Week 10 Assignment 1: Azure Monitor, Microsoft Defender for cloud, Enable Just-In Time Access in VMs, Microsoft Sentinel

Introduction

1. Azure Monitor

Azure Monitor is a comprehensive monitoring solution for collecting, analyzing, and responding to monitoring data from your cloud and on-premises environments. You can use Azure Monitor to maximize the availability and performance of your applications and services. It helps you understand how your applications are performing and allows you to manually and programmatically respond to system events. Azure Monitor collects and aggregates the data from every layer and component of your system across multiple Azure and non-Azure subscriptions and tenants. It stores it in a common data platform for consumption by a common set of tools that can correlate, analyze, visualize, and/or respond to the data. You can also integrate other Microsoft and non-Microsoft tools.

Azure Monitor gives full visibility into your environment. It's your eyes and ears for performance, security, and troubleshooting.

What it does:

- Collects logs and metrics from all Azure resources
- Provides dashboards, alerts, and visualizations
- Helps diagnose performance issues
- Tracks application availability & health

2. Microsoft Defender for Cloud

Microsoft Defender for Cloud is a Cloud Native Application Protection Platform (CNAPP), which is a unified solution that combines multiple cloud security tools to protect applications across their entire lifecycle. The solution provides a comprehensive view of your security posture across your cloud and on-premises

resources. It also helps you secure multicloud and hybrid environments and integrates security into DevOps workflows.

It has three core components:

1. **Cloud Security Posture Management (CSPM)** checks and improves the security posture of cloud resources.
2. **Development Security Operations (DevSecOps)** manages code-level security across multicloud and multi-pipeline environments.
3. **Cloud Workload Protection Platform (CWPP)** defends workloads such as virtual machines (VMs), containers, storage, databases, and serverless functions from threats.

Defender for Cloud uses its broader Cloud Native Application Protection Platform (CNAPP) capabilities to unify protections into one experience. Defender for Cloud embeds security early in the development lifecycle. It helps DevOps teams find misconfigurations, apply policies, and fix risks early. Defender for Cloud integrates with the Defender XDR portal and the Microsoft Security ecosystem, offering unified posture management and SOC experiences.

In addition to its core CNAPP capabilities, Defender for Cloud delivers AI security and AI threat protection to safeguard generative AI workloads throughout their lifecycle. These features help you discover AI applications, identify vulnerabilities, reduce risks, and detect threats targeting your generative AI workloads.

What it does:

- Continuously evaluates your security posture
- Gives secure score recommendations
- Detects threats across VMs, storage, databases, containers, and networks
- Provides hardening and vulnerability insights
- Integrates with Azure, AWS, and GCP

Why it's important:

It helps identify misconfigurations (like public buckets, open ports, weak passwords) and protects workloads from attacks using real-time threat detection.

3. Just-In-Time (JIT) VM Access

Just-in-Time (JIT) VM Access is a security feature, prominent in Microsoft Defender for Cloud (Azure), that locks down management ports (like SSH/RDP) on virtual machines, only opening them dynamically for a limited time when requested and approved, drastically reducing the attack surface from constant exposure. It works by temporarily modifying Network Security Group (NSG) rules to allow specific IP access, then automatically closing them after the set period, preventing unauthorized breaches and simplifying secure access for legitimate users

Why it's important:

- Prevents brute-force attacks
- Reduces the attack surface significantly
- Ensures access is controlled, logged, and temporary

4. Microsoft Sentinel

Microsoft Sentinel is a cloud-native SIEM solution that delivers scalable, cost-efficient security across multicloud and multiplatform environments. It combines AI, automation, and threat intelligence to support threat detection, investigation, response, and proactive hunting. It centralizes logs, detects threats, and automates responses to reduce attack impact.

Microsoft Sentinel SIEM empowers analysts to anticipate and stop attacks across clouds and platforms, faster and with greater precision.

Microsoft Sentinel inherits the Azure Monitor tamper-proofing and immutability practices. While Azure Monitor is an append-only data platform, it includes provisions to delete data for compliance purposes.

What it does:

- Collects and correlates security logs from Azure, AWS, GCP, and on-prem
- Detects threats using built-in analytics and machine learning
- Enables incident investigation and hunting
- Automates responses through playbooks
- Provides dashboards for security events

Lab 08: Create a Log Analytics Workspace, Azure Storage Account, and Data Collection Rule (DCR)

A **Log Analytics workspace** is a data store into which you can collect any type of log data from all of your Azure and non-Azure resources and applications. Workspace configuration options let you manage all of your log data in one workspace to meet the operations, analysis, and auditing needs of different personas in your organization through:

- Azure Monitor features, such as built-in insights experiences, alerts, and automatic actions
- Other Azure services, such as Microsoft Sentinel, Microsoft Defender for Cloud, and Logic Apps
- Microsoft tools, such as Power BI and Excel
- Integration with custom and third-party applications

Data collection rules (DCRs) are part of an Extract, transform, and load (ETL)-like data collection process that improves on legacy data collection methods for Azure Monitor. This process uses a common data ingestion strategy for all data sources

and a standard method of configuration that's more manageable and scalable than previous collection methods.

Specific advantages of DCR-based data collection include:

- Consistent method for configuration of different data sources.
- Ability to apply a transformation to filter or modify incoming data before it's sent to a destination.
- Scalable configuration options supporting infrastructure as code and DevOps processes.
- Option of Azure Monitor pipeline in your own environment to provide high-end scalability, layered network configurations, and periodic connectivity.

Lab scenario

As an Azure Security Engineer for a financial technology company, you are tasked with enhancing monitoring and security visibility across all Azure virtual machines (VMs) used for processing financial transactions and managing sensitive customer data. The security team requires detailed logs and performance metrics from these VMs to detect potential threats and optimize system performance. The Chief Information Security Officer (CISO) has asked you to implement a solution that collects security events, system logs, and performance counters. You have been assigned to configure the Azure Monitor Agent (AMA) along with Data Collection Rules (DCRs) to centralize log collection and performance monitoring.

Lab objectives

In this lab, you will complete the following exercises:

- Exercise 1: Deploy an Azure virtual machine
- Exercise 2: Create a Log Analytics workspace
- Exercise 3: Create an Azure storage account

- Exercise 4: Create a data collection rule

Instructions

Exercise 1: Deploy an Azure virtual machine

In this exercise, I completed the following tasks:

Task 1: Deploy an Azure virtual machine

1. Sign-in to the Azure portal https://*portal.azure.com/*.
   Sign in to the Azure portal using an account that has the Owner or Contributor role in the Azure subscription you are using for this lab. In this Cloudslice lab, this account is LabUser-57445941@LODSPRODMCA.onmicrosoft.com with TAP 9-A*LpfA.
2. Open the Cloud Shell by clicking the first icon in the top right of the Azure Portal. If prompted, select PowerShell.
3. Ensure PowerShell is selected in the drop-down menu in the upper-left corner of the Cloud Shell pane.
4. In the Getting started window, leave the default setting as is: Select a subscription to get started. You can optionally mount a storage account to persist files between sessions. No storage account required.
5. From the Subscription drop-down menu, select your lodsubscription.
6. Leave Use an existing private virtual network unchecked, then click Apply.
7. In the PowerShell session within the Cloud Shell pane, run the following to create a resource group that will be used in this lab:

```
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New-AzResourceGroup -Name AZ500LAB131415 -Location 'EastUS'
```

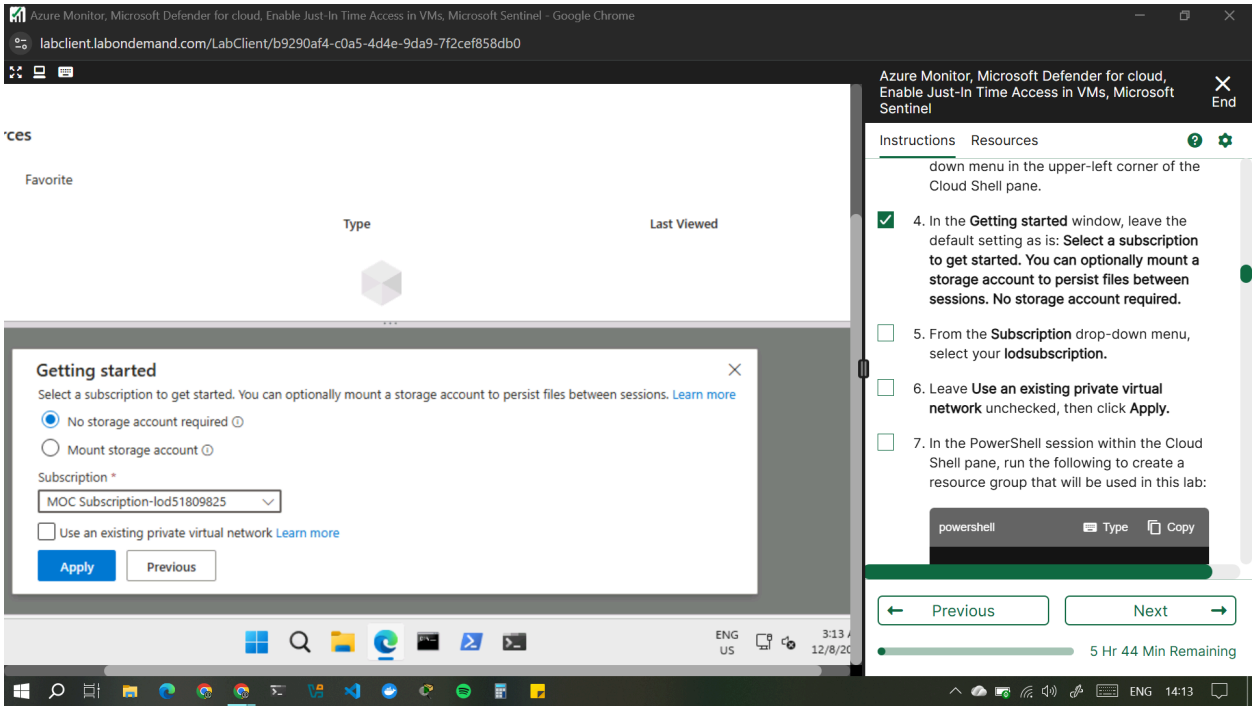

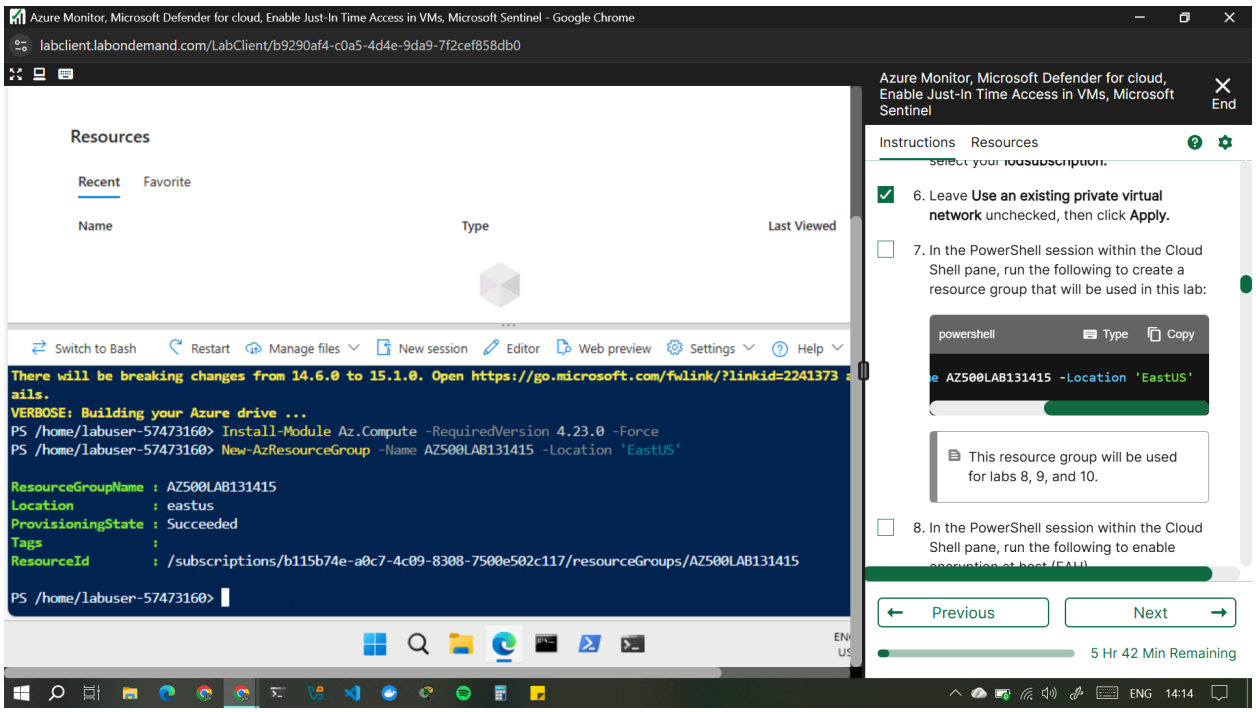

8. This resource group will be used for labs 8, 9, and 10.

9. In the PowerShell session within the Cloud Shell pane, run the following to enable encryption at host (EAH)

Encryption at host (or host-based encryption) is a security feature, prominent in cloud platforms like Azure, that encrypts data directly on the virtual machine's host server, providing end-to-end encryption for VM data (OS/data disks, temporary disks, caches) as it moves to and rests in storage, without impacting VM performance. It enhances default encryption by securing data at rest and in transit between the host and storage, ensuring data remains encrypted from the moment it's generated on the host until it's persisted.

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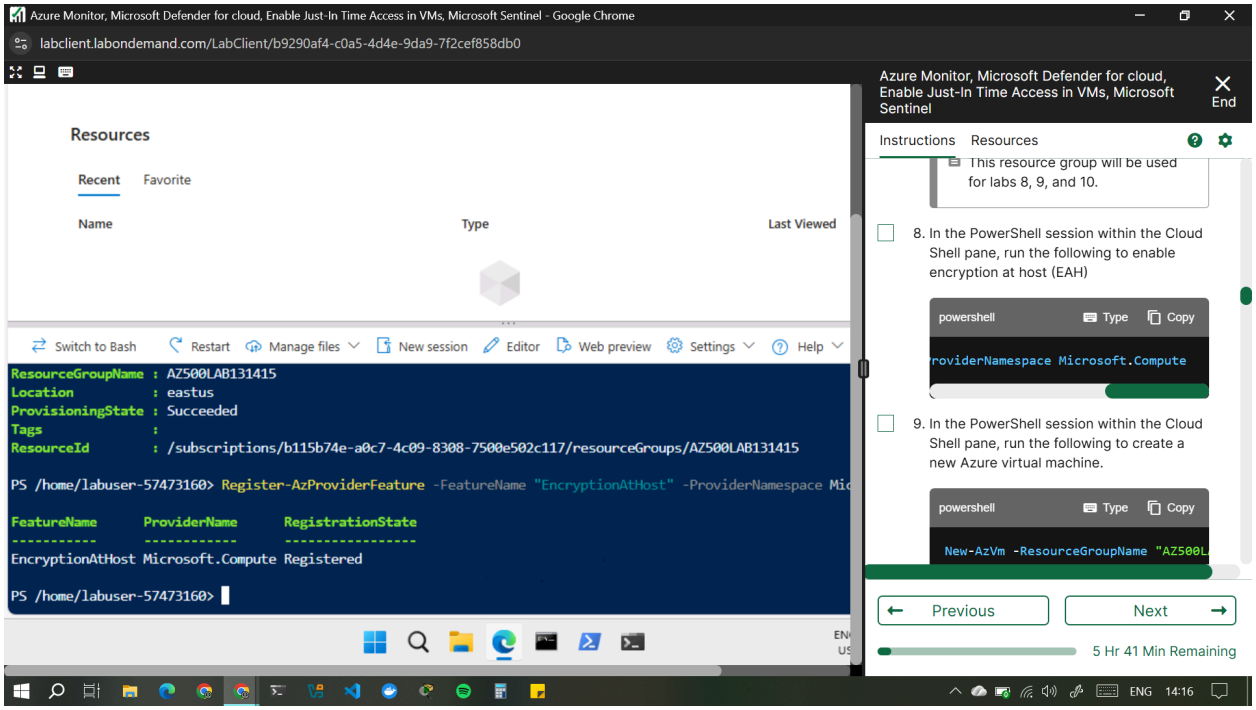
```
Register-AzProviderFeature -FeatureName "EncryptionAtHost"
-ProviderNamespace Microsoft.Compute
```



10. In the PowerShell session within the Cloud Shell pane, run the following to create a new Azure virtual machine.

```
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New-AzVm -ResourceGroupName "AZ500LAB131415" -Name "myVM"
-Location 'EastUS' -VirtualNetworkName "myVnet" -SubnetName
"mySubnet" -SecurityGroupName   "myNetworkSecurityGroup"
-PublicIpAddressName "myPublicIpAddress" -PublicIpSku Standard
-OpenPorts 80,3389 -Size Standard_D2s_v3
```

11. When prompted for credentials:

Setting	Value

User	localadmin
Password	Please use your personal password created in Lab 02 > Exercise 2 > Task 1 > Step 3.

12. Wait for the deployment to complete.
13. In the PowerShell session within the Cloud Shell pane, run the following to confirm that the virtual machine named myVM was created and its ProvisioningState is Succeeded.

```
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Get-AzVM -Name 'myVM' -ResourceGroupName 'AZ500LAB131415' | Format-Table
```
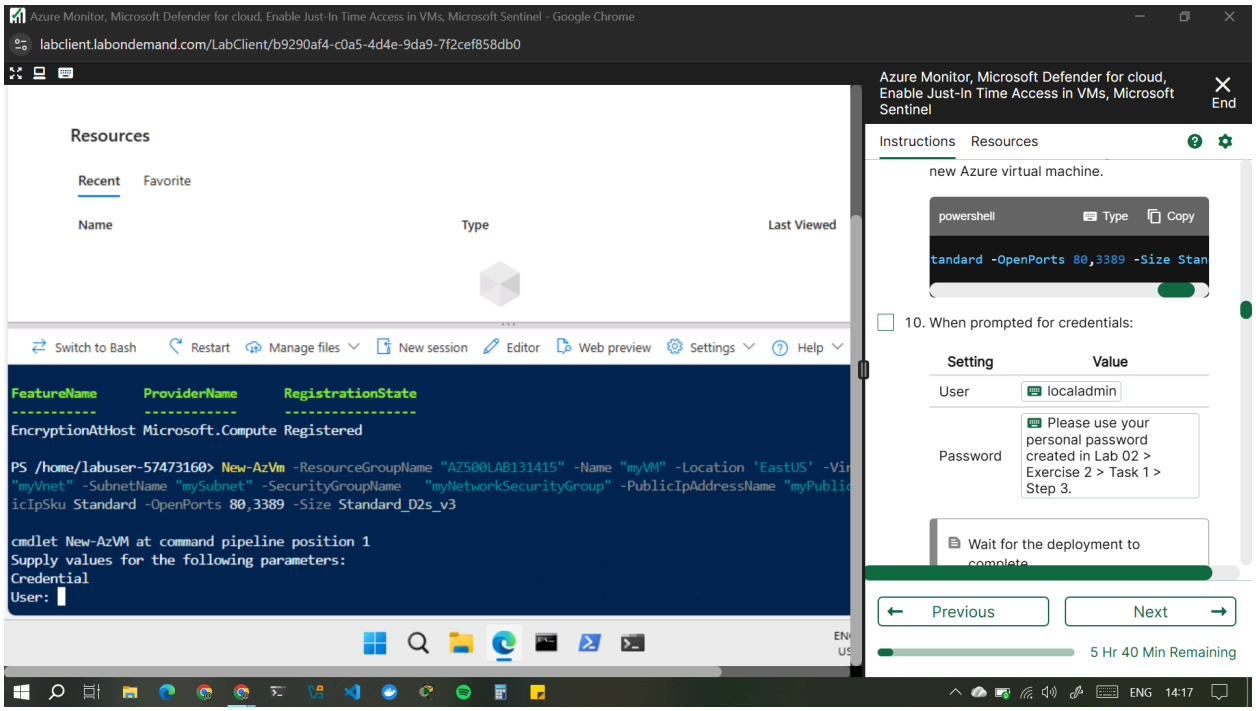
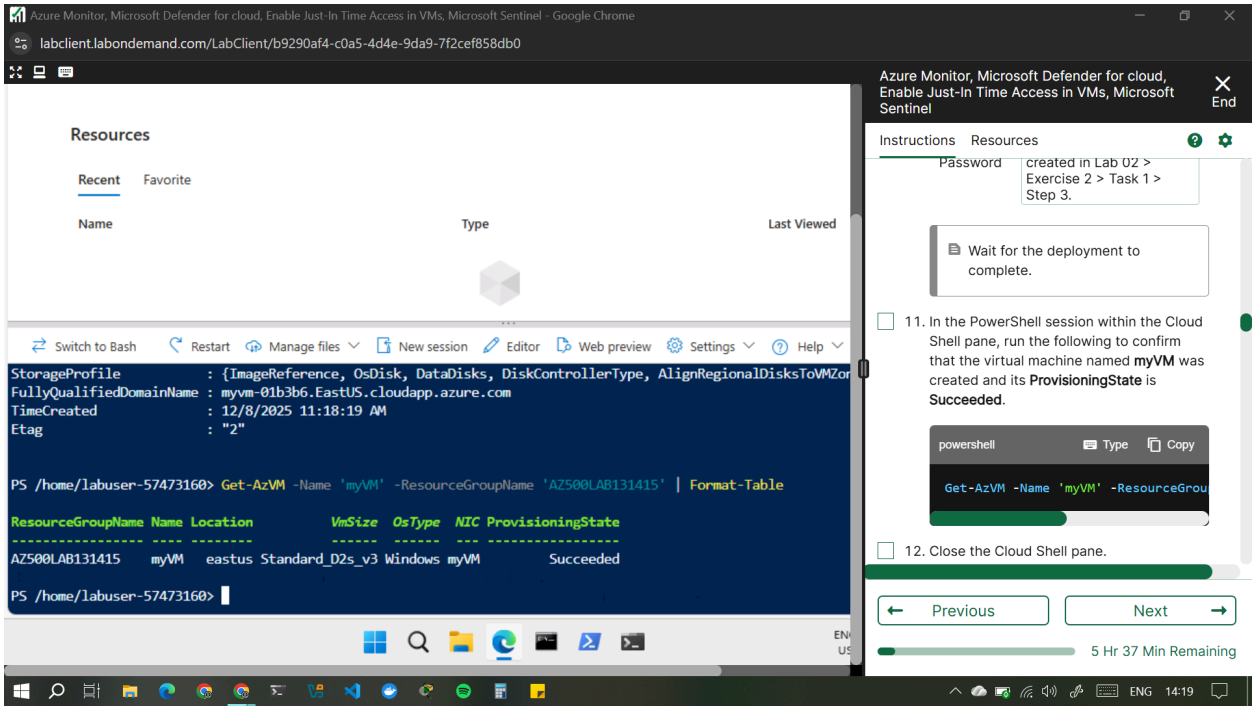





Exercise 2: Create a Log Analytics workspace

In this exercise, I completed the following tasks:

Task 1: Create a Log Analytics workspace

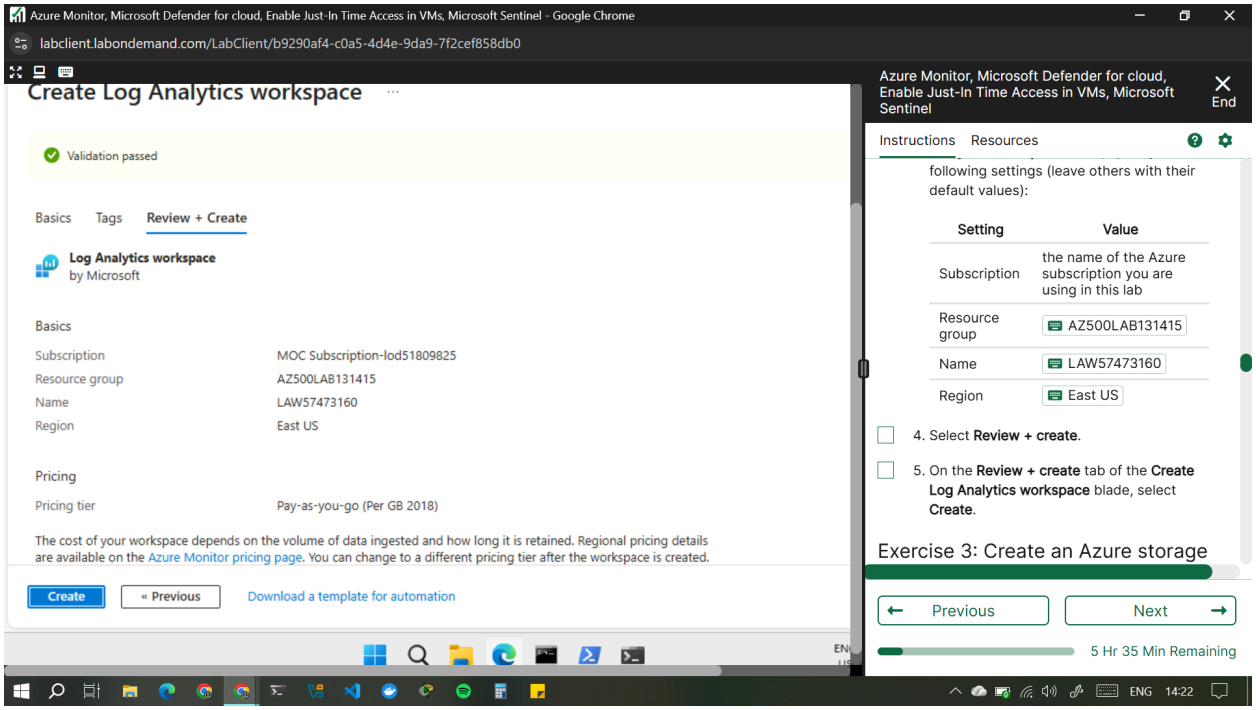
In this task, you will create a Log Analytics workspace.

