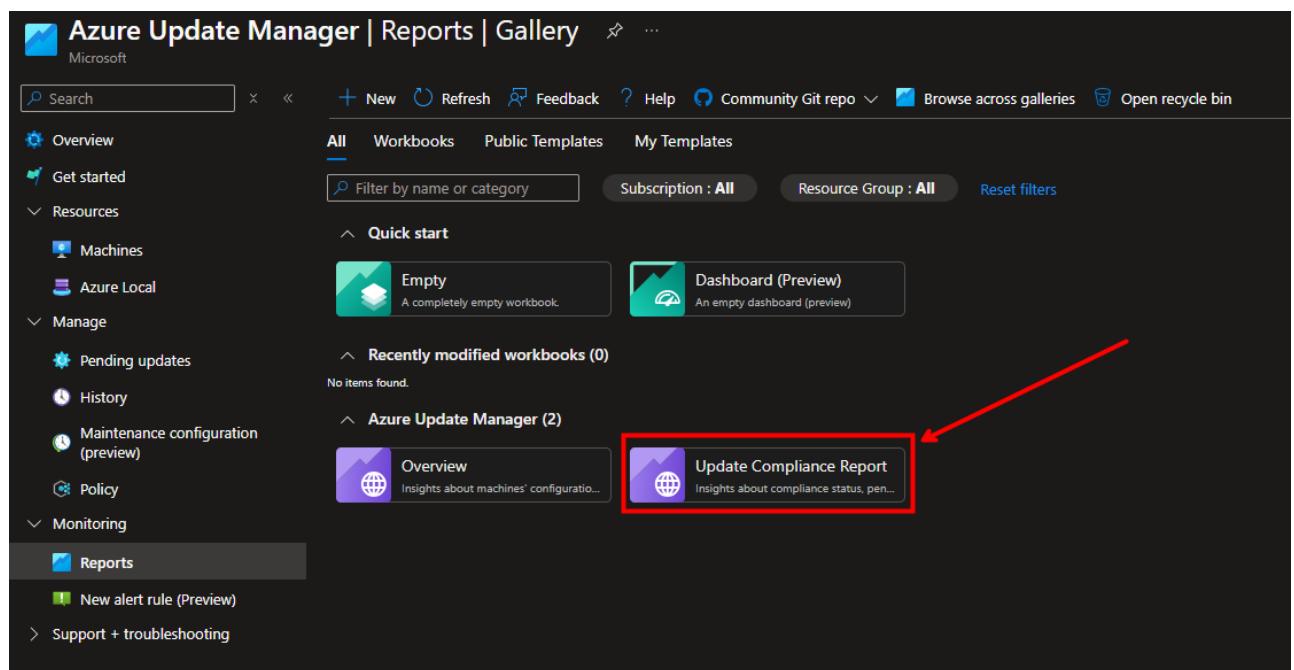
20 minutes

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Task 1: Deploy the Azure update manager Overview workbook.

Under the Monitoring part of the Update Manager, there is a default workbook, which is an overview of the Azure Update Manager. There are a few views in there that show the total number of machines connected, history of runs, and the status.

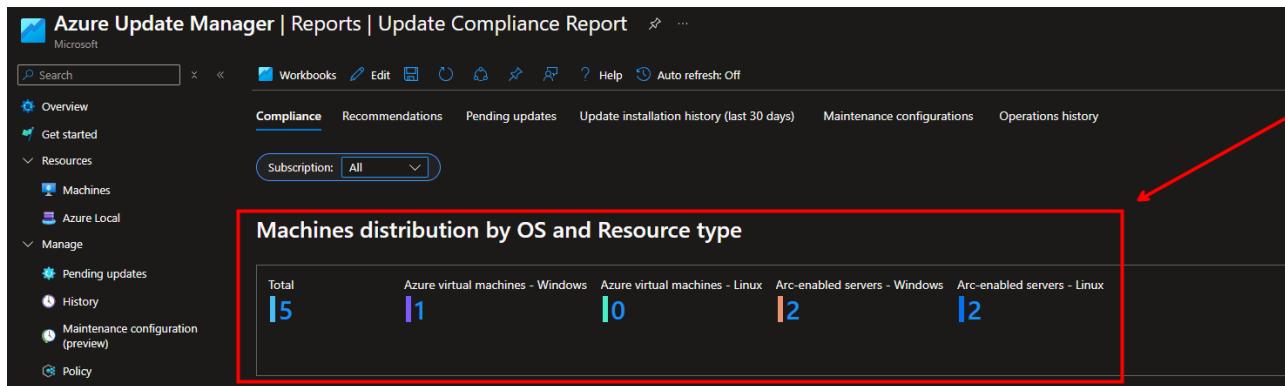
1. In Azure Update Manager, click on *Reports* under Monitoring. Select *Overview*.