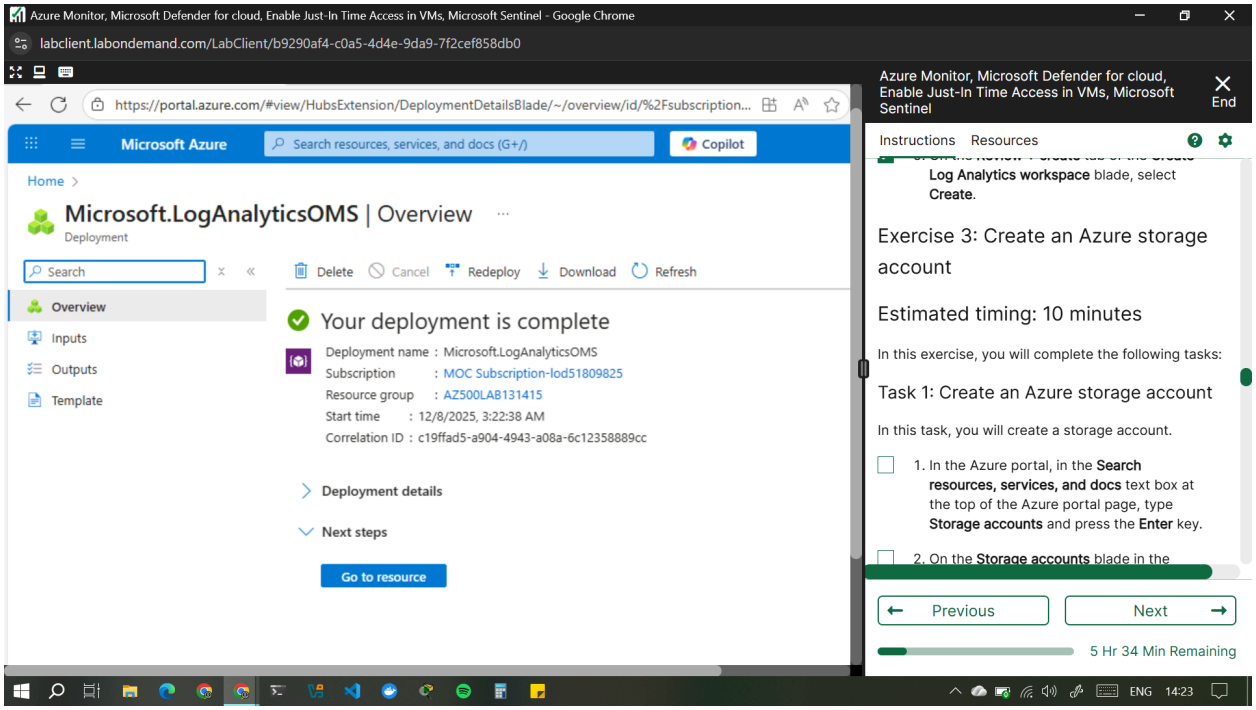
1. In the Azure portal, in the Search resources, services, and docs text box at the top of the Azure portal page, type Log Analytics workspaces and press the Enter key.
2. On the Log Analytics workspaces blade, click + Create.
3. On the Basics tab of the Create Log Analytics workspace blade, specify the following settings (leave others with their default values):

Setting	Value

Subscription	the name of the Azure subscription you are using in this lab
Resource group	AZ500LAB131415
Name	LAW57445941
Region	East US

4. Select Review + create.
5. On the Review + create tab of the Create Log Analytics workspace blade, select Create.





Exercise 3: Create an Azure storage account

In this exercise, you will complete the following tasks:

Task 1: Create an Azure storage account

In this task, you will create a storage account.

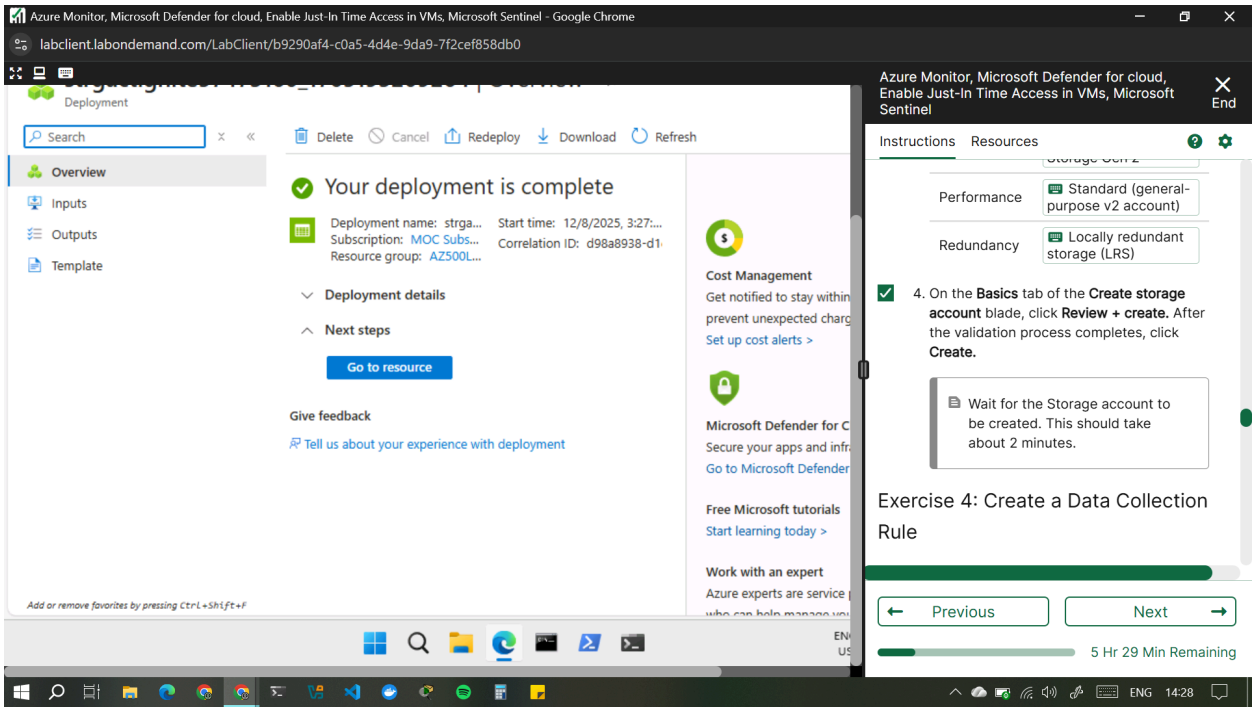
1. In the Azure portal, in the Search resources, services, and docs text box at the top of the Azure portal page, type Storage accounts and press the Enter key.
2. On the Storage accounts blade in the Azure portal, click the + Create button to create a new storage account.

3. On the Basics tab of the Create storage account blade, specify the following settings (leave others with their default values):

Setting	Value
Subscription	the name of the Azure subscription you are using in this lab
Resource group	AZ500LAB131415
Instance details	
Storage account name	strgactignite57445941
Region	(US) EastUS
Primary service	Azure Blob Storage or Azure Data Lake Storage Gen 2
Performance	Standard (general-purpose v2 account)
Redundancy	Locally redundant storage (LRS)

***NB: Locally Redundant Storage (LRS) is a cost-effective data protection strategy, primarily in cloud platforms like Azure, that keeps three identical copies of your data within a single data center, protecting against local hardware (drive/rack) failures but not against large-scale disasters like floods or fires that could wipe out the entire facility. It's the cheapest option but offers the least resilience compared to Zone-Redundant Storage (ZRS) or Geo-Redundant Storage (GRS).**

4. On the Basics tab of the Create storage account blade, click Review + create. After the validation process completes, click Create.
   Wait for the Storage account to be created. This should take about 2 minutes.



Exercise 4: Create a Data Collection Rule

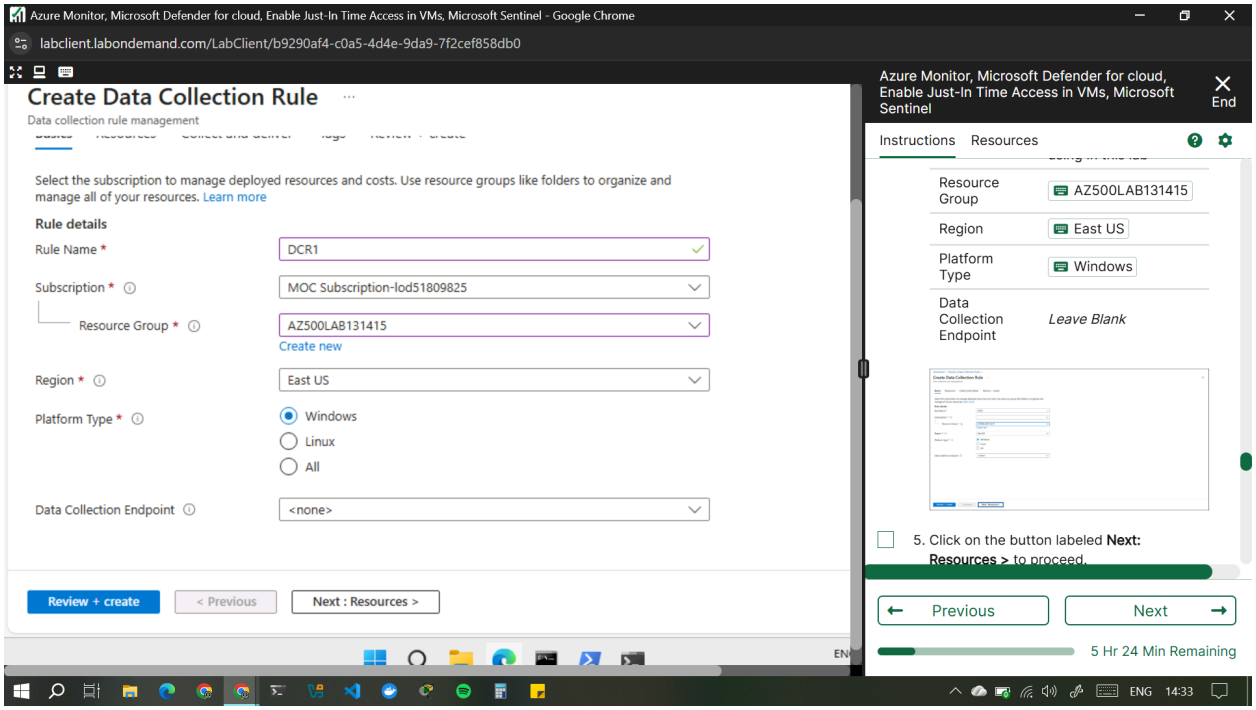
Task 1: Create a Data Collection Rule.

In this task, you will create a data collection rule.

1. In the Azure portal, in the Search resources, services, and docs text box at the top of the Azure portal page, type Monitor and press the Enter key.
2. On the Monitor Settings blade, click Data Collection Rules.
3. Click the + Create button to create a new data collection rule.

4. On the Basics tab of the Create Data Collection Rule blade, specify the following settings:

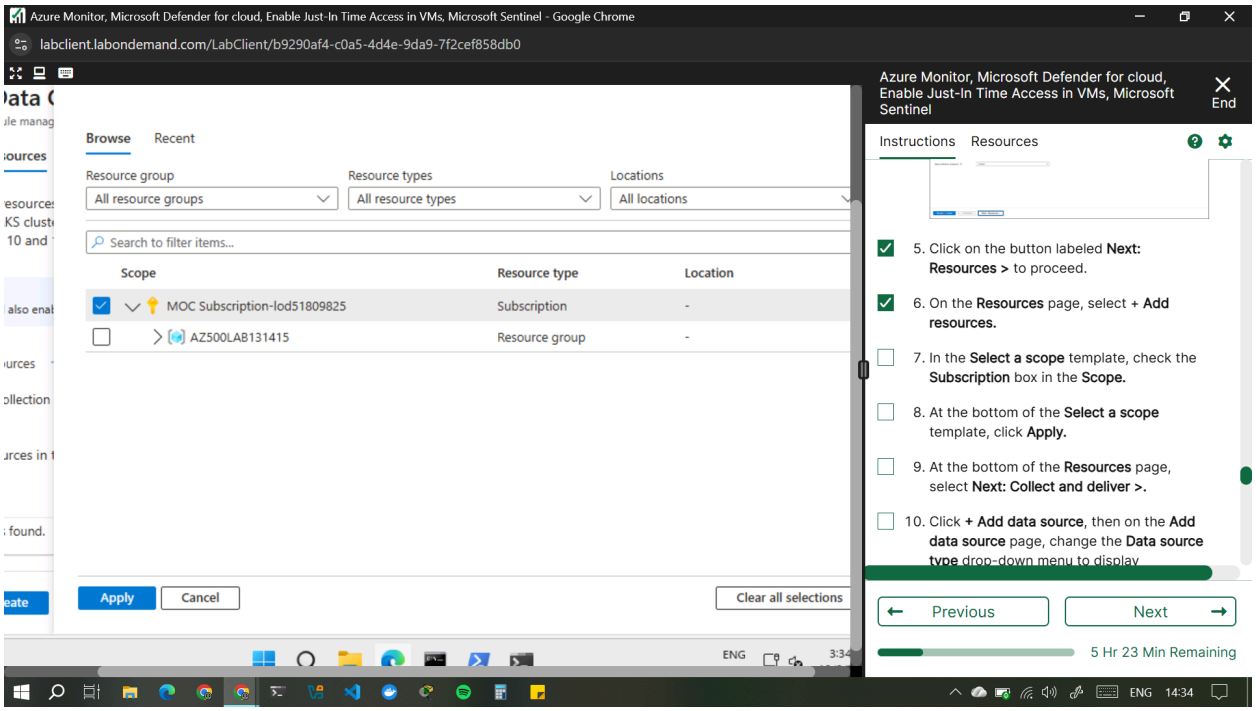
Setting	Value
Rule details	
Rule Name	DCR1
Subscription	the name of the Azure subscription you are using in this lab
Resource Group	AZ500LAB131415
Region	East US
Platform Type	Windows
Data Collection Endpoint	*Leave Blank*

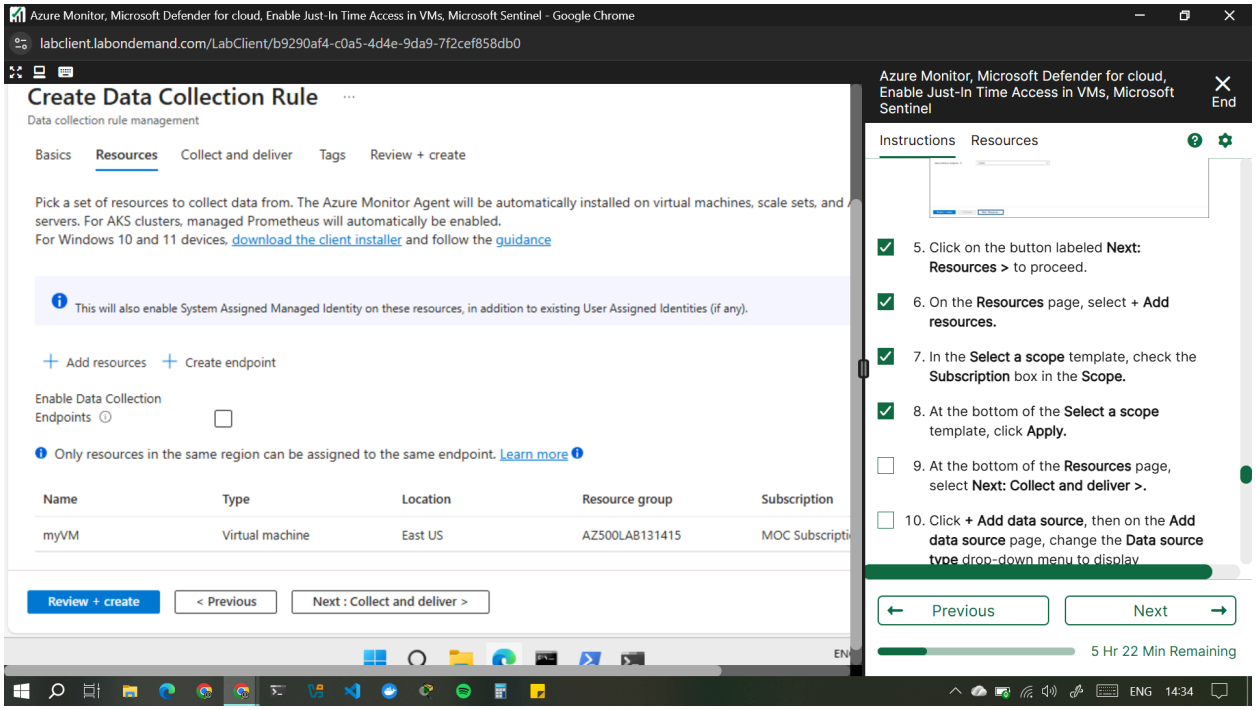


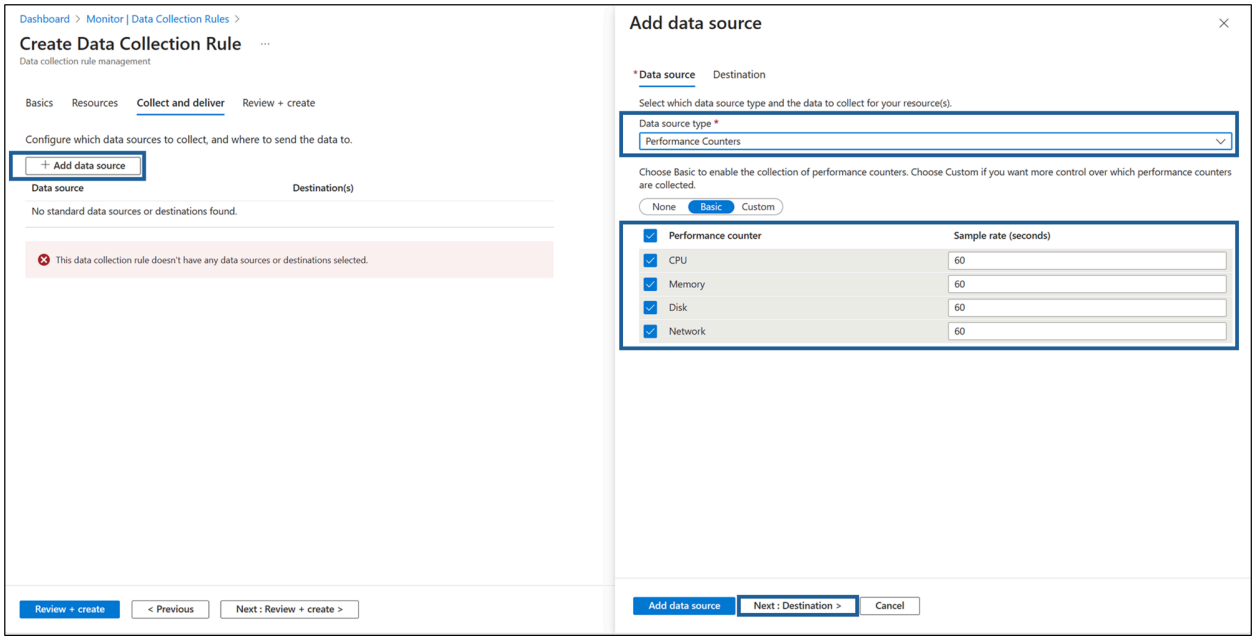
5. Click on the button labeled Next: Resources > to proceed.
6. On the Resources page, select + Add resources.
7. In the Select a scope template, check the Subscription box in the Scope.
8. At the bottom of the Select a scope template, click Apply.
9. At the bottom of the Resources page, select Next: Collect and deliver >.
10. Click + Add data source, then on the Add data source page, change the Data source type drop-down menu to display Performance Counters. Leave the following default settings:

Setting	Value
+++Performance counter**	**Sample rate (seconds)+++

CPU	60
Memory	60
Disk	60
Network	60

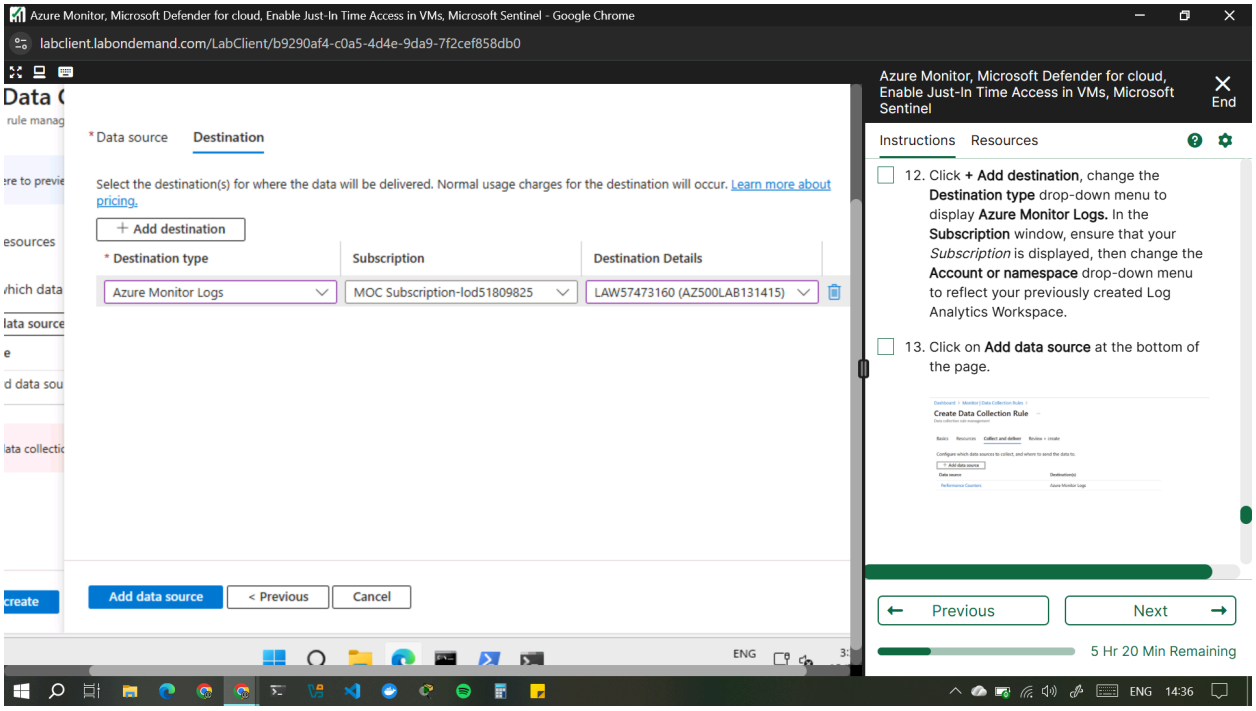






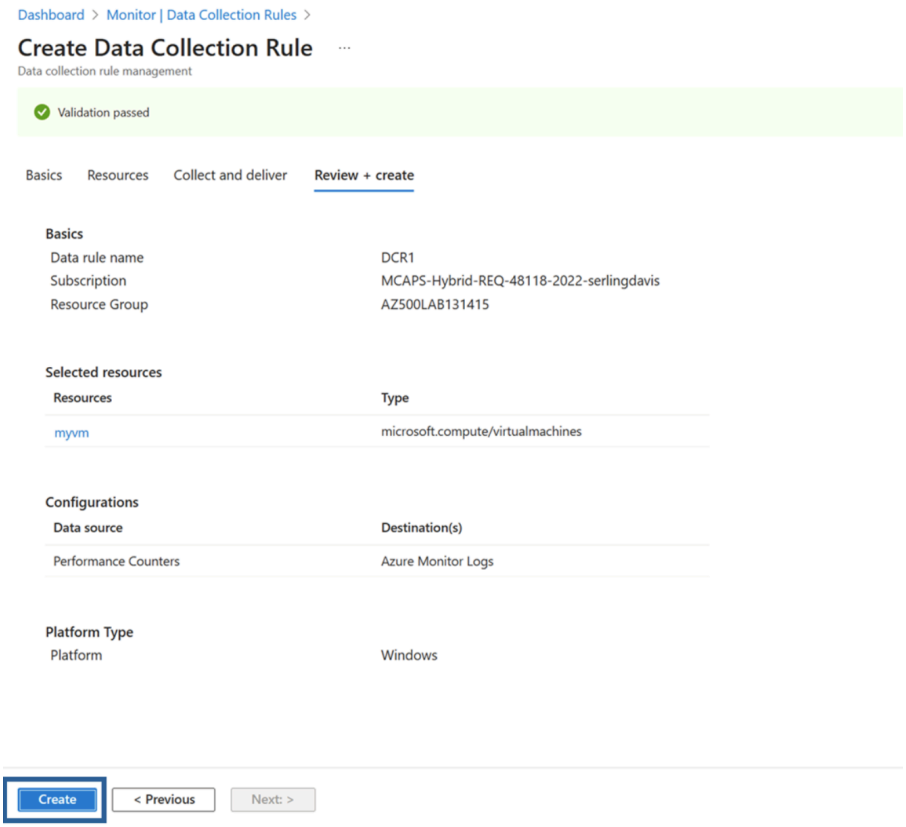
11. Click on the button labeled Next: Destination > to proceed.
12. Click + Add destination, change the Destination type drop-down menu to display Azure Monitor Logs. In the Subscription window, ensure that your *Subscription* is displayed, then change the Account

or namespace drop-down menu to reflect your previously created Log Analytics Workspace.



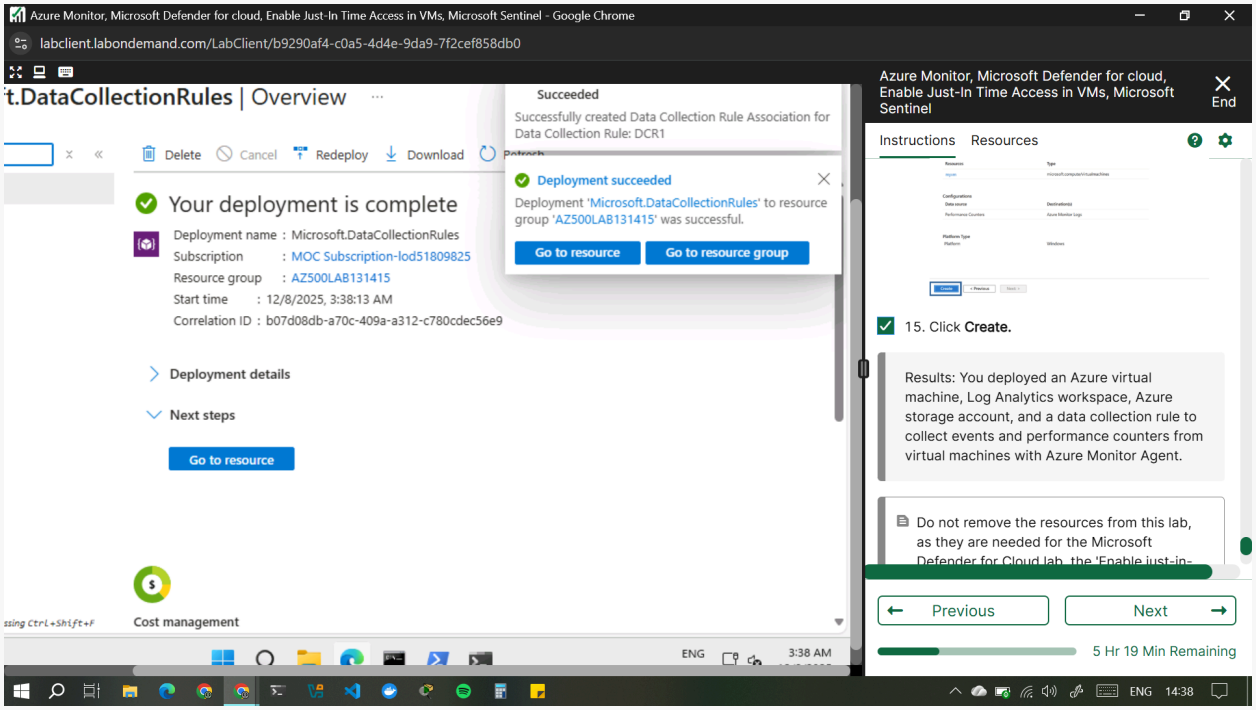
13. Click on Add data source at the bottom of the page.

14. Click Review + create.



15. Click Create.

Results: I deployed an Azure virtual machine, Log Analytics workspace, Azure storage account, and a data collection rule to collect events and performance counters from virtual machines with Azure Monitor Agent.



Lab 09: Configuring Microsoft Defender for Cloud Enhanced Security Features for Servers

Lab scenario

As an Azure Security Engineer for a global e-commerce company, you are responsible for securing the company's cloud infrastructure. The organization relies heavily on Azure virtual machines (VMs) and on-premises servers to run critical applications, manage customer data, and process transactions. The Chief Information Security Officer (CISO) has identified the need for enhanced security measures to protect these resources against cyber threats, vulnerabilities, and misconfigurations. You have been tasked with enabling Microsoft Defender for Servers in Microsoft Defender for Cloud to provide advanced threat protection and security monitoring for both Azure VMs and hybrid servers.

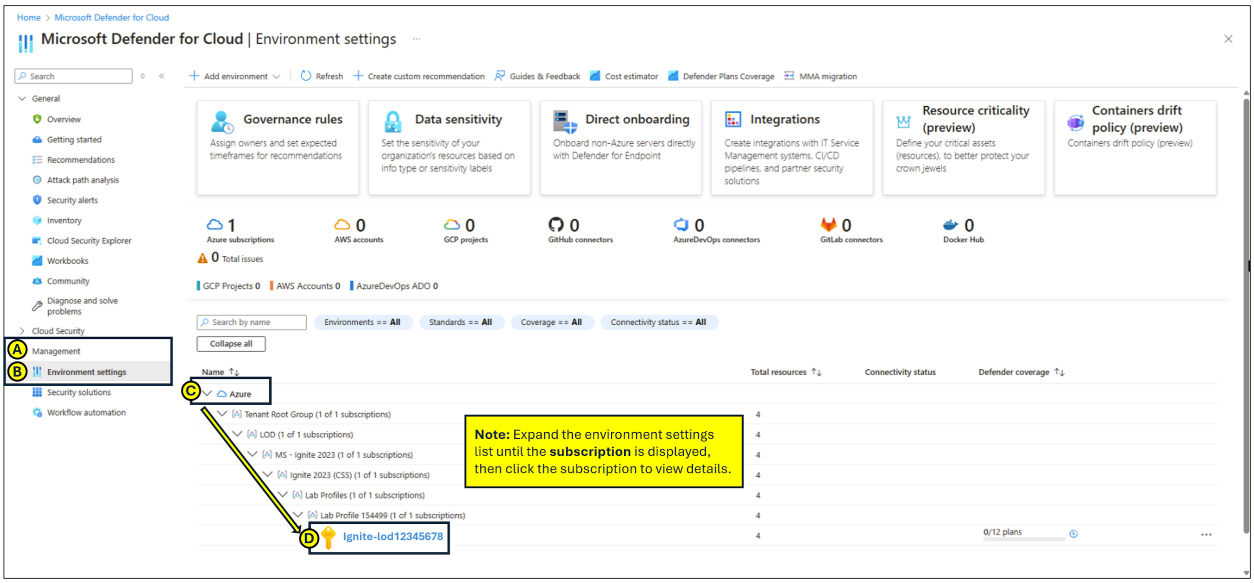
Lab objectives

- Configure Microsoft Defender for Cloud Enhanced Security Features for Servers
- Review the enhanced security features for Microsoft Defender for Servers Plan 2

Exercise instructions

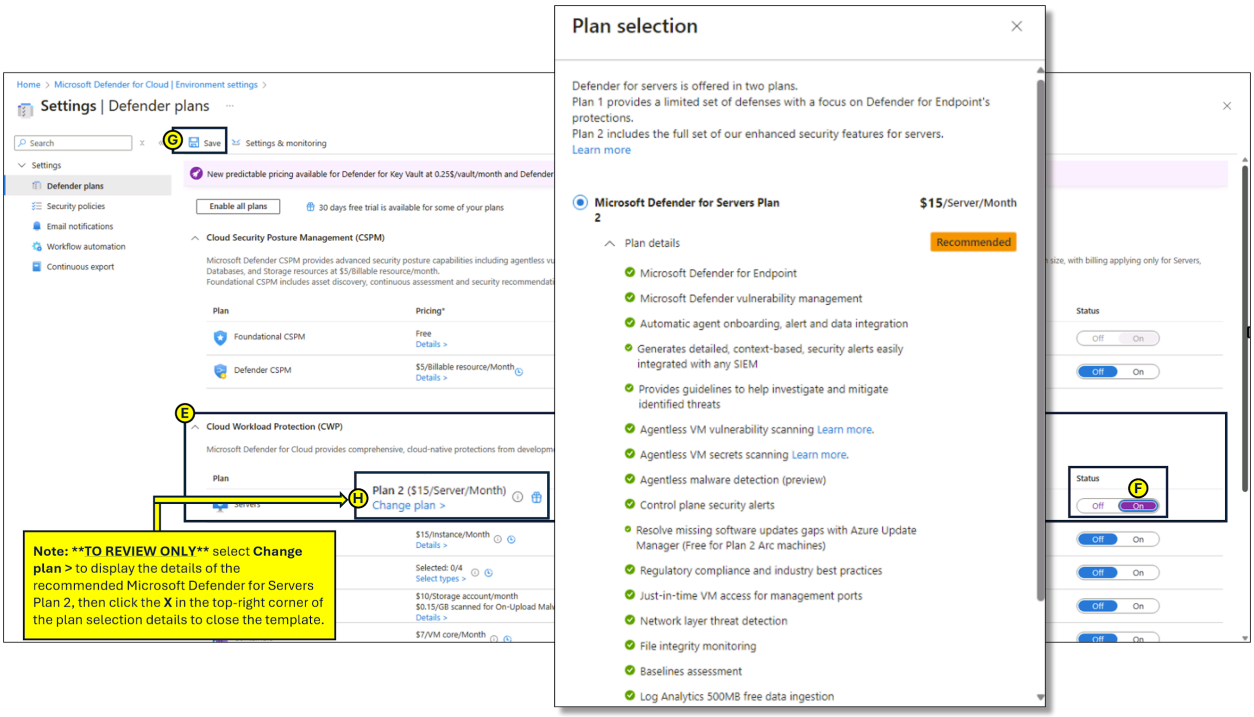
Configure Microsoft Defender for Cloud Enhanced Security Features for Servers

1. In the Azure portal, in the Search resources, services, and docs text box at the top of the Azure portal page, type Microsoft Defender for Cloud and press the Enter key.
2. On the Microsoft Defender for Cloud, Management blade, go to the Environment settings. Expand the environment settings folders until the subscription section is displayed, then click the subscription to view details.



3. In the Settings blade, under Defender plans, expand Cloud Workload Protection (CWP).

4. From the Cloud Workload Protection (CWP) Plan list, select Servers. On the right side of the page, change the Status from Off to On, then click Save.
5. To review the details of Microsoft Defender for Servers Plan 2, select Change plan >.
   Note: Enabling the Cloud Workload Protection (CWP) Servers plan from Off to On enables Microsoft Defender for Servers Plan 2.



Results: I enabled Microsoft Defender for Servers Plan 2 on my subscription.

Lab 10: Enable just-in-time access on VMs

Lab scenario

As an Azure Security Engineer at a financial services company, you're responsible for securing Azure resources, including virtual machines (VMs) that host critical applications. The security team has identified that continuous open access to VMs

increases the risk of brute-force attacks and unauthorized access. To mitigate this, the Chief Information Security Officer (CISO) has requested that you enable Just-in-Time (JIT) VM access on a specific Azure VM used for processing financial transactions.

Lab objectives

In this lab, you will complete the following exercises:

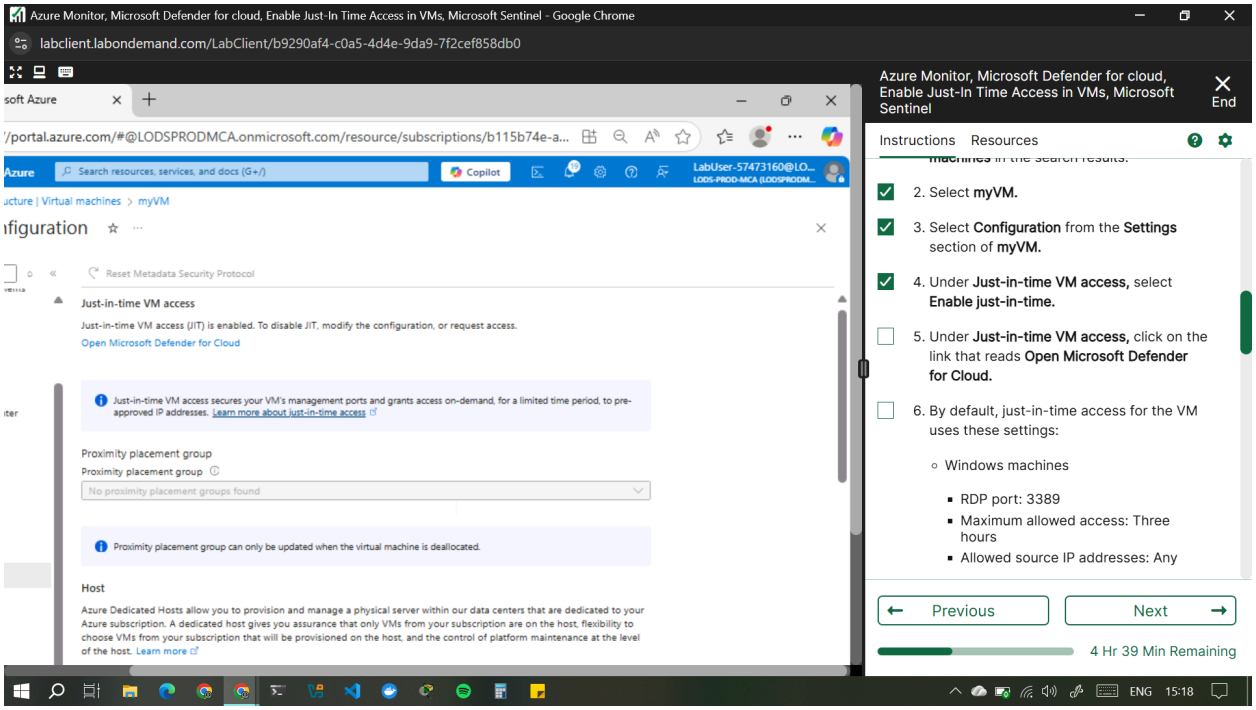
- Exercise 1: Enable JIT on your VMs from the Azure portal.
- Exercise 2: Request access to a VM that has JIT enabled from the Azure portal.

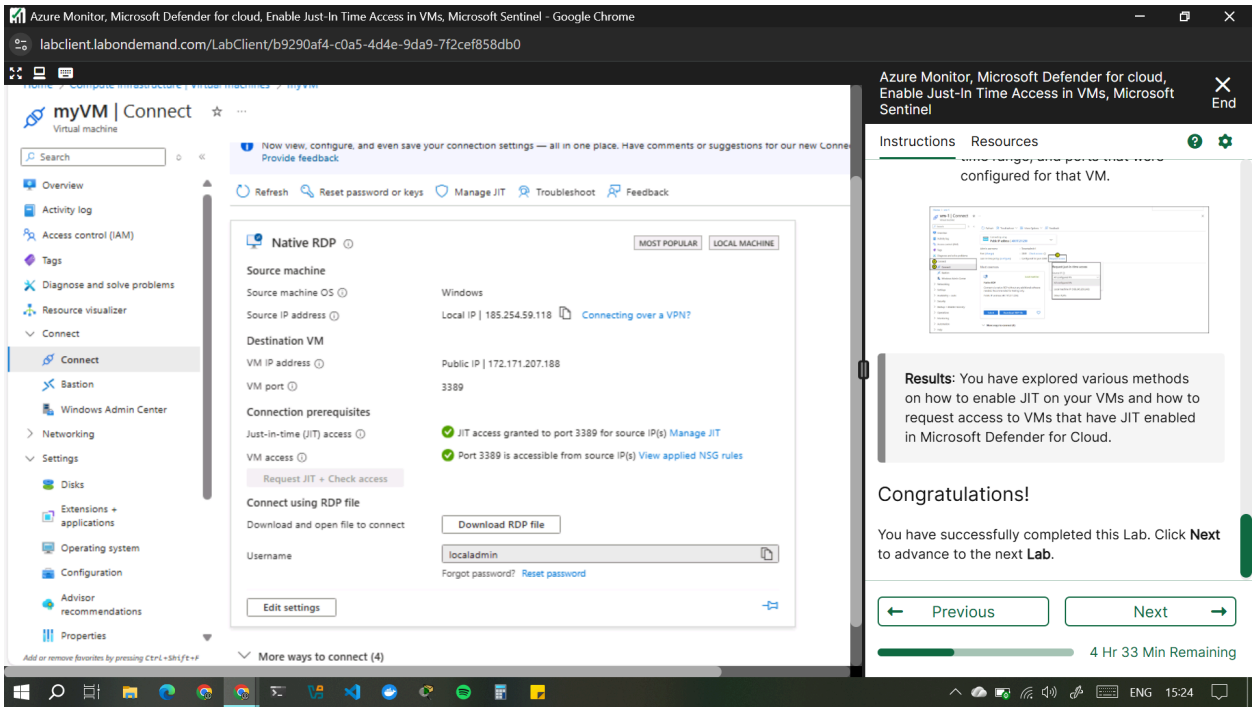
Exercise instructions

Exercise 1: Enable JIT on your VMs from Azure virtual machines

You can enable JIT on a VM from the Azure virtual machines pages of the Azure portal.

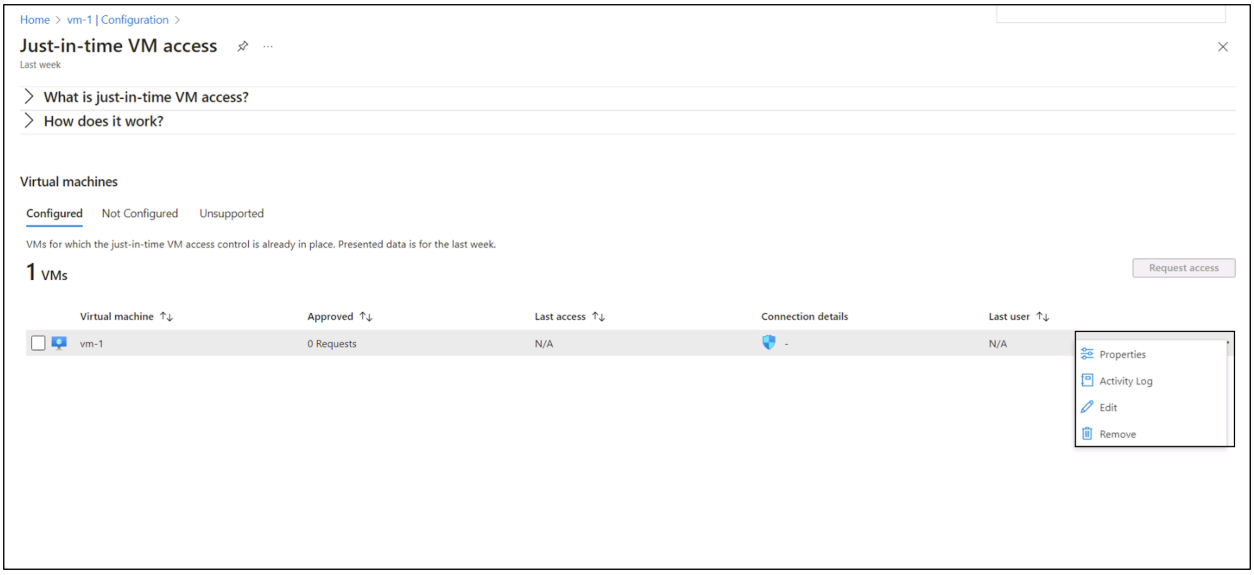
1. In the search box at the top of the portal, enter virtual machines. Select Virtual machines in the search results.
2. Select myVM.
3. Select Configuration from the Settings section of myVM.
4. Under Just-in-time VM access, select Enable just-in-time.
5. Under Just-in-time VM access, click on the link that reads Open Microsoft Defender for Cloud.





6. By default, just-in-time access for the VM uses these settings:

- Windows machines
    - RDP port: 3389
    - Maximum allowed access: Three hours
    - Allowed source IP addresses: Any
- Linux machines
    - SSH port: 22
    - Maximum allowed access: Three hours
    - Allowed source IP addresses: Any

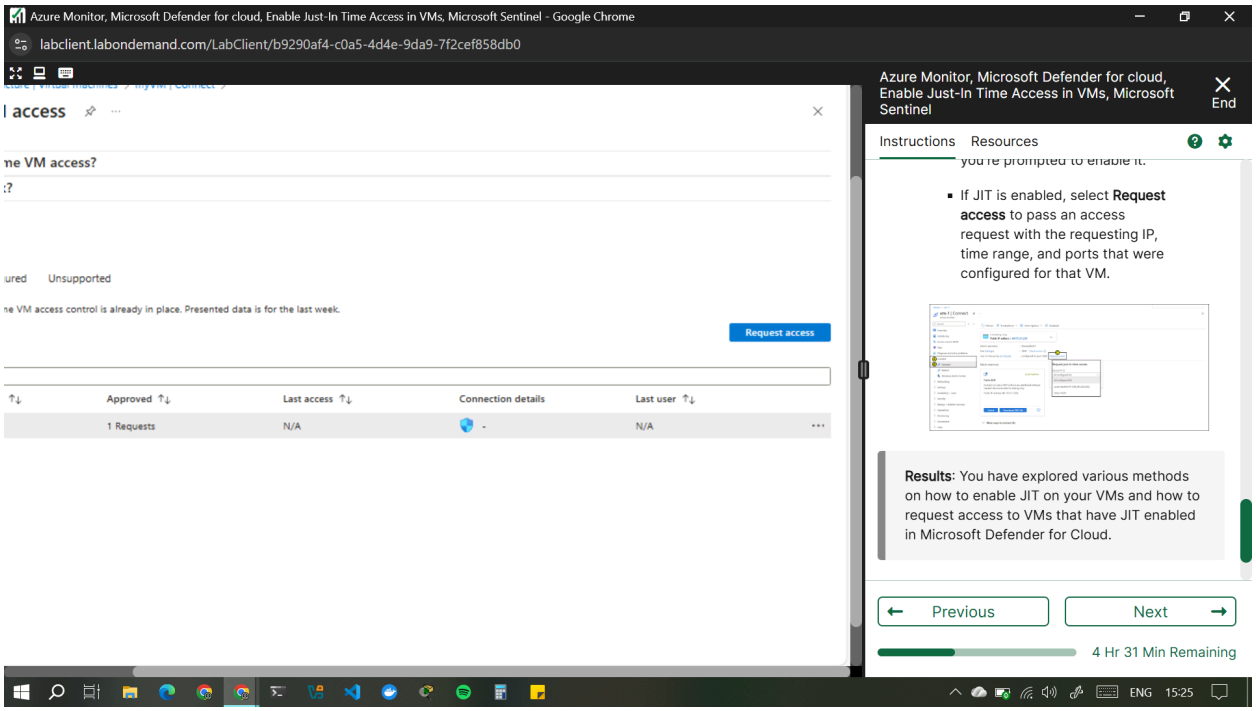
7. By default, just-in-time access for the VM uses these settings:
    - From the Configured tab, right-click on the VM to which you want to add a port, and select edit.
8. 

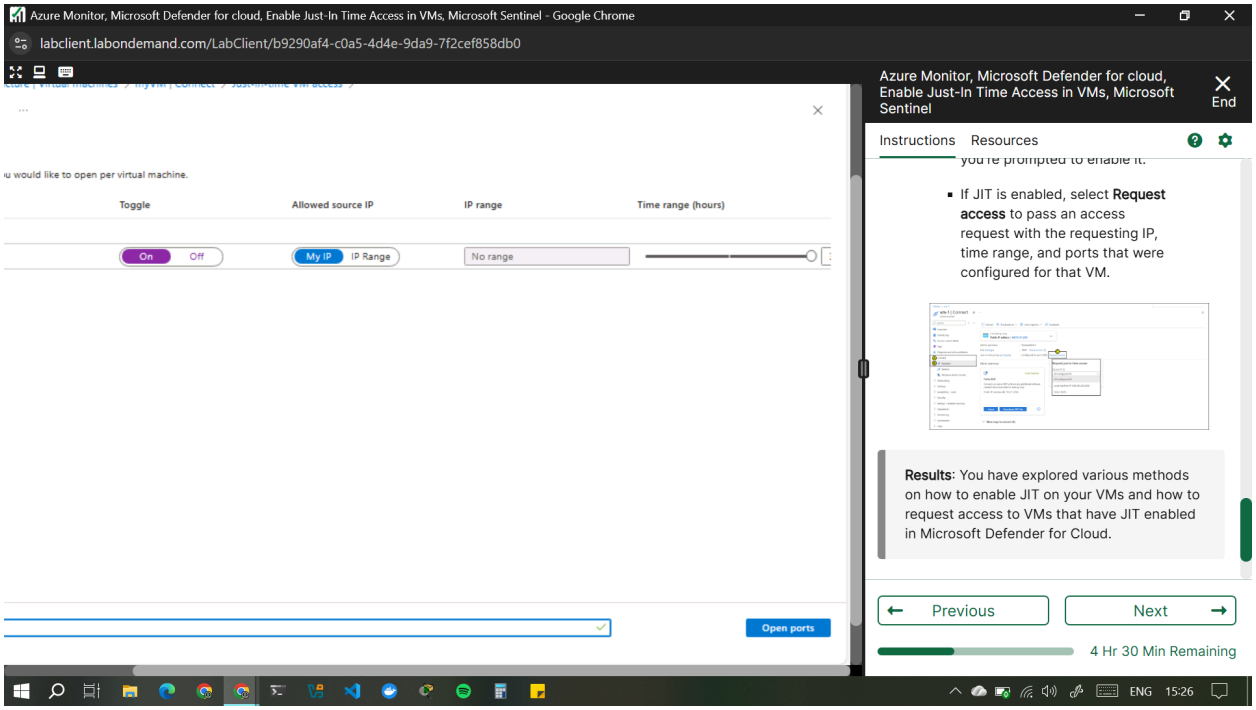
    - Under JIT VM access configuration, you can either edit the existing settings of an already protected port or add a new custom port.
    - When you've finished editing the ports, select Save.