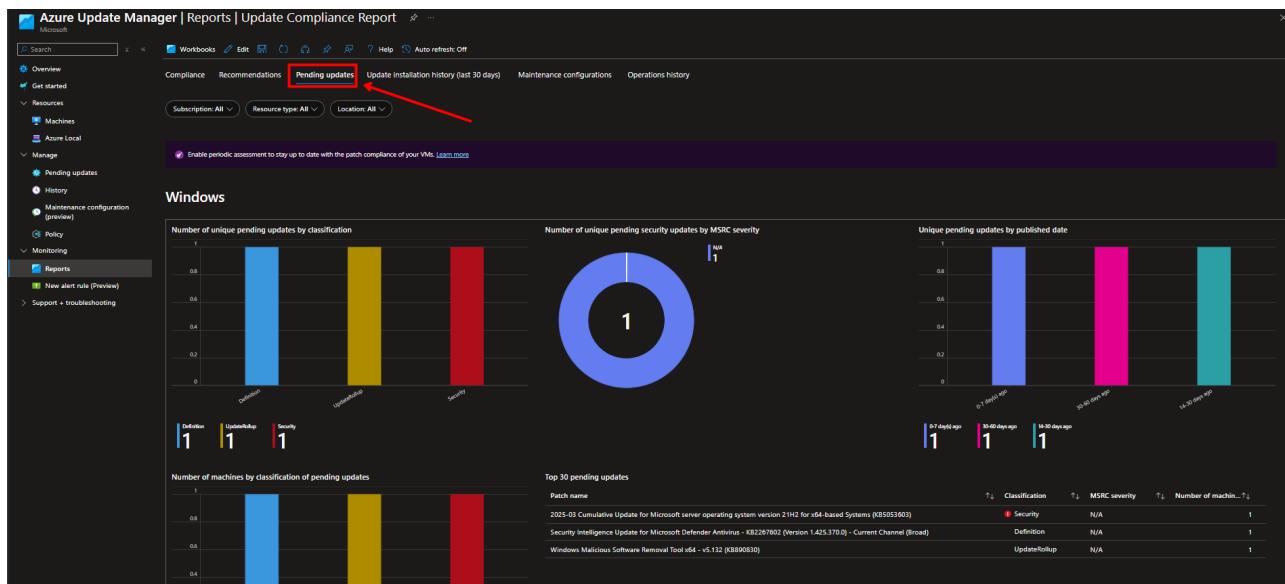
2. Select the subscription that has your Azure Arc-enabled servers.

Note that there are a number of views in there that show the total number of machines connected, history of runs, and the status.

3. Expand the "Machines overall status & configurations" view of currently connected machines, split by Azure and Azure Arc VMs, and Windows and Linux numbers. Notice the View of manual vs periodic assessments and manual vs automatically updated



4. Expand the "Updates Data Overview" view and look at the updates by classification



Please expand the rest of the views "Schedules/maintenance configurations" and "History of installation runs" to visualize the updates running in Azure Update manager.

Task 1 has been completed

Congratulations, you have completed all tasks in this lab

Click **Next** for the next lab or **Go back to the main table of content**