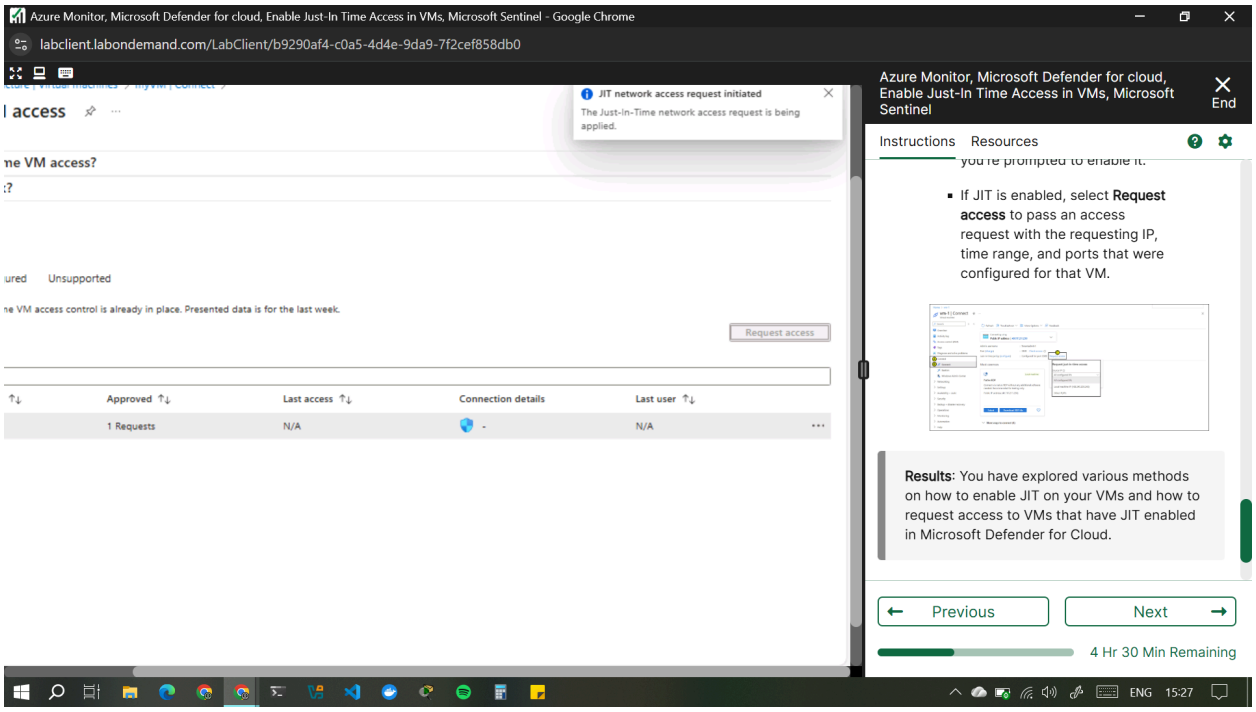
Exercise 2: Request access to a JIT-enabled VM from the Azure virtual machine's connect page.

When a VM has a JIT enabled, you have to request access to connect to it. You can request access in any of the supported ways, regardless of how you enabled JIT.

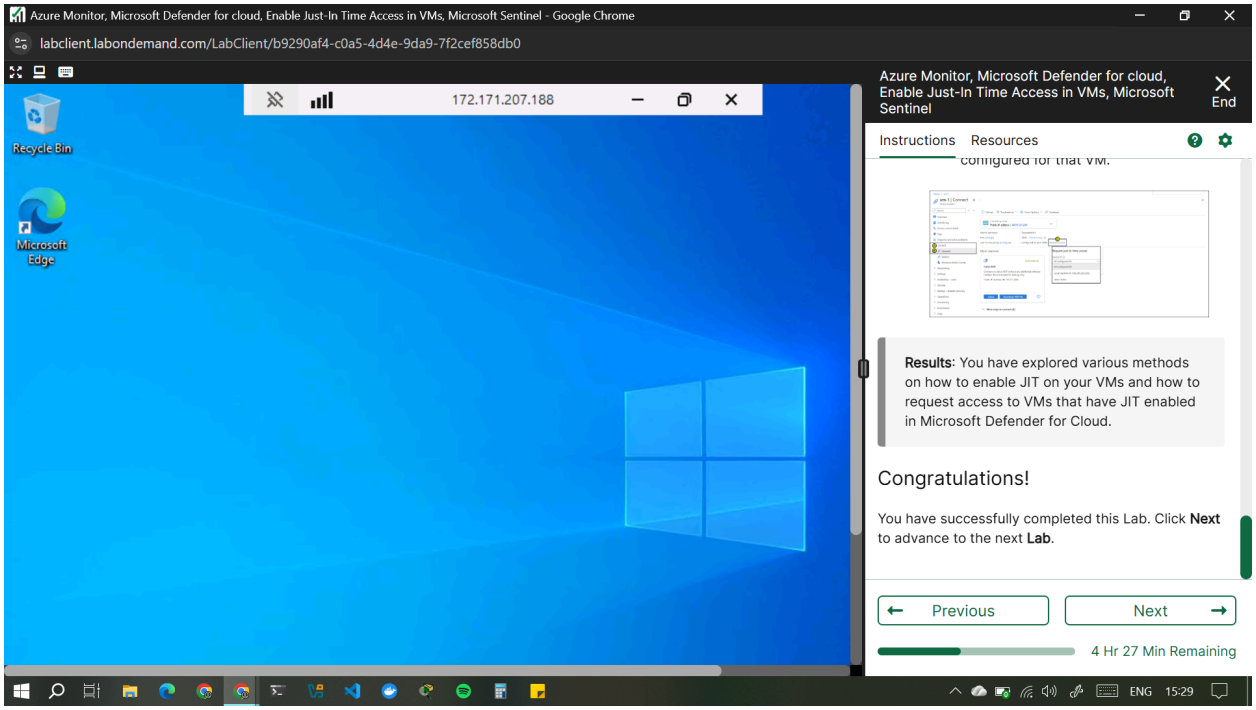
1. In the Azure portal, open the virtual machines pages.
2. Select the VM to which you want to connect, and open the Connect page.
    - Azure checks to see if JIT is enabled on that VM.
        - If JIT isn't enabled for the VM, you're prompted to enable it.
        - If JIT is enabled, select Request access to pass an access request with the requesting IP, time range, and ports that were configured for that VM.







- After requesting access to the configured VM, I was able to connect to it using RDP



Results: I have explored various methods on how to enable JIT on VMs and how to request access to VMs that have JIT enabled in Microsoft Defender for Cloud.

Lab 11: Microsoft Sentinel

Lab scenario

Note: Azure Sentinel is renamed to Microsoft Sentinel

You have been asked to create a proof of concept of Microsoft Sentinel-based threat detection and response. Specifically, you want to:

- Start collecting data from Azure Activity and Microsoft Defender for Cloud.
- Add built in and custom alerts
- Review how Playbooks can be used to automate a response to an incident.

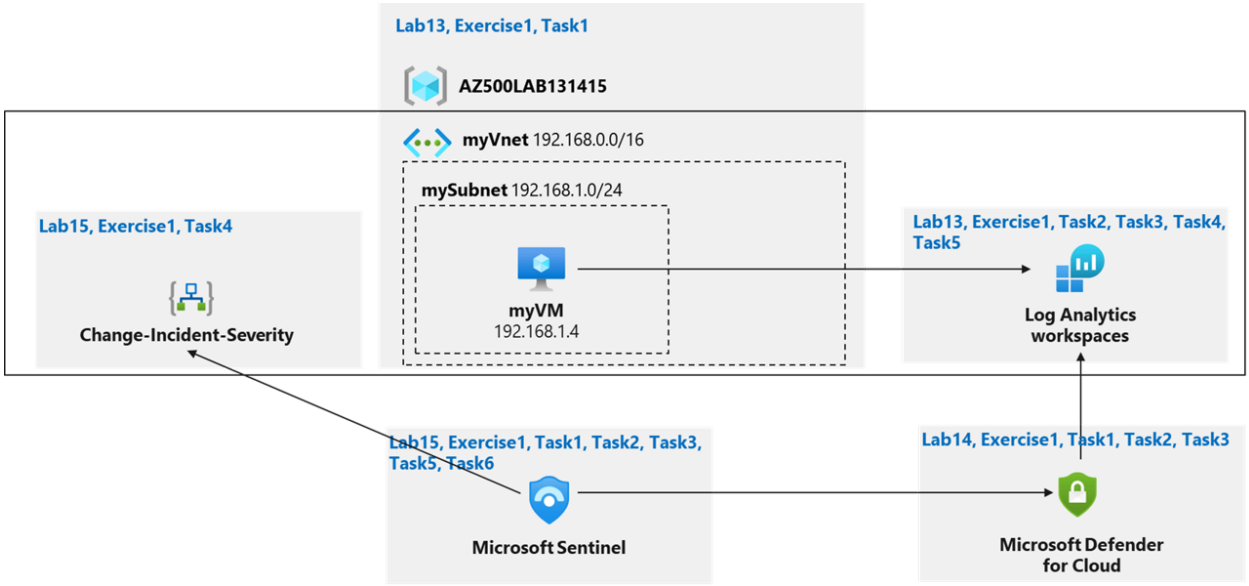
- In Microsoft Sentinel, a **playbook** is an automated workflow, built on **Azure Logic Apps (**a cloud-based platform for building automated workflows (Logic Apps) that integrate apps, data, services, and systems, enabling businesses to automate processes and orchestrate data across cloud/on-premise environments using visual designers and extensive connectors**)**, that orchestrates response actions to security incidents or alerts, reducing manual effort by performing tasks like isolating a machine, blocking an account, or sending notifications, either automatically via an automation rule or manually on-demand. Playbooks use connectors to interact with Sentinel and other systems, offering powerful, customizable automation for Security Operations Centers (SOCs) to handle threats consistently and quickly.

Lab objectives

In this lab, you will complete the following exercise:

- Exercise 1: Implement Microsoft Sentinel

Microsoft Sentinel diagram



Instructions

Lab files:

- \Allfiles\Labs\15\changeincidentseverity.json

Exercise 1: Implement Microsoft Sentinel

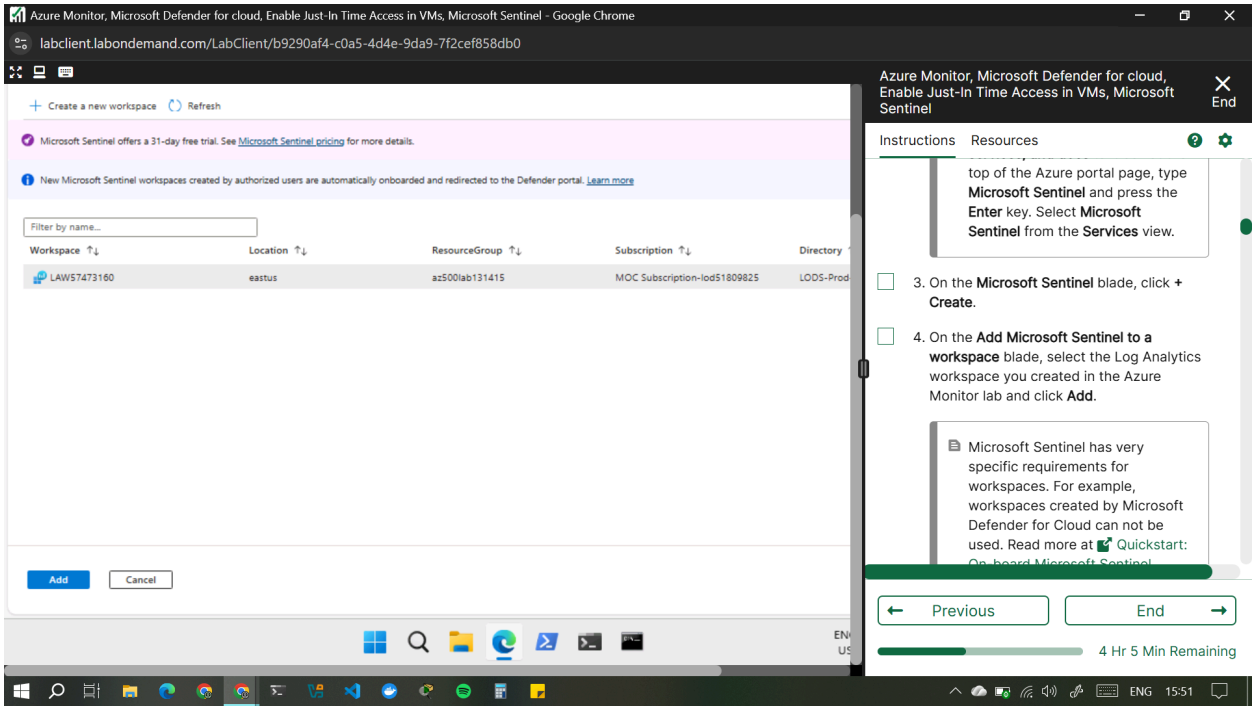
In this exercise, you will complete the following tasks:

- Task 1: On-board Microsoft Sentinel
- Task 2: Connect Azure Activity to Sentinel
- Task 3: Create a rule that uses the Azure Activity data connector.
- Task 4: Create a playbook
- Task 5: Create a custom alert and configure the playbook as an automated response.
- Task 6: Invoke an incident and review the associated actions.

Task 1: On-board Microsoft Sentinel

In this task, you will on-board Microsoft Sentinel and connect the Log Analytics workspace.

1. Sign-in to the Azure portal https://*portal.azure.com/*.
   Sign in to the Azure portal using an account that has the Owner or Contributor role in the Azure subscription you are using for this lab. In this Cloudslice lab, this account is LabUser-57445941@LODSPRODMCA.onmicrosoft.com with TAP 9-A*LpfA.
2. In the Azure portal, in the Search resources, services, and docs text box at the top of the Azure portal page, type Microsoft Sentinel and press the Enter key.
   If this is your first attempt to action Microsoft Sentinel in the Azure dashboard complete the following step(s): In the Azure portal, in the Search resources, services, and docs text box at the top of the Azure portal page, type Microsoft Sentinel and press the Enter key. Select Microsoft Sentinel from the Services view.
3. On the Microsoft Sentinel blade, click + Create.
4. On the Add Microsoft Sentinel to a workspace blade, select the Log Analytics workspace you created in the Azure Monitor lab and click Add.
   Microsoft Sentinel has very specific requirements for workspaces. For example, workspaces created by Microsoft Defender for Cloud can not be used. Read more at Quickstart: On-board Microsoft Sentinel



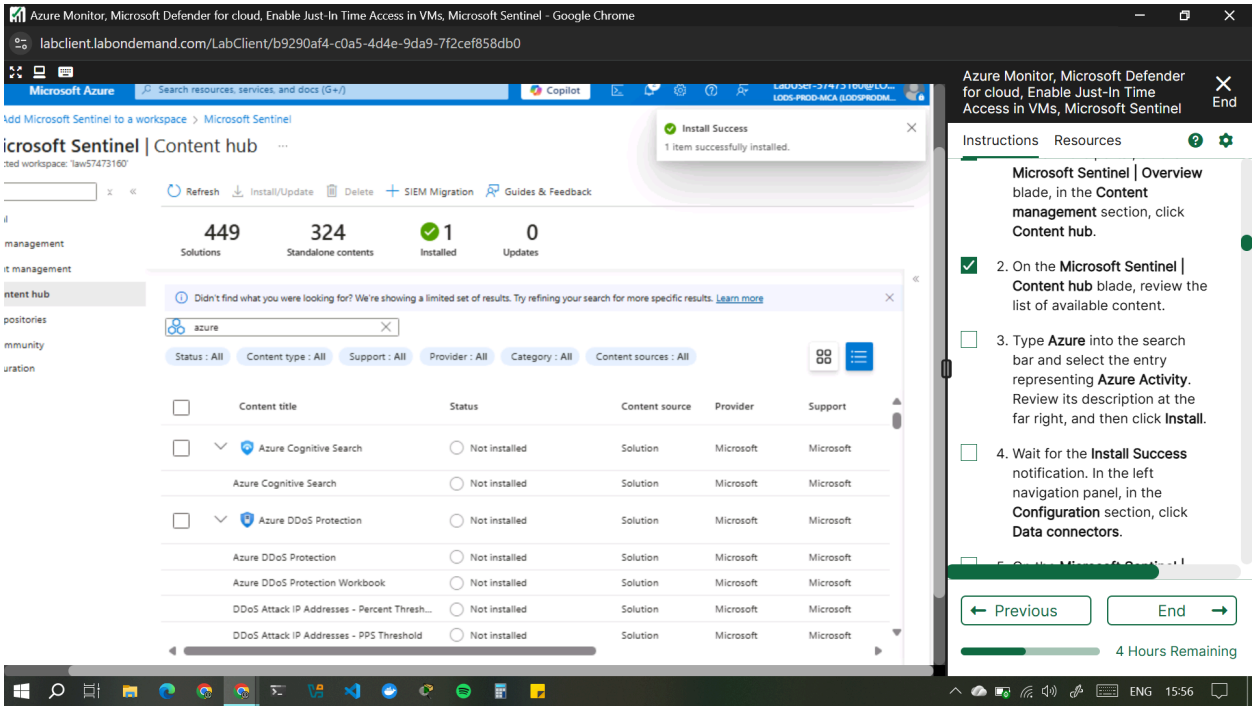
Task 2: Configure Microsoft Sentinel to use the Azure Activity data connector.

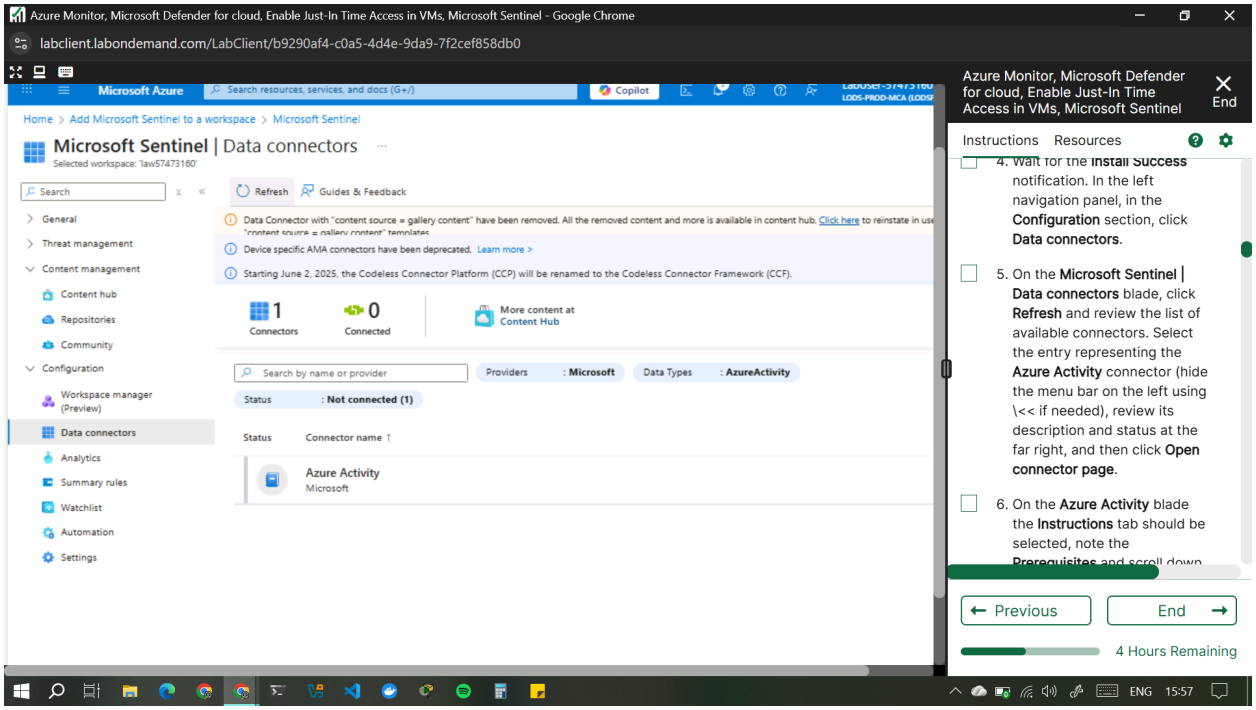
In this task, you will configure Sentinel to use the Azure Activity data connector.

1. In the Azure portal, on the Microsoft Sentinel | Overview blade, in the Content management section, click Content hub.
2. On the Microsoft Sentinel | Content hub blade, review the list of available content.
3. Type Azure into the search bar and select the entry representing Azure Activity. Review its description at the far right, and then click Install.
4. Wait for the Install Success notification. In the left navigation panel, in the Configuration section, click Data connectors.

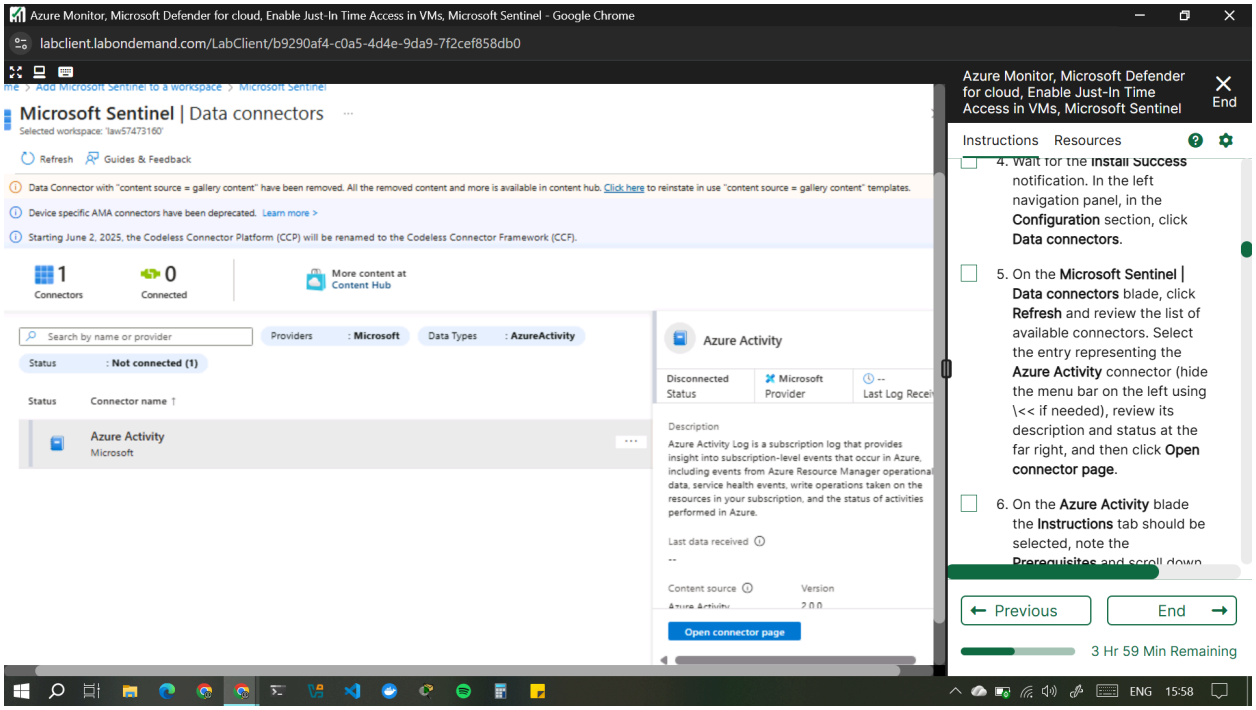
NB: Data connectors are software tools that act as bridges to automatically move, integrate, and synchronize data between different systems, applications, databases, or cloud services, enabling seamless data flow for unified analysis, reporting, and informed decision-making, eliminating manual effort and errors.

They extract data from sources (like CRMs, social media, files) and deliver it to a central destination (like a data warehouse or lake) for analysis.

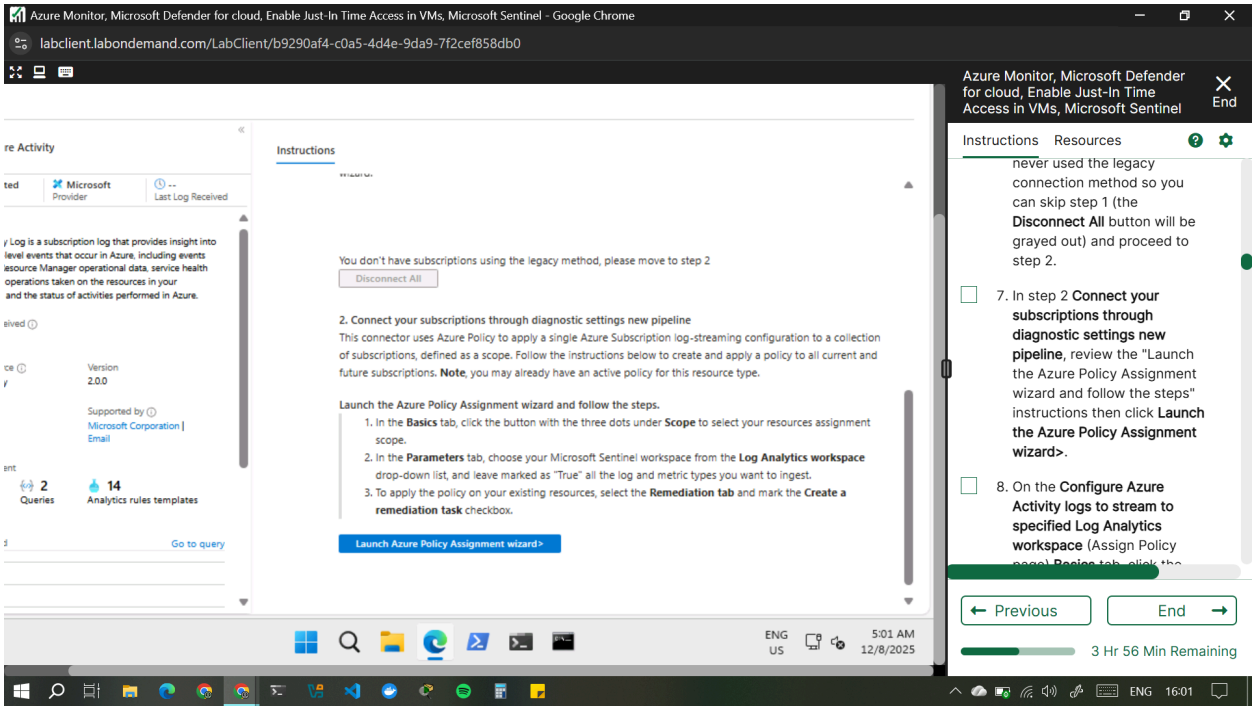




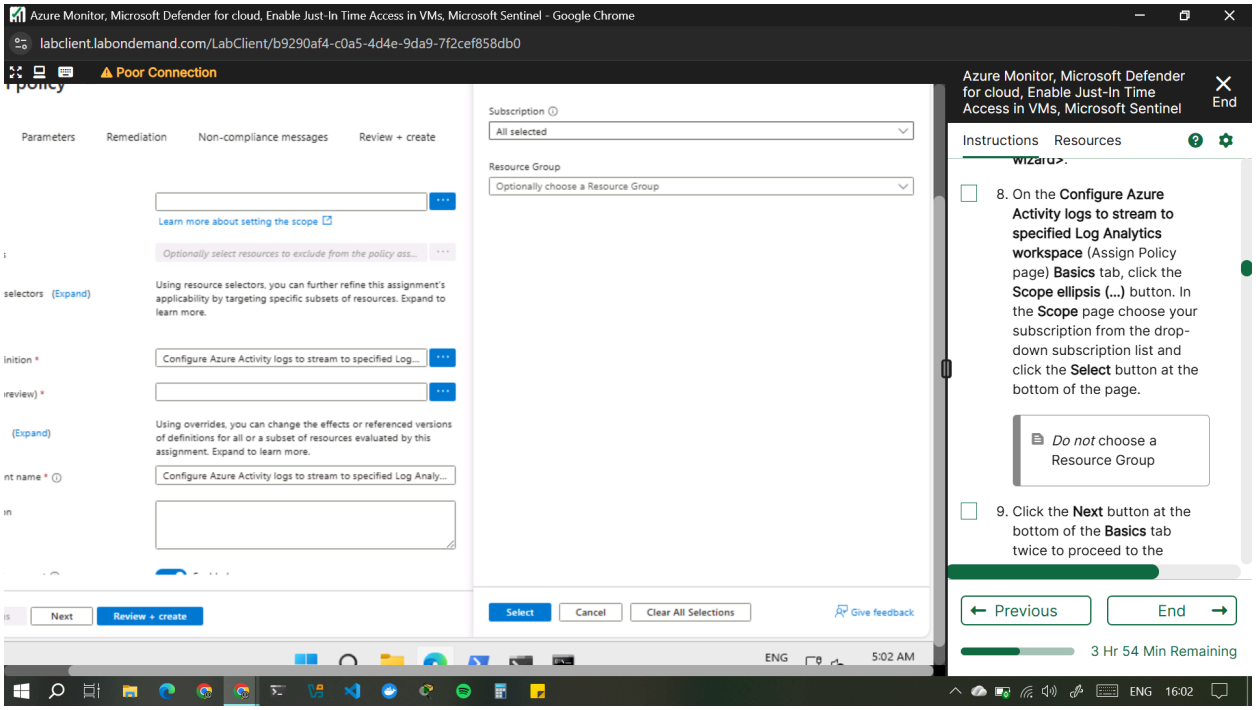
5. On the Microsoft Sentinel | Data connectors blade, click Refresh and review the list of available connectors. Select the entry representing the Azure Activity connector (hide the menu bar on the left using \<< if needed), review its description and status at the far right, and then click Open connector page.



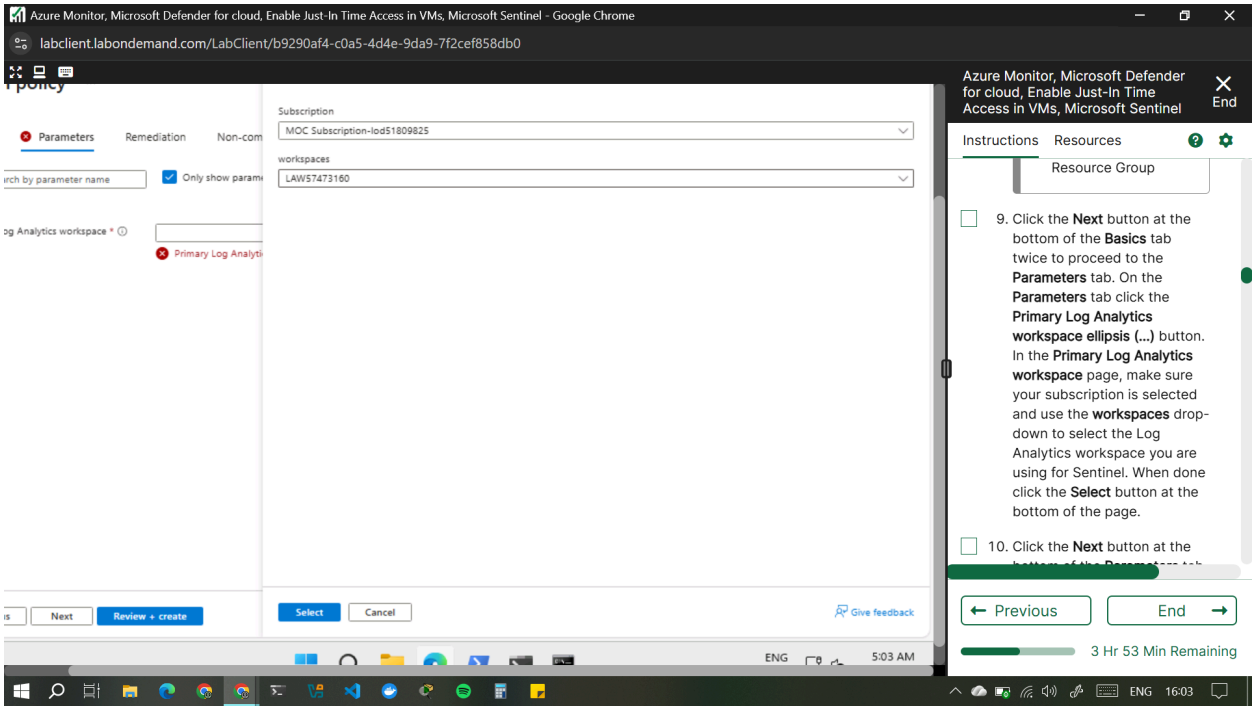
6. On the Azure Activity blade the Instructions tab should be selected, note the Prerequisites and scroll down to the Configuration. Take note of the information describing the connector update. Your subscription never used the legacy connection method so you can skip step 1 (the Disconnect All button will be grayed out) and proceed to step 2.
7. In step 2 Connect your subscriptions through diagnostic settings new pipeline, review the "Launch the Azure Policy Assignment wizard and follow the steps" instructions then click Launch the Azure Policy Assignment wizard>.



8. On the Configure Azure Activity logs to stream to specified Log Analytics workspace (Assign Policy page) Basics tab, click the Scope ellipsis (…) button. In the Scope page choose your subscription from the drop-down subscription list and click the Select button at the bottom of the page.
   Do not choose a Resource Group

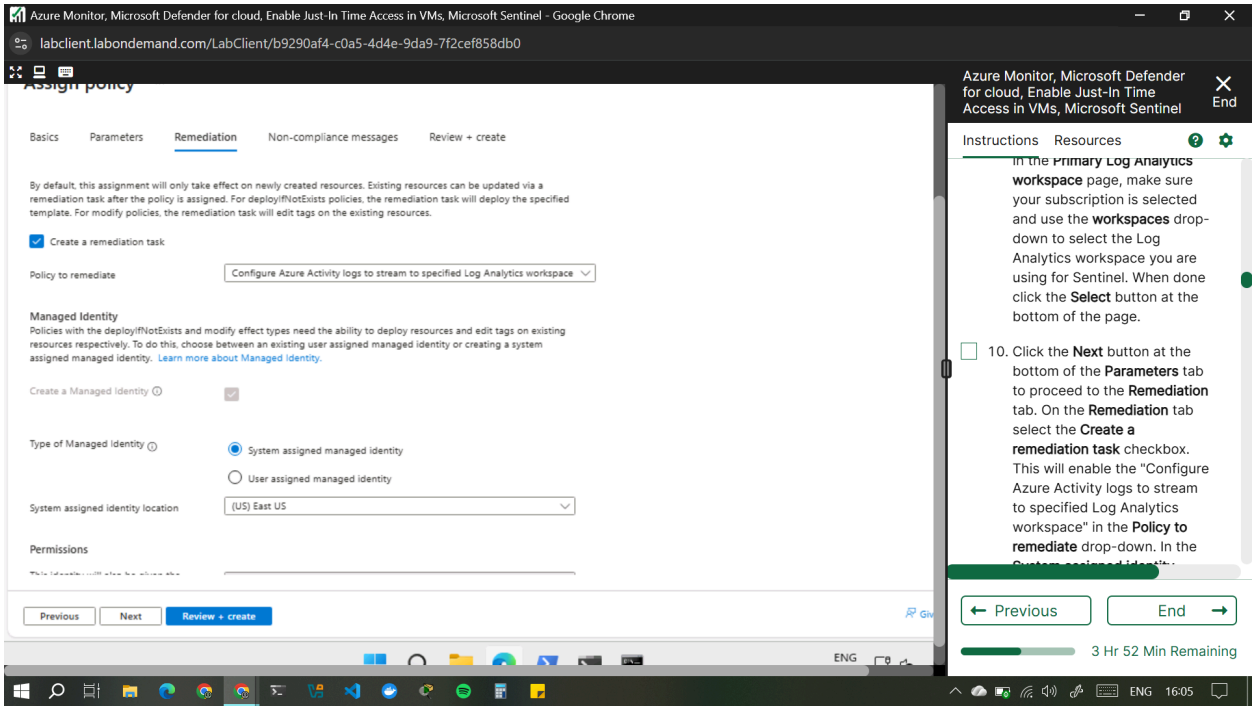


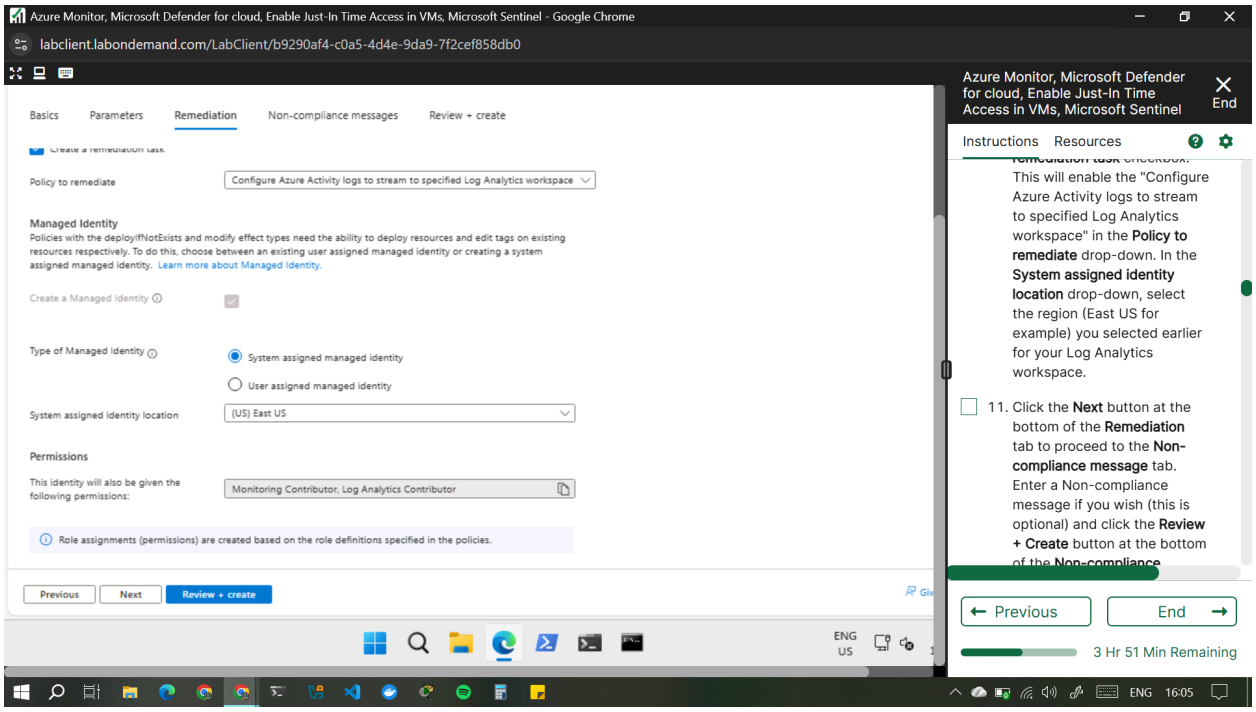
9. Click the Next button at the bottom of the Basics tab twice to proceed to the Parameters tab. On the Parameters tab click the Primary Log Analytics workspace ellipsis (...) button. In the Primary Log Analytics workspace page, make sure your subscription is selected and use the workspaces drop-down to select the Log Analytics workspace you are using for Sentinel. When done click the Select button at the bottom of the page.



10. Click the Next button at the bottom of the Parameters tab to proceed to the Remediation tab. On the Remediation tab select the Create a remediation task checkbox. This will enable the "Configure Azure Activity logs to stream to specified Log Analytics workspace" in the Policy to remediate drop-down. In the System assigned identity location drop-down, select the region (East US for example) you selected earlier for your Log Analytics workspace.

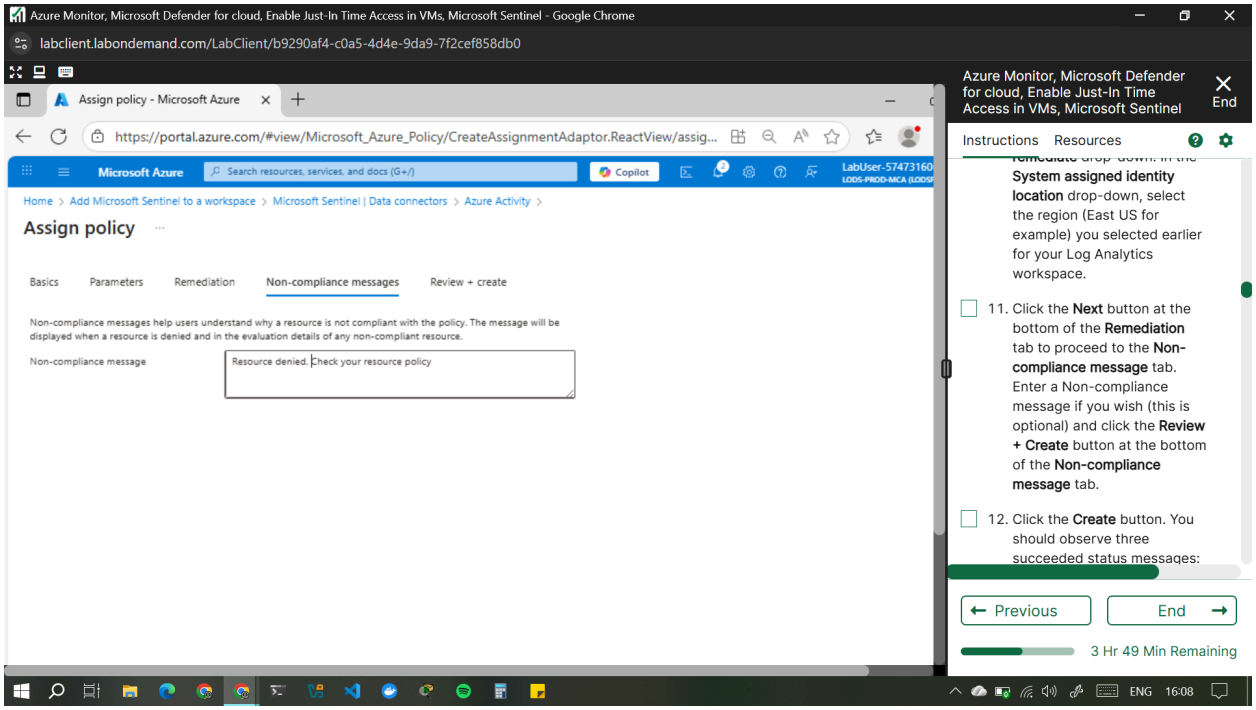
- **Azure Policy remediation** is the process of automatically fixing existing, non-compliant resources to meet defined policy standards, using effects like *Modify* or *DeployIfNotExists* to bring them into compliance, acting as an "auto-fix" for governance rules by applying changes to resources that don't match standards after assignment. It can be triggered manually or automatically when a policy is assigned and is essential for enforcing corporate governance at scale.



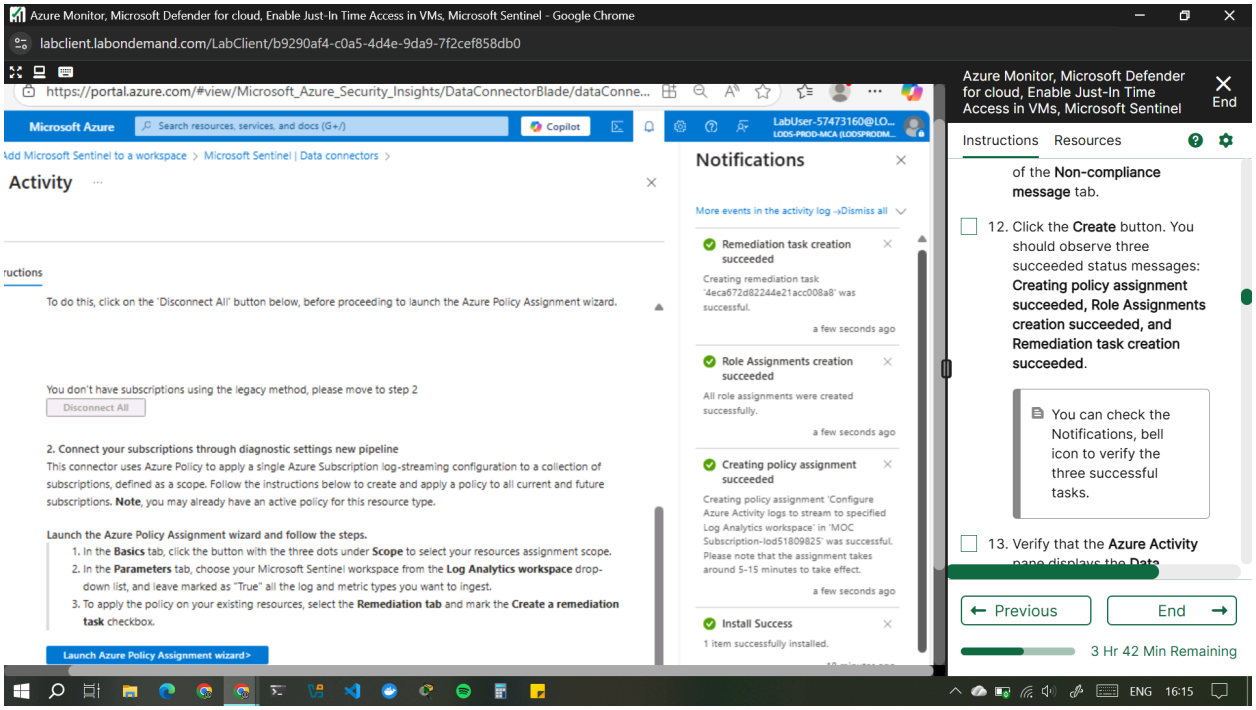


11. Click the Next button at the bottom of the Remediation tab to proceed to the Non-compliance message tab. Enter a Non-compliance message if you wish (this is optional) and click the

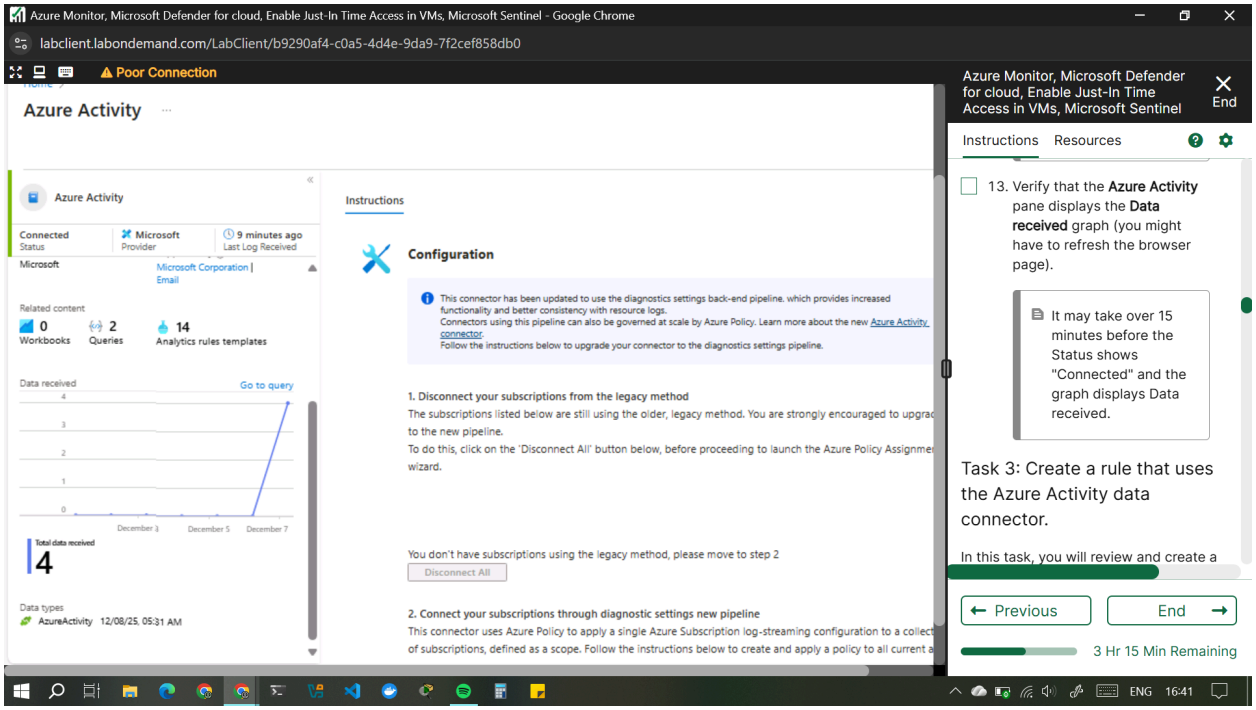
Review + Create button at the bottom of the Non-compliance message tab.



12. Click the Create button. You should observe three succeeded status messages: Creating policy assignment succeeded, Role Assignments creation succeeded, and Remediation task creation succeeded.
You can check the Notifications, bell icon to verify the three successful tasks.



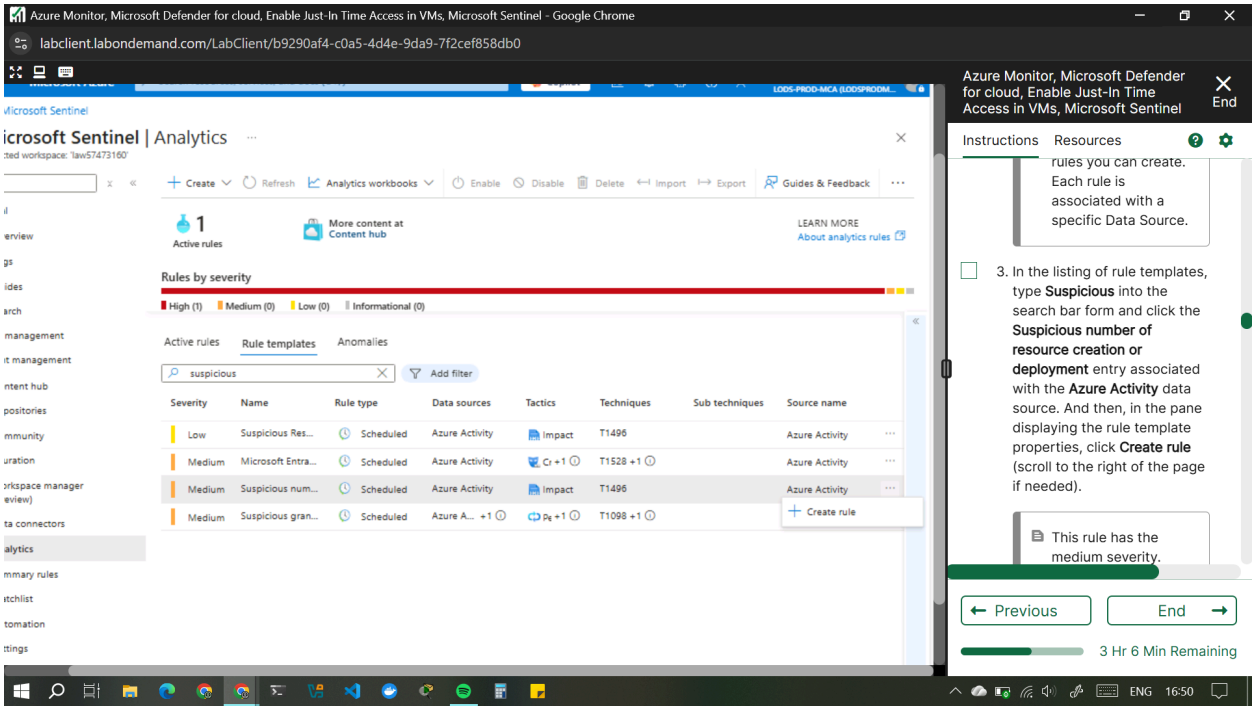
13. Verify that the Azure Activity pane displays the Data received graph (you might have to refresh the browser page).
    It may take over 15 minutes before the Status shows "Connected" and the graph displays Data received.



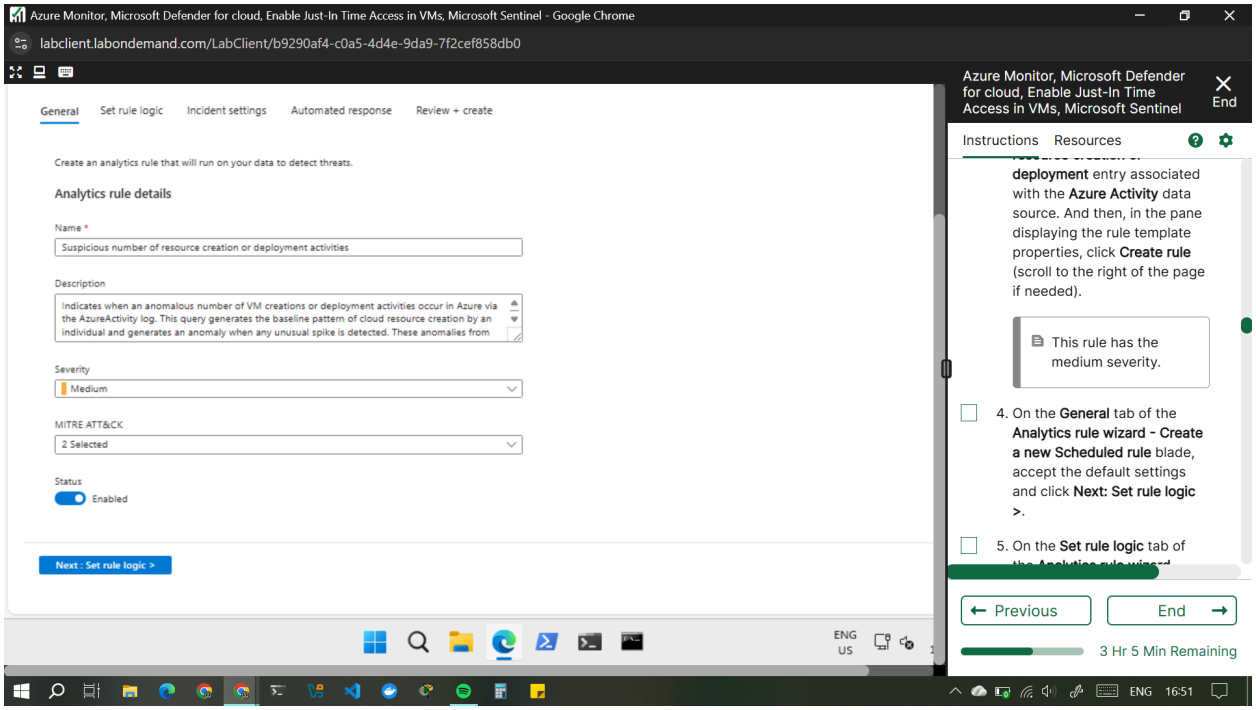
Task 3: Create a rule that uses the Azure Activity data connector.

In this task, you will review and create a rule that uses the Azure Activity data connector.

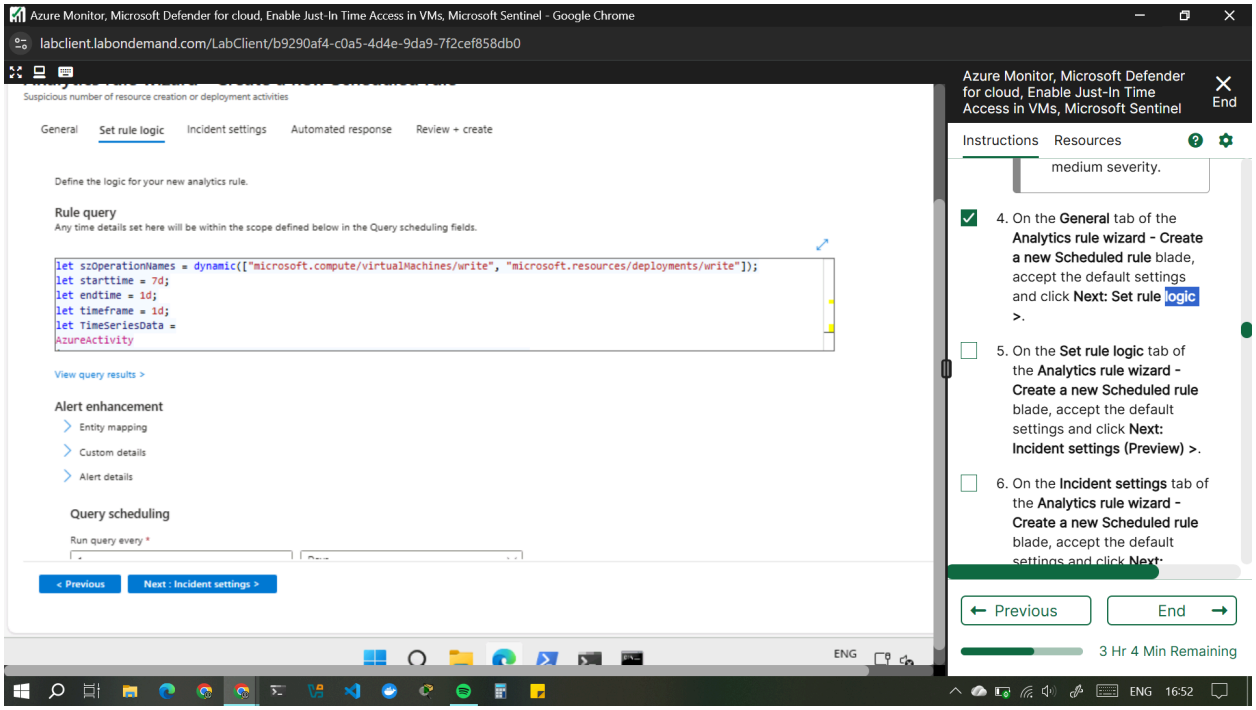
1. On the Microsoft Sentinel | Configuration blade, click Analytics.
2. On the Microsoft Sentinel | Analytics blade, click the Rule templates tab.
   Review the types of rules you can create. Each rule is associated with a specific Data Source.
3. In the listing of rule templates, type Suspicious into the search bar form and click the Suspicious number of resource creation or deployment entry associated with the Azure Activity data source. And then, in the pane displaying the rule template properties, click Create rule (scroll to the right of the page if needed).
   This rule has the **medium** severity.



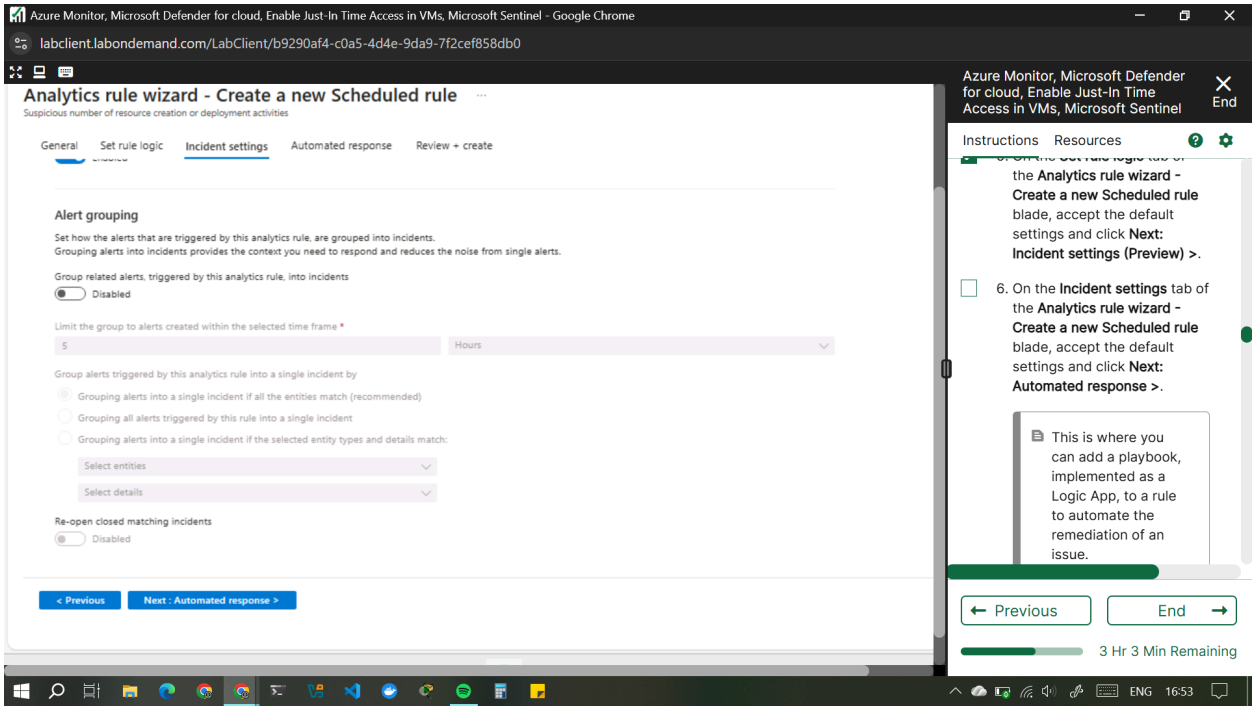
4. On the General tab of the Analytics rule wizard - Create a new Scheduled rule blade, accept the default settings and click Next: Set rule logic >.



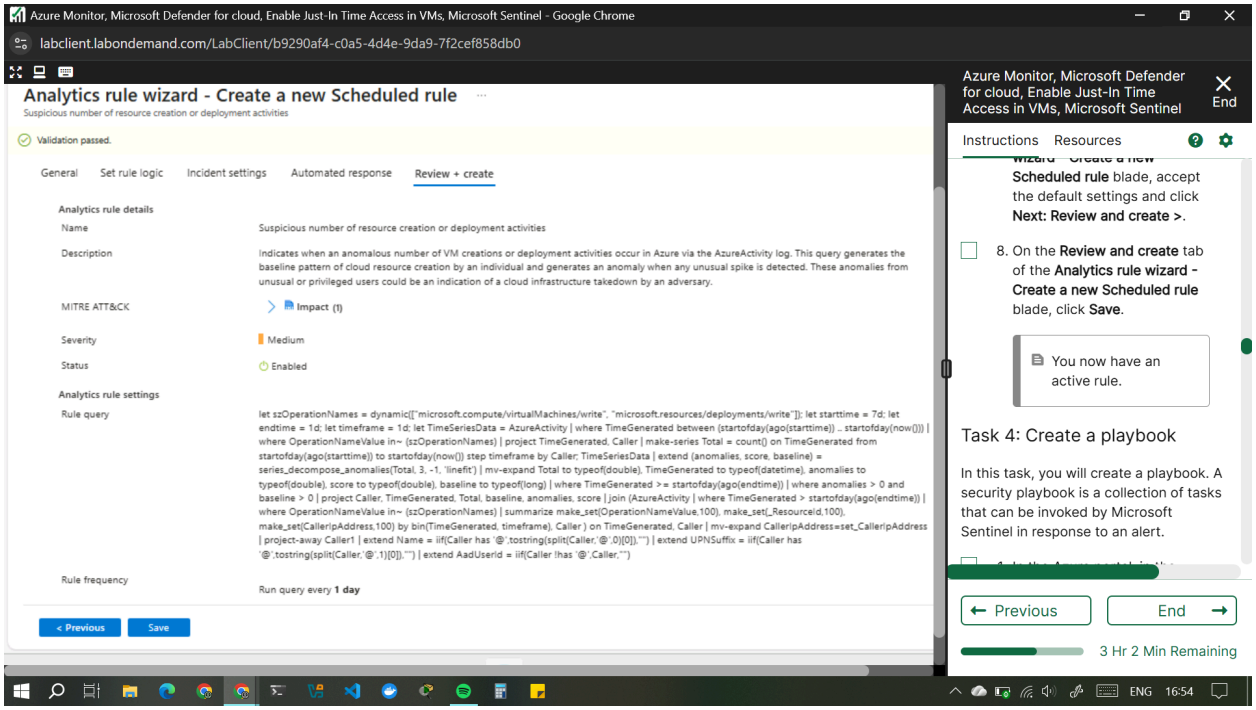
5. On the Set rule logic tab of the Analytics rule wizard - Create a new Scheduled rule blade, accept the default settings and click Next: Incident settings (Preview) >.

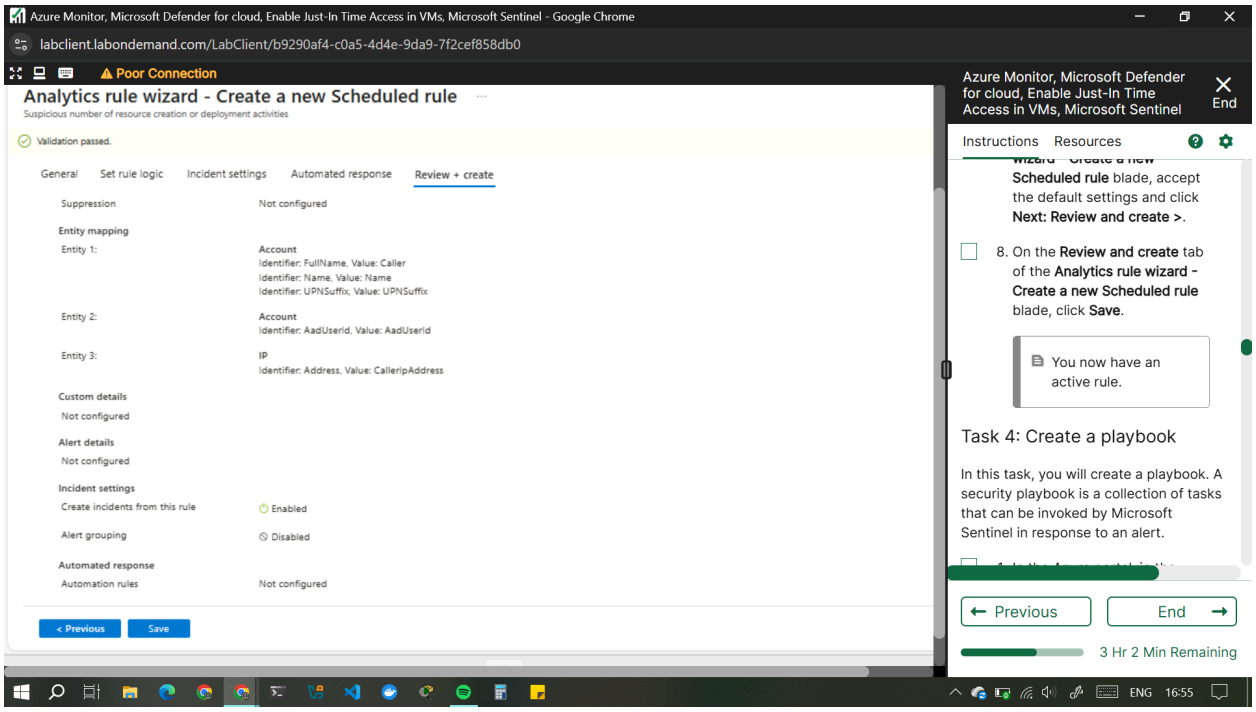


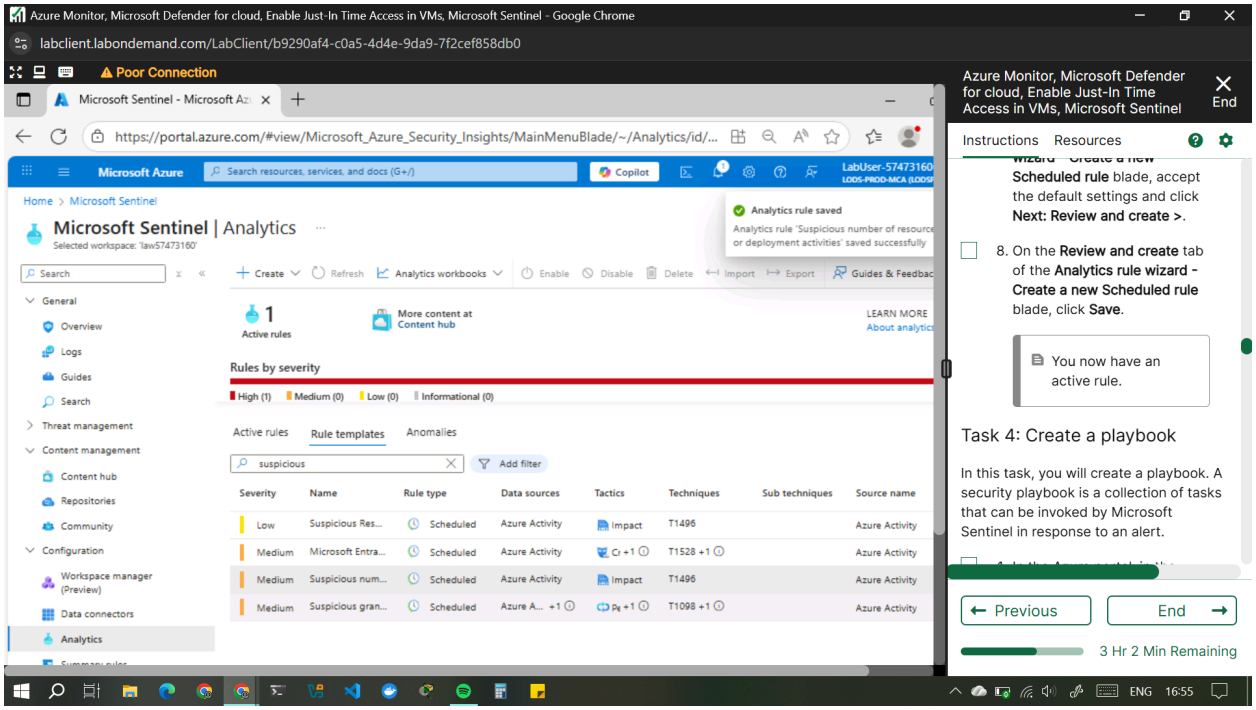
6. On the Incident settings tab of the Analytics rule wizard - Create a new Scheduled rule blade, accept the default settings and click Next: Automated response >.
   NB: This is where you can add a playbook, implemented as a Logic App, to a rule to automate the remediation of an issue.



7. On the Automated response tab of the Analytics rule wizard - Create a new Scheduled rule blade, accept the default settings and click Next: Review and create >.
8. On the Review and create tab of the Analytics rule wizard - Create a new Scheduled rule blade, click Save.


Azure Monitor, Microsoft Defender for cloud, Enable Just-In Time Access in VMs, Microsoft Sentinel - Google Chrome
labclient.labondemand.com/LabClient/b9290af4-c0a5-4d4e-9da9-7f2cef858db0
Analytics rule wizard - Create a new Scheduled rule
Suspicious number of resource creation or deployment activities
Validation passed.
General
Set rule logic
Incident settings
Automated response
Review + create
Analytics rule details
Name
Suspicious number of resource creation or deployment activities
Description
Indicates when an anomalous number of VM creations or deployment activities occur in Azure via the AzureActivity log. This query generates the baseline pattern of cloud resource creation by an individual and generates an anomaly when any unusual spike is detected. These anomalies from unusual or privileged users could be an indication of a cloud infrastructure takedown by an adversary.
MITRE ATT&CK
Impact (1)
Severity
Medium
Status
Enabled
Analytics rule settings
Rule query
Rule frequency
Run query every 1 day
< Previous
Save
Azure Monitor, Microsoft Defender for cloud, Enable Just-In Time Access in VMs, Microsoft Sentinel
End
Instructions
Resources
Scheduled rule blade, accept the default settings and click Next: Review and create >.
8. On the Review and create tab of the Analytics rule wizard - Create a new Scheduled rule blade, click Save.
You now have an active rule.
Task 4: Create a playbook
In this task, you will create a playbook. A security playbook is a collection of tasks that can be invoked by Microsoft Sentinel in response to an alert.
Previous
End
3 Hr 2 Min Remaining
ENG
16:54


Azure Monitor, Microsoft Defender for cloud, Enable Just-In Time Access in VMs, Microsoft Sentinel - Google Chrome
labclient.labondemand.com/LabClient/b9290af4-c0a5-4d4e-9da9-7f2cef858db0
Poor Connection
Analytics rule wizard - Create a new Scheduled rule
Suspicious number of resource creation or deployment activities
Validation passed.
General
Set rule logic
Incident settings
Automated response
Review + create
Suppression
Not configured
Entity mapping
Entity 1:
Account
Identifier: FullName, Value: Caller
Identifier: Name, Value: Name
Identifier: UPNSuffix, Value: UPNSuffix
Entity 2:
Account
Identifier: AadUserId, Value: AadUserId
Entity 3:
IP
Identifier: Address, Value: CallerIpAddress
Custom details
Not configured
Alert details
Not configured
Incident settings
Create incidents from this rule
Enabled
Alert grouping
Disabled
Automated response
Automation rules
Not configured
< Previous
Save
Azure Monitor, Microsoft Defender for cloud, Enable Just-In Time Access in VMs, Microsoft Sentinel
End
Instructions
Resources
Scheduled rule blade, accept the default settings and click Next: Review and create >.
8. On the Review and create tab of the Analytics rule wizard - Create a new Scheduled rule blade, click Save.
You now have an active rule.
Task 4: Create a playbook
In this task, you will create a playbook. A security playbook is a collection of tasks that can be invoked by Microsoft Sentinel in response to an alert.
Previous
End
3 Hr 2 Min Remaining
ENG
16:55

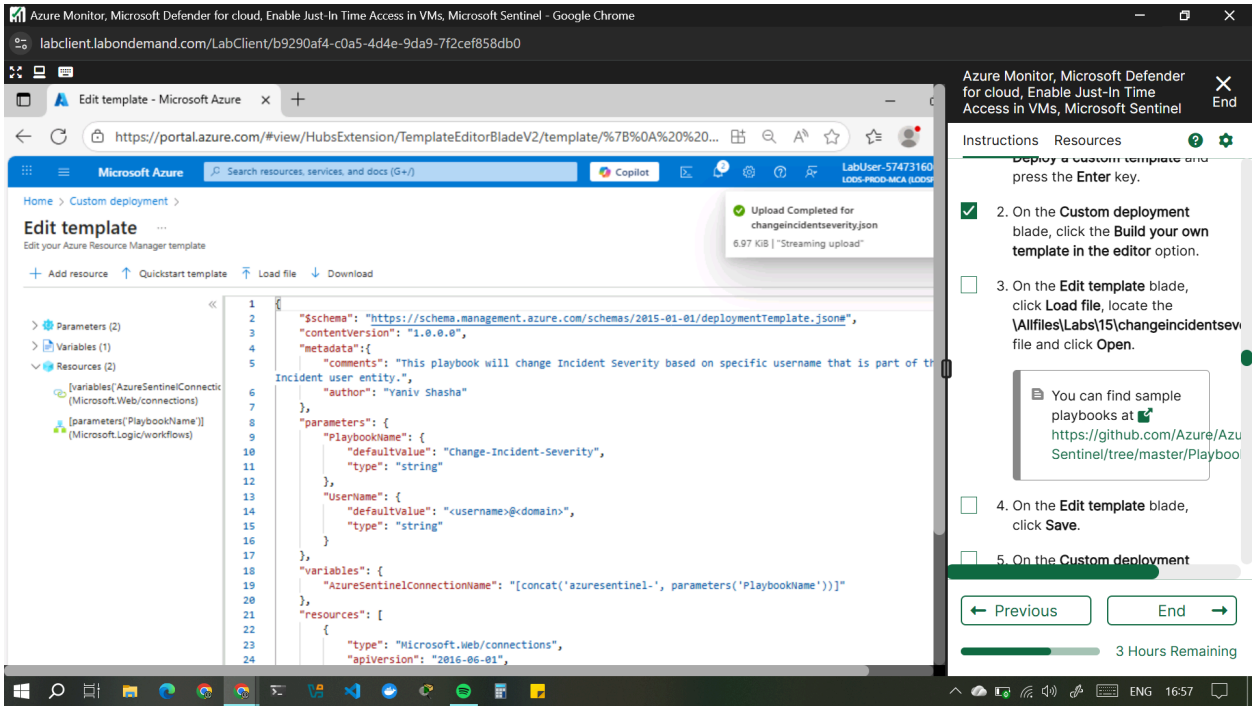


You now have an active rule.

Task 4: Create a playbook

In this task, you will create a playbook. A security playbook is a collection of tasks that can be invoked by Microsoft Sentinel in response to an alert.

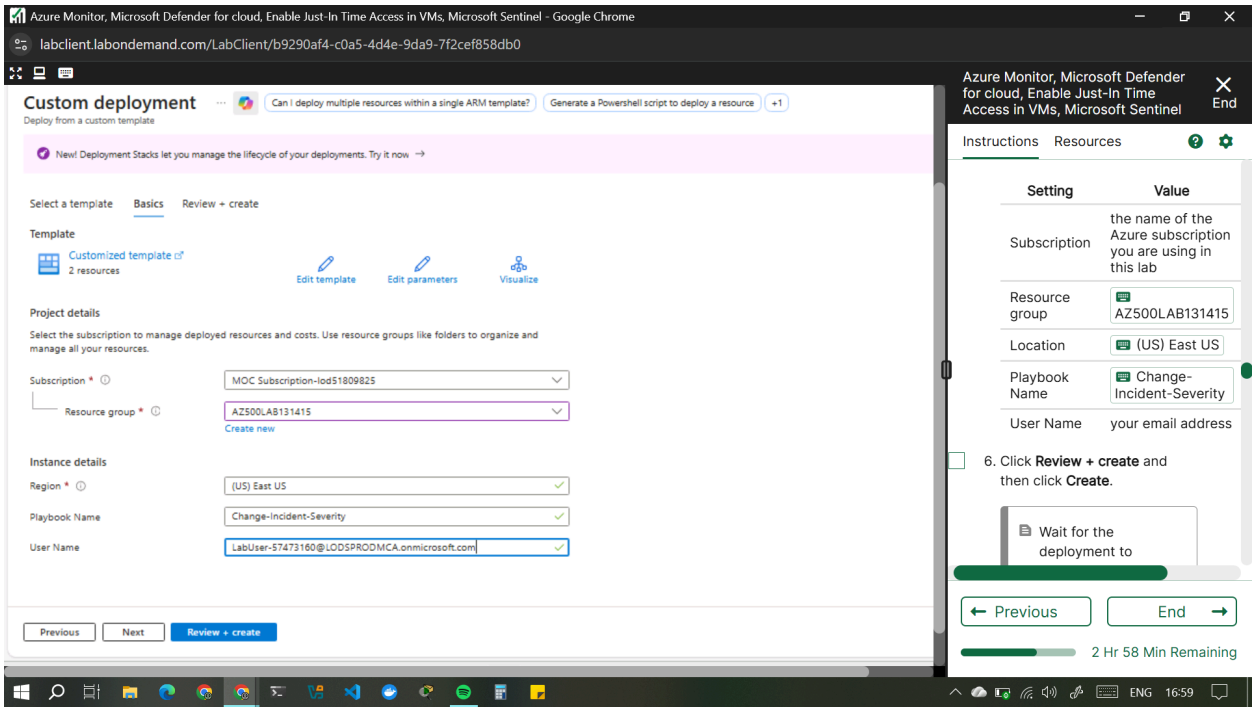
1. In the Azure portal, in the Search resources, services, and docs text box at the top of the Azure portal page, type Deploy a custom template and press the Enter key.
2. On the Custom deployment blade, click the Build your own template in the editor option.
3. On the Edit template blade, click Load file, locate the \Allfiles\Labs\15\changeincidentseverity.json file and click Open. You can find sample playbooks at https://github.com/Azure/Azure-Sentinel/tree/master/Playbooks.



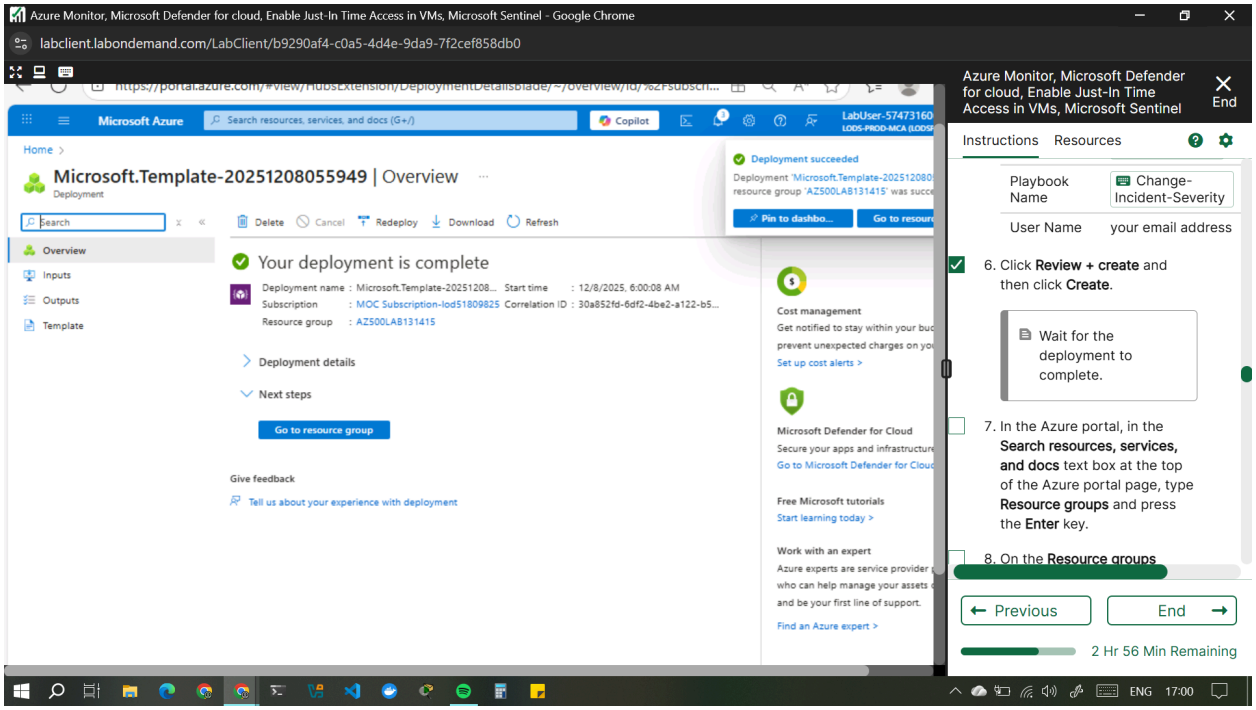
4. On the Edit template blade, click Save.
5. On the Custom deployment blade, ensure that the following settings are configured (leave any others with their default values):

Setting	Value
Subscription	the name of the Azure subscription you are using in this lab
Resource group	AZ500LAB131415
Location	(US) East US
Playbook Name	Change-Incident-Severity

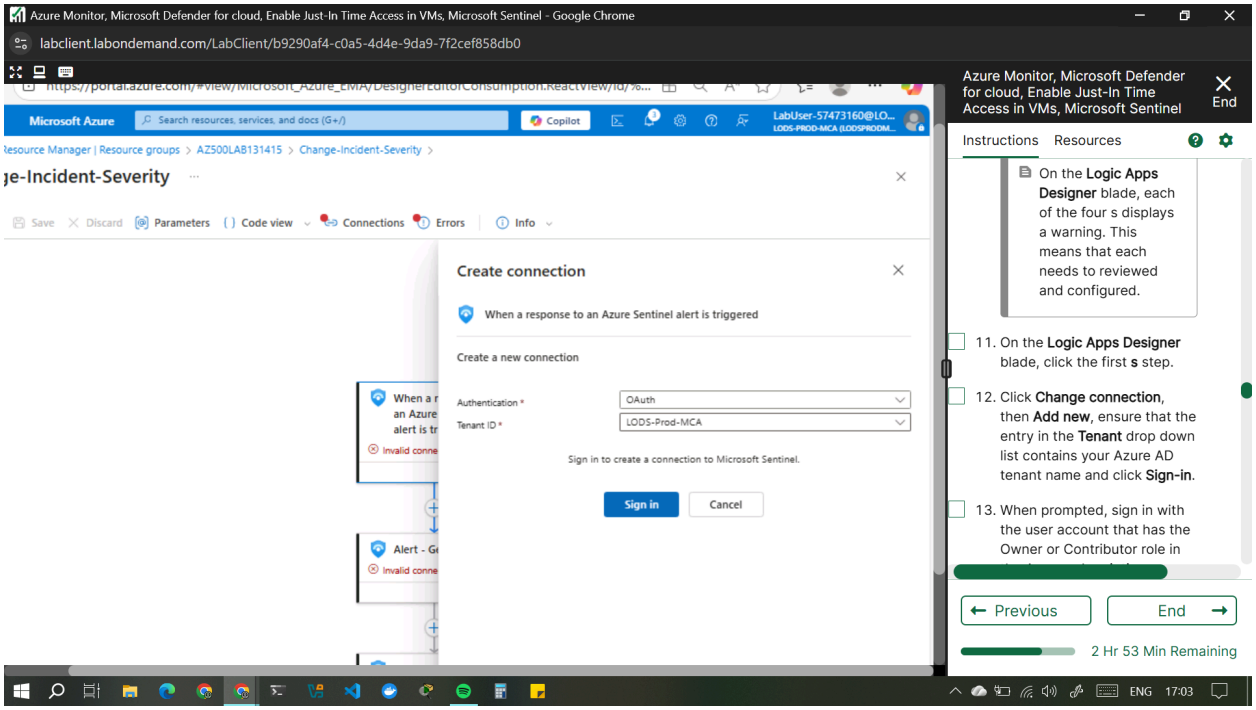
User Name your email address

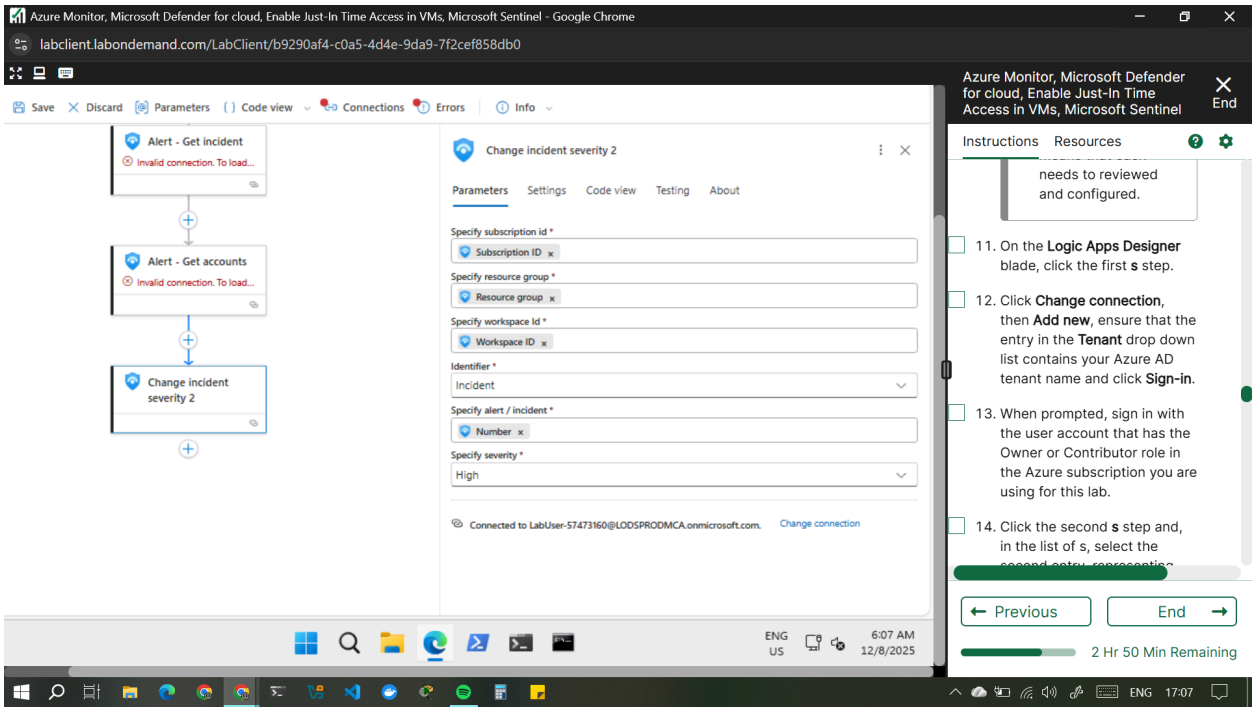


6. Click Review + create and then click Create.
   Wait for the deployment to complete.



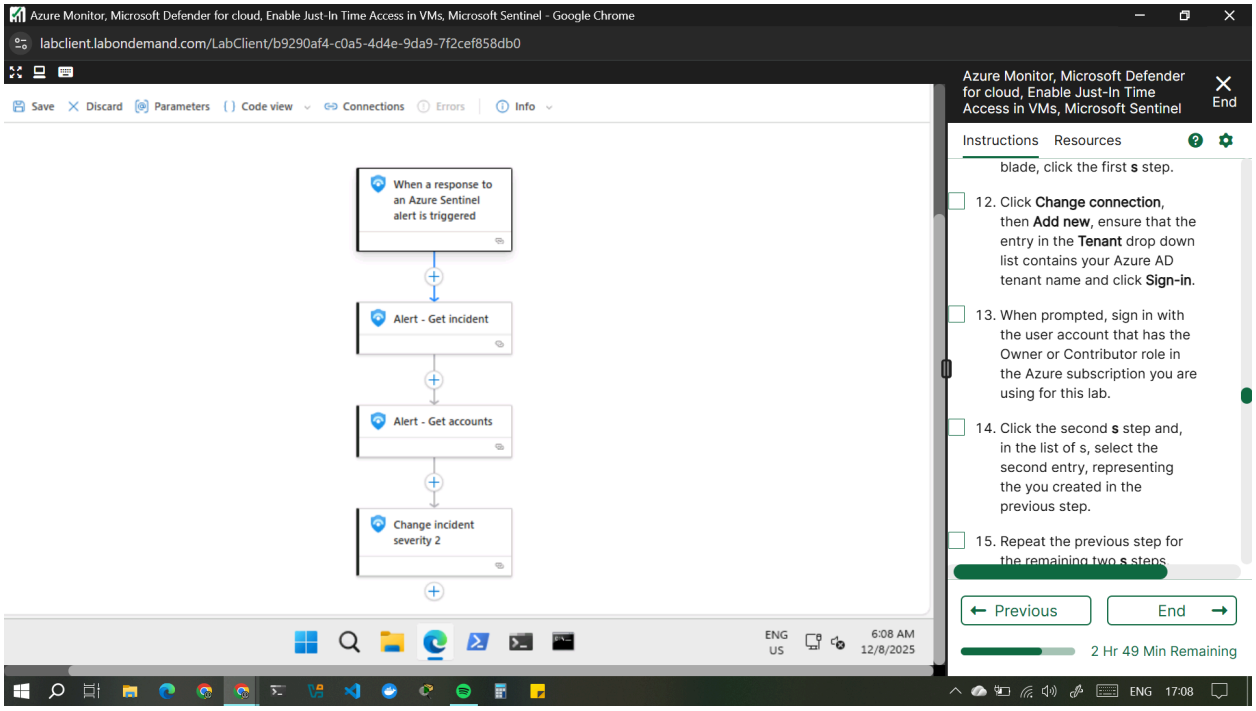
7. In the Azure portal, in the Search resources, services, and docs text box at the top of the Azure portal page, type Resource groups and press the Enter key.
8. On the Resource groups blade, in the list of resource group, click the AZ500LAB131415 entry.
9. On the AZ500LAB131415 resource group blade, in the list of resources, click the entry representing the newly created Change-Incident-Severity logic app.
10. On the Change-Incident-Severity blade, click Edit.
    On the Logic Apps Designer blade, each of the four s displays a warning. This means that each needs to reviewed and configured.
11. On the Logic Apps Designer blade, click the first s step.
12. Click Change connection, then Add new, ensure that the entry in the Tenant drop down list contains your Azure AD tenant name and click Sign-in.
13. When prompted, sign in with the user account that has the Owner or Contributor role in the Azure subscription you are using for this lab.

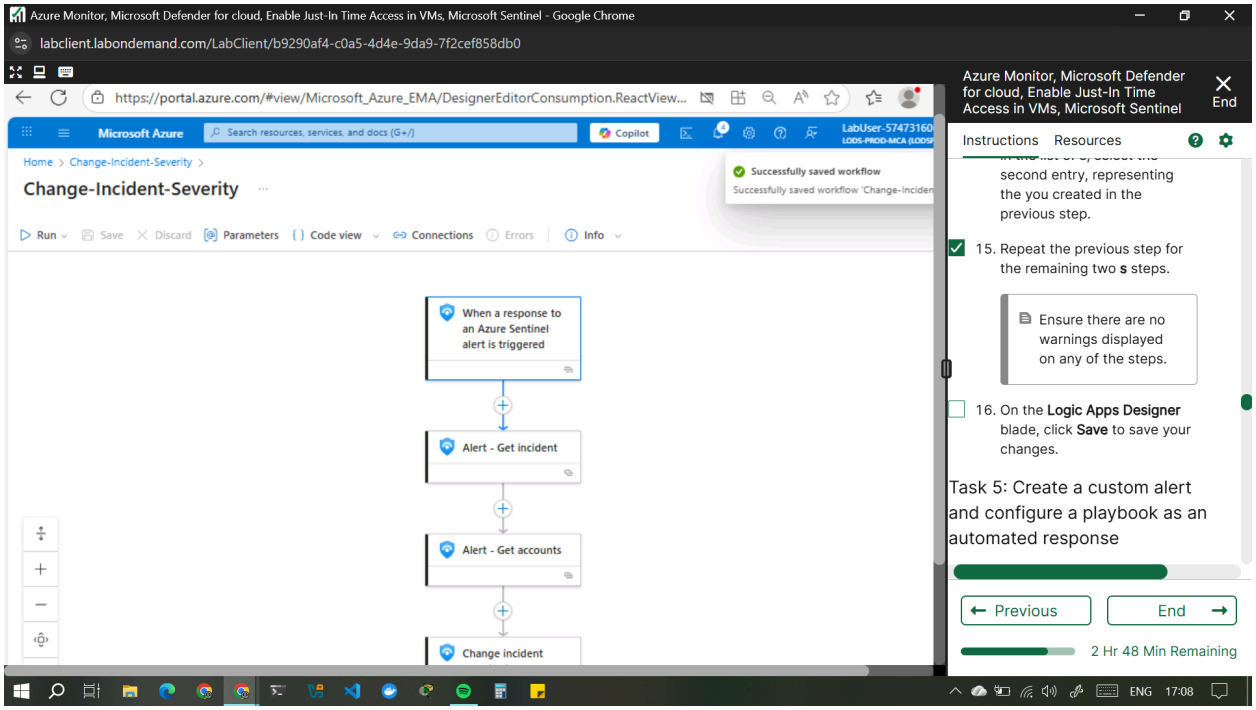




14. Click the second s step and, in the list of s, select the second entry, representing the you created in the previous step.

15. Repeat the previous step for the remaining two s steps.
    Ensure there are no warnings displayed on any of the steps.
16. On the Logic Apps Designer blade, click Save to save your changes.





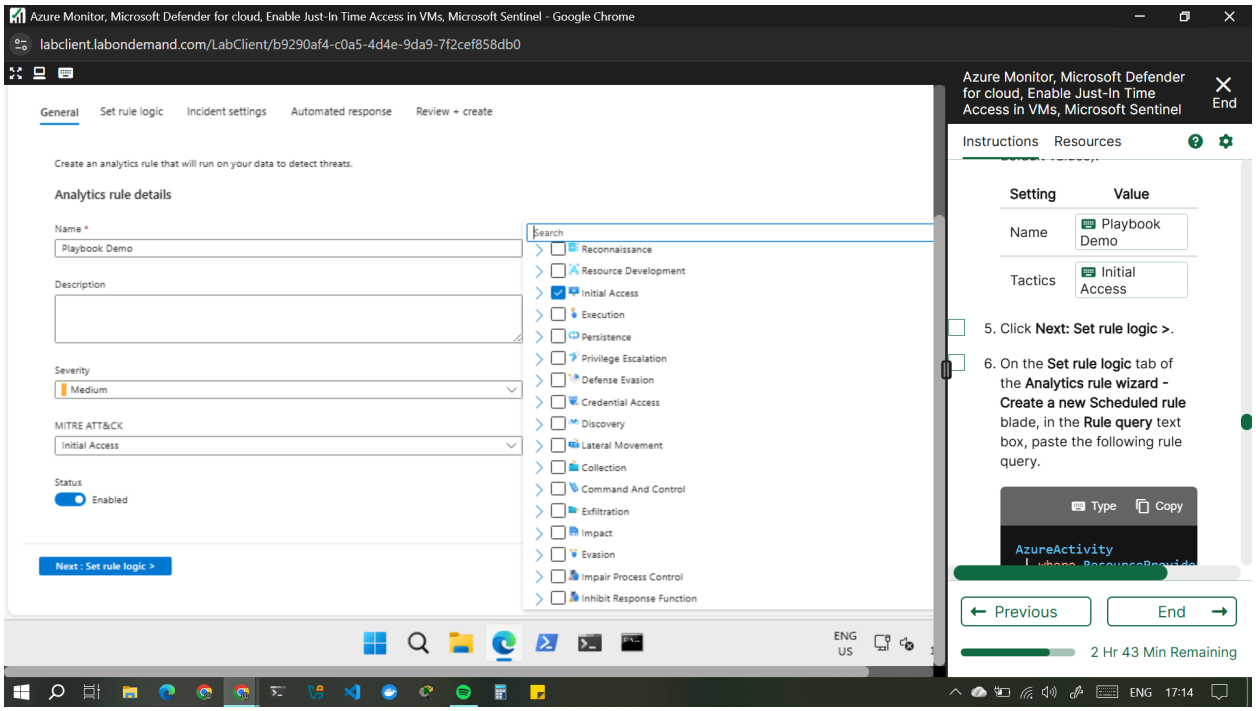
Task 5: Create a custom alert and configure a playbook as an automated response

1. In the Azure portal, navigate back to the Microsoft Sentinel | Overview blade.
2. On the the Microsoft Sentinel | Overview blade, in the Configuration section, click Analytics.
3. On the Microsoft Sentinel | Analytics blade, click + Create and, in the drop-down menu, click Scheduled query rule.

4. On the General tab of the Analytics rule wizard - Create a new Scheduled rule blade, specify the following settings (leave others with their default values):

Setting	Value
Name	Playbook Demo
Tactics	Initial Access

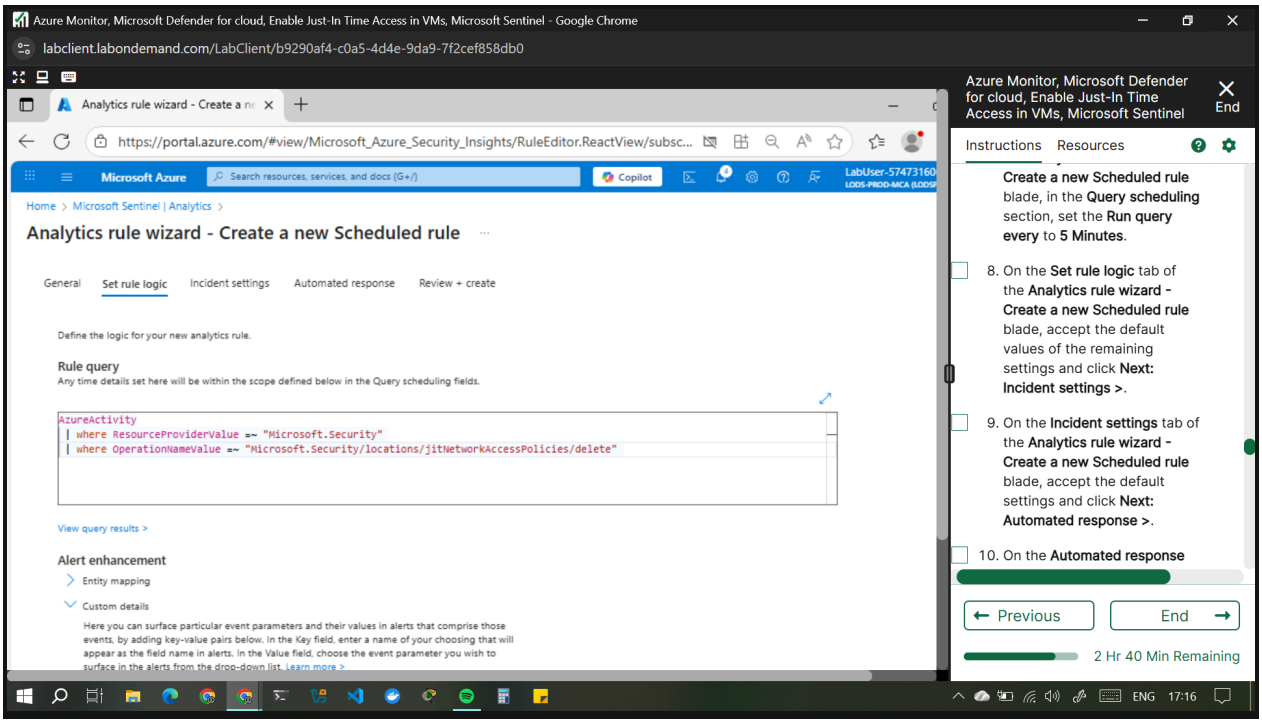
MITRE ATT&CK (Adversarial Tactics, Techniques, and Common Knowledge) *is a globally accessible knowledge base, framework, and matrix that details cyber adversary behaviors, including their tactics (goals like "Initial Access," "Execution") and specific techniques (methods like "Phishing," "Credential Dumping") used in real-world attacks, providing a common language for defenders to understand, map, detect, and mitigate threats across enterprise, mobile, cloud, and ICS environments*



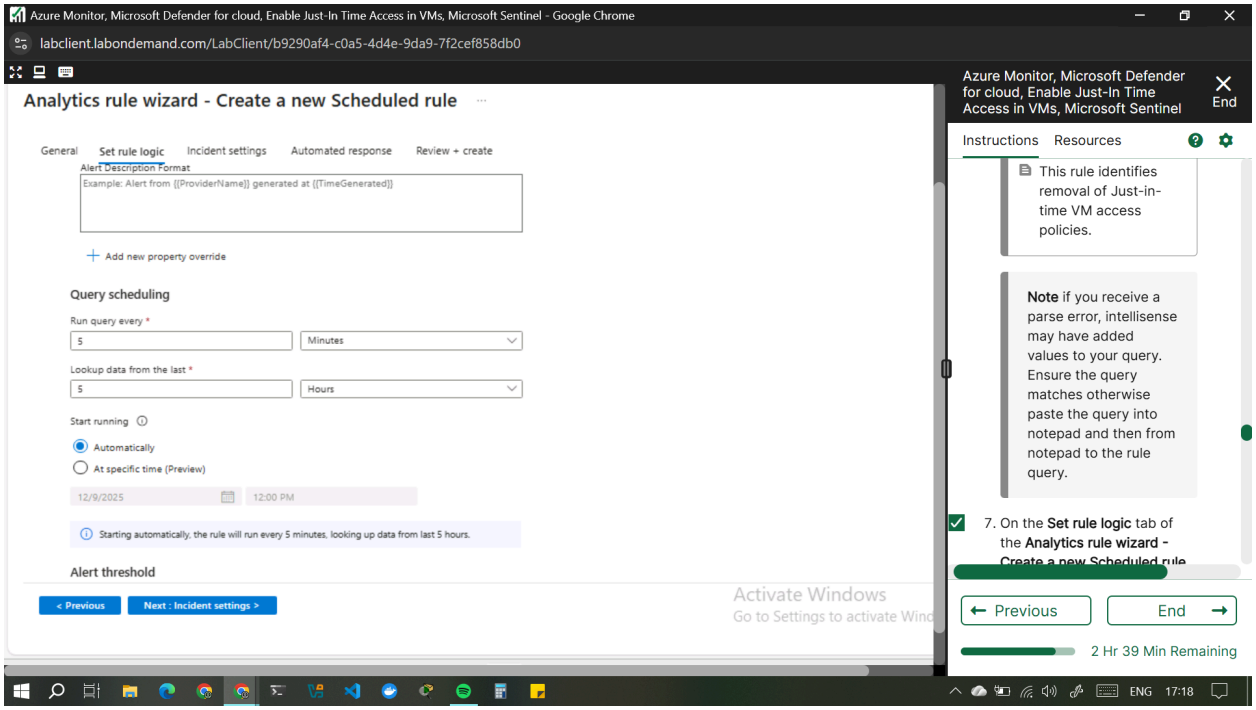
5. Click Next: Set rule logic >.
6. On the Set rule logic tab of the Analytics rule wizard - Create a new Scheduled rule blade, in the Rule query text box, paste the following rule query.

```
AzureActivity

| where ResourceProviderValue =~ "Microsoft.Security"
```

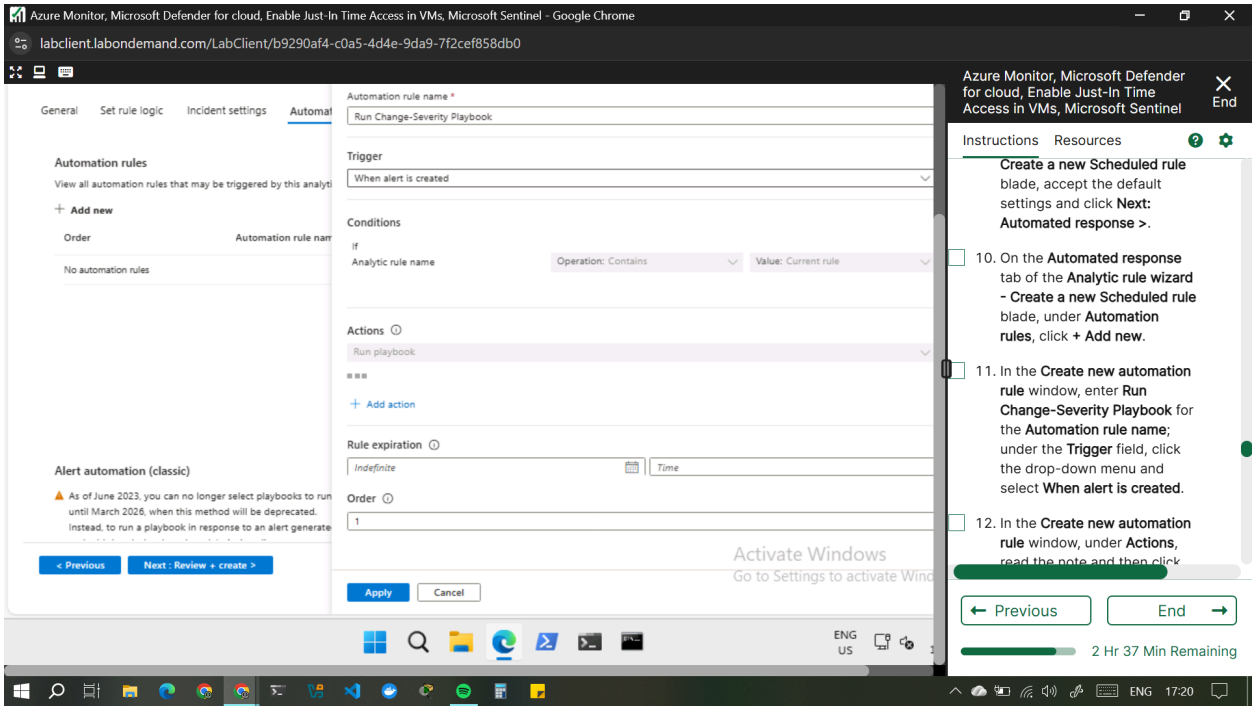
```
| where OperationNameValue =~
"Microsoft.Security/locations/jitNetworkAccessPolicies/delete"
```



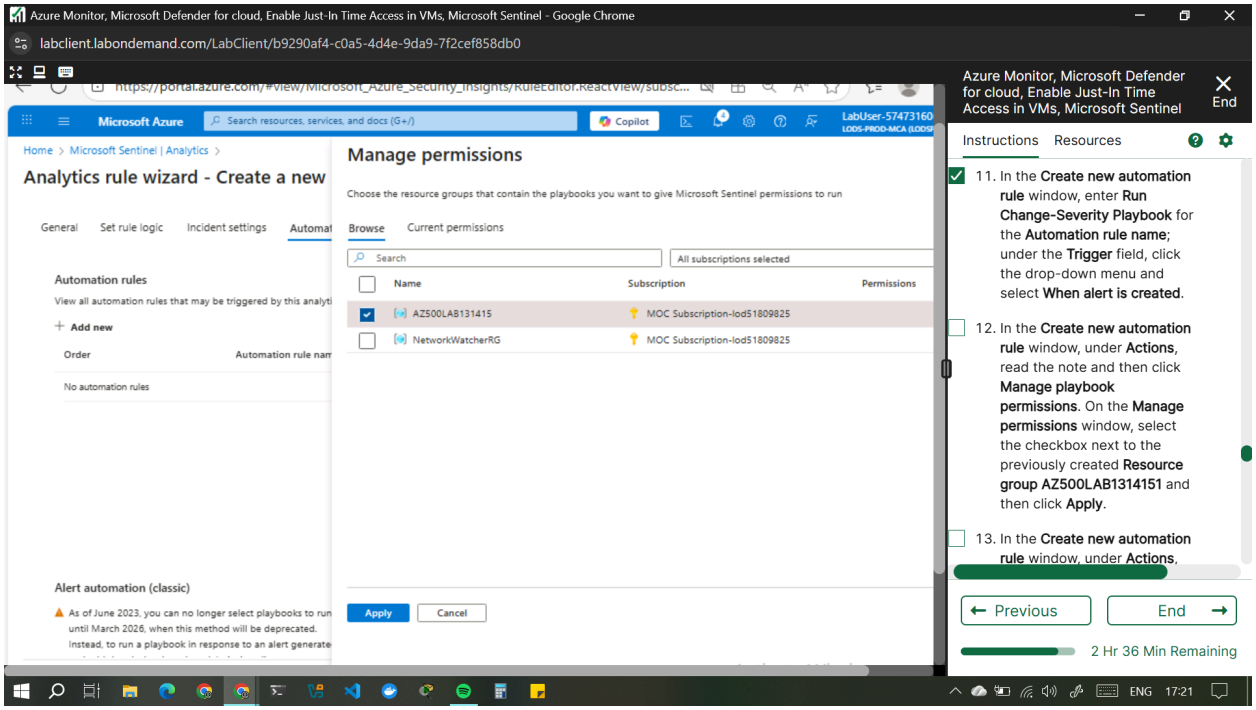
7. This rule identifies removal of Just-in-time VM access policies.
   Note if you receive a parse error, intellisense may have added values to your query. Ensure the query matches otherwise paste the query into notepad and then from notepad to the rule query.
8. On the Set rule logic tab of the Analytics rule wizard - Create a new Scheduled rule blade, in the Query scheduling section, set the Run query every to 5 Minutes.



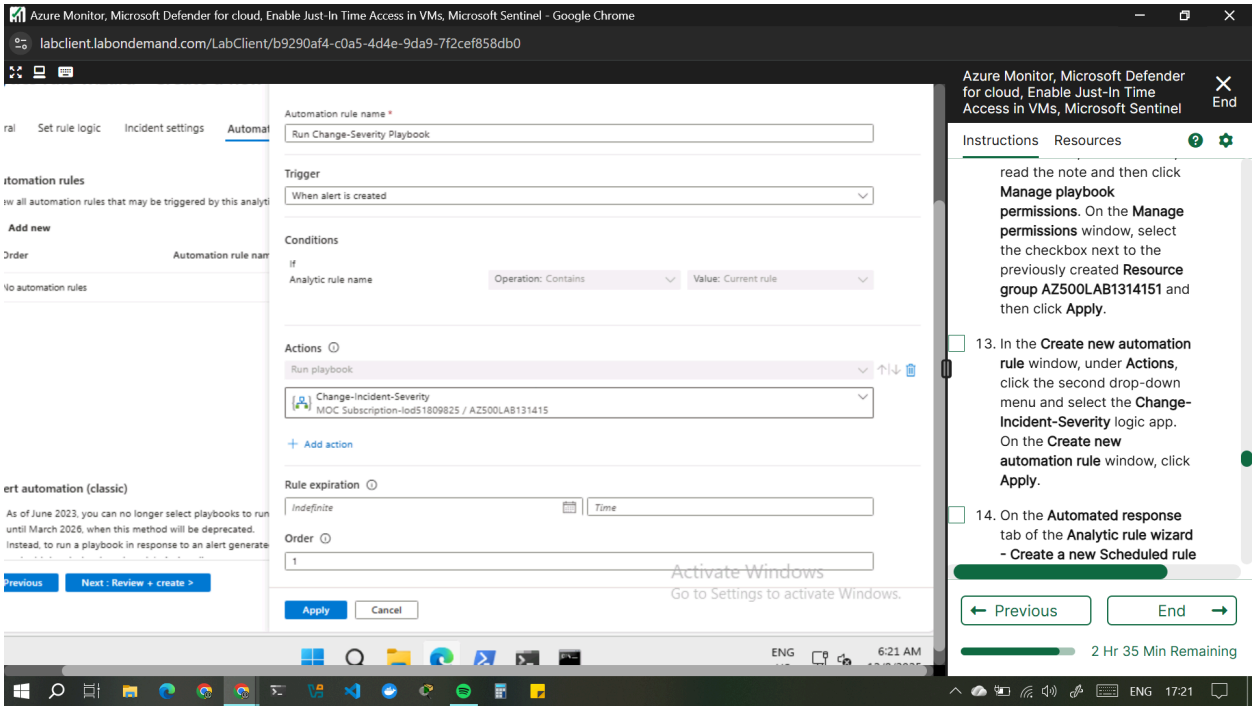
9. On the Set rule logic tab of the Analytics rule wizard - Create a new Scheduled rule blade, accept the default values of the remaining settings and click Next: Incident settings >.
10. On the Incident settings tab of the Analytics rule wizard - Create a new Scheduled rule blade, accept the default settings and click Next: Automated response >.
11. On the Automated response tab of the Analytic rule wizard - Create a new Scheduled rule blade, under Automation rules, click + Add new.
12. In the Create new automation rule window, enter Run Change-Severity Playbook for the Automation rule name; under the Trigger field, click the drop-down menu and select When alert is created.



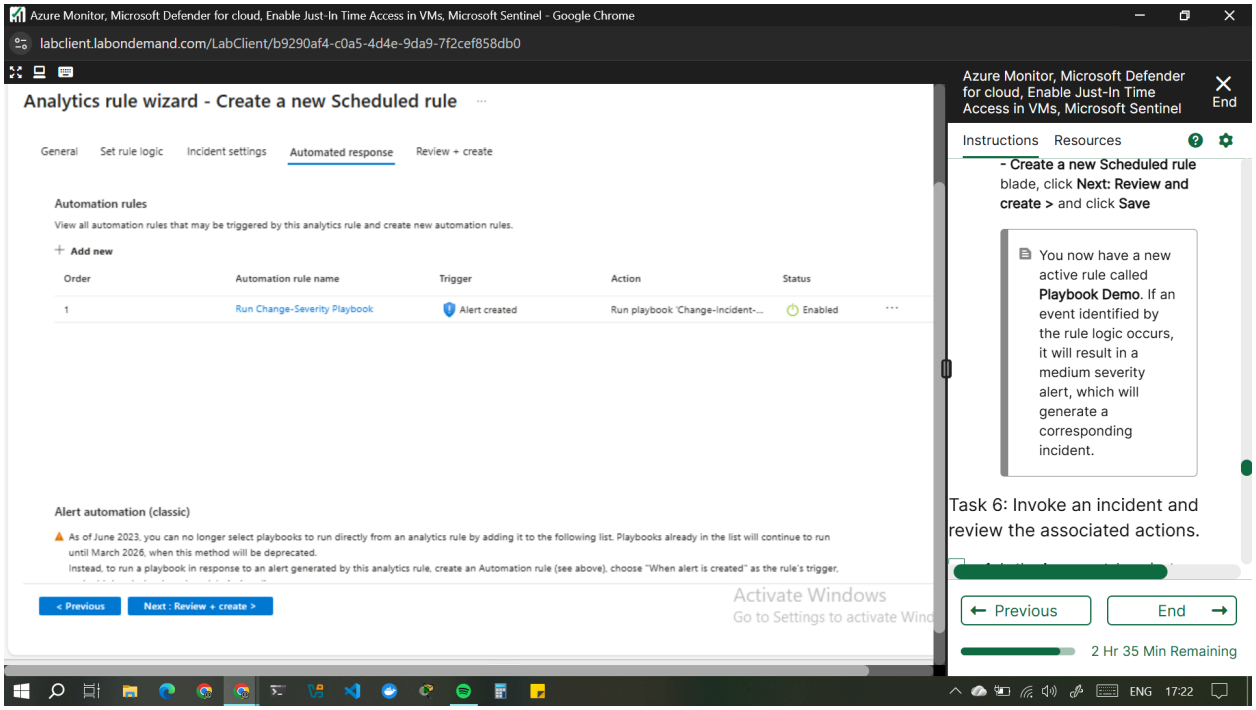
13. In the Create new automation rule window, under Actions, read the note and then click Manage playbook permissions. On the Manage permissions window, select the checkbox next to the previously created Resource group AZ500LAB1314151 and then click Apply.

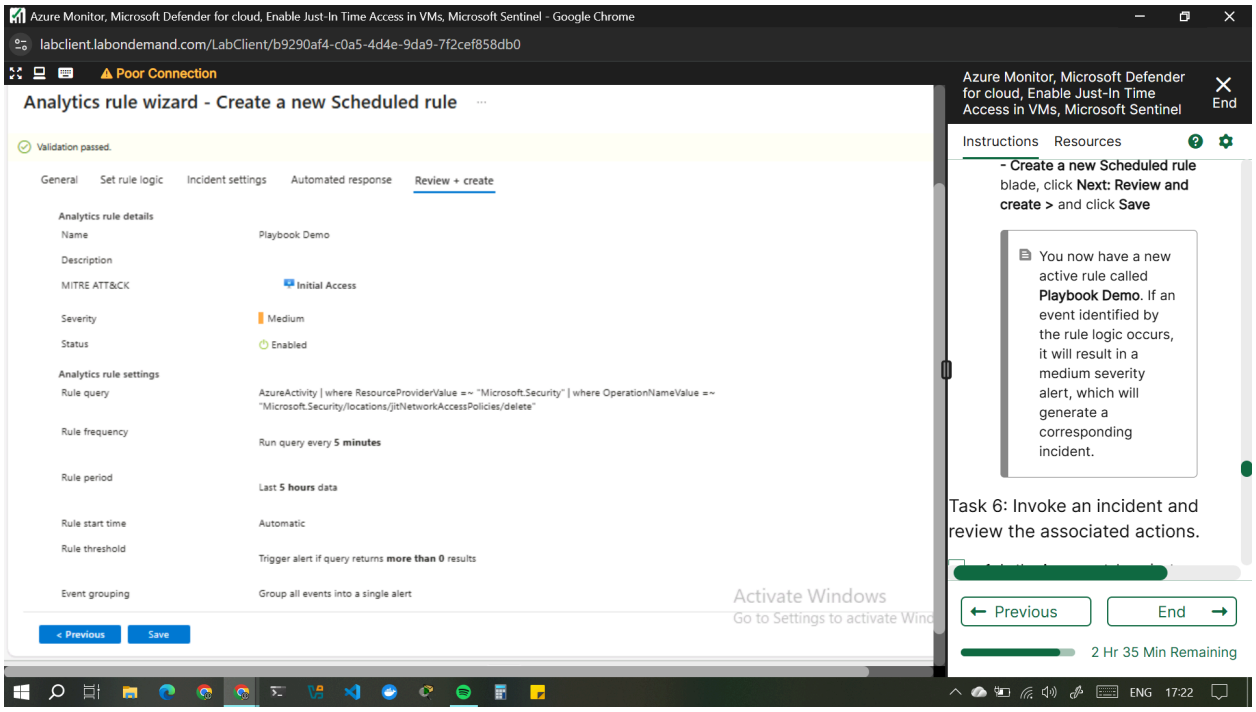


14. In the Create new automation rule window, under Actions, click the second drop-down menu and select the Change-Incident-Severity logic app. On the Create new automation rule window, click Apply.



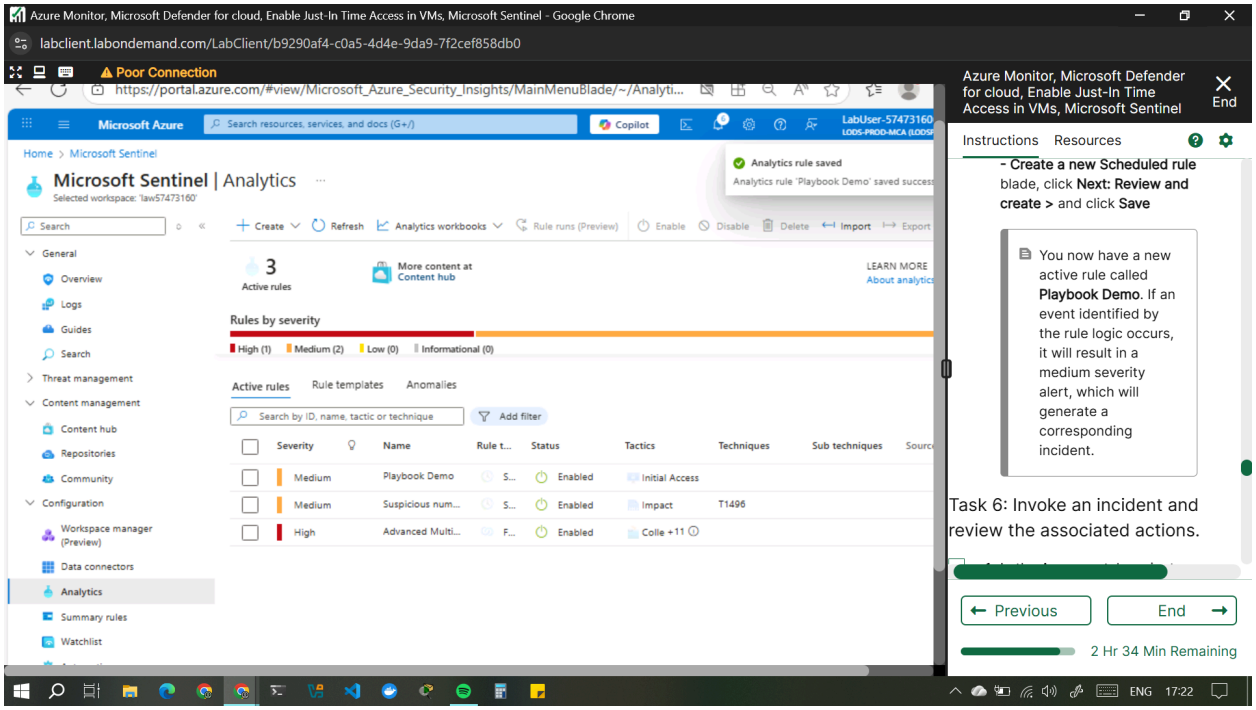
15. On the Automated response tab of the Analytic rule wizard - Create a new Scheduled rule blade, click Next: Review and create > and click Save





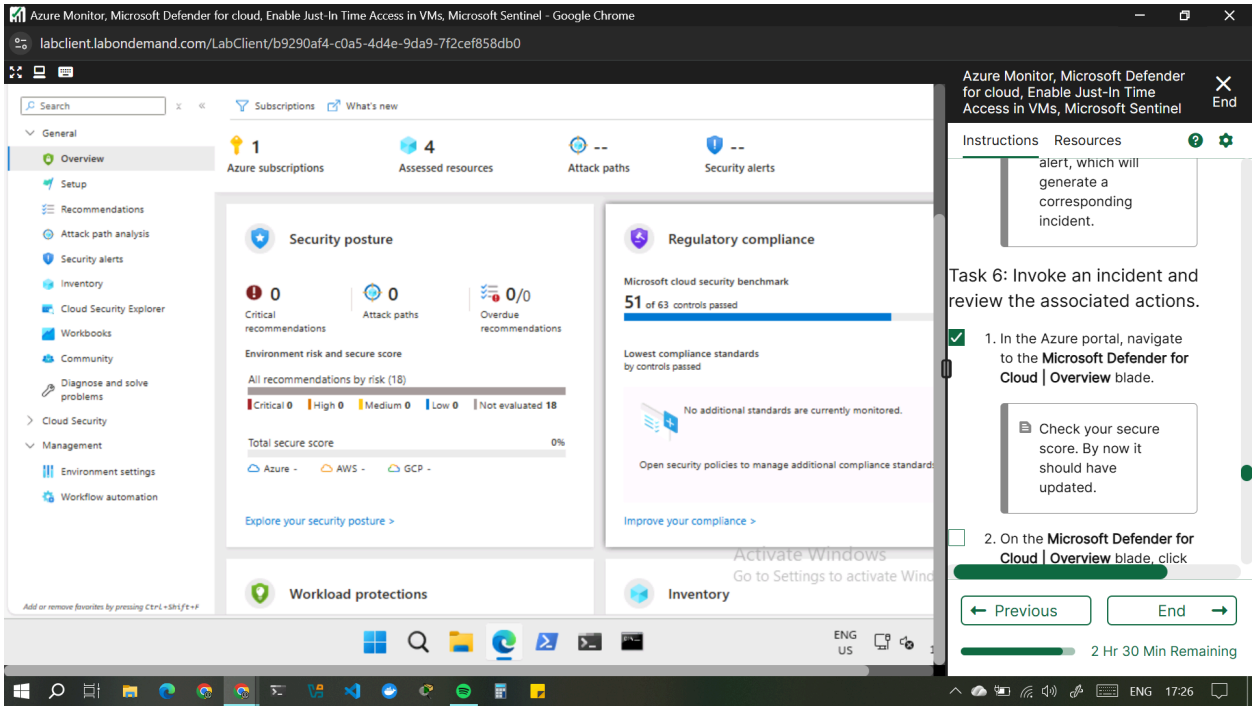
You now have a new active rule called Playbook Demo. If an event identified by

the rule logic occurs, it will result in a medium severity alert, which will generate a corresponding incident.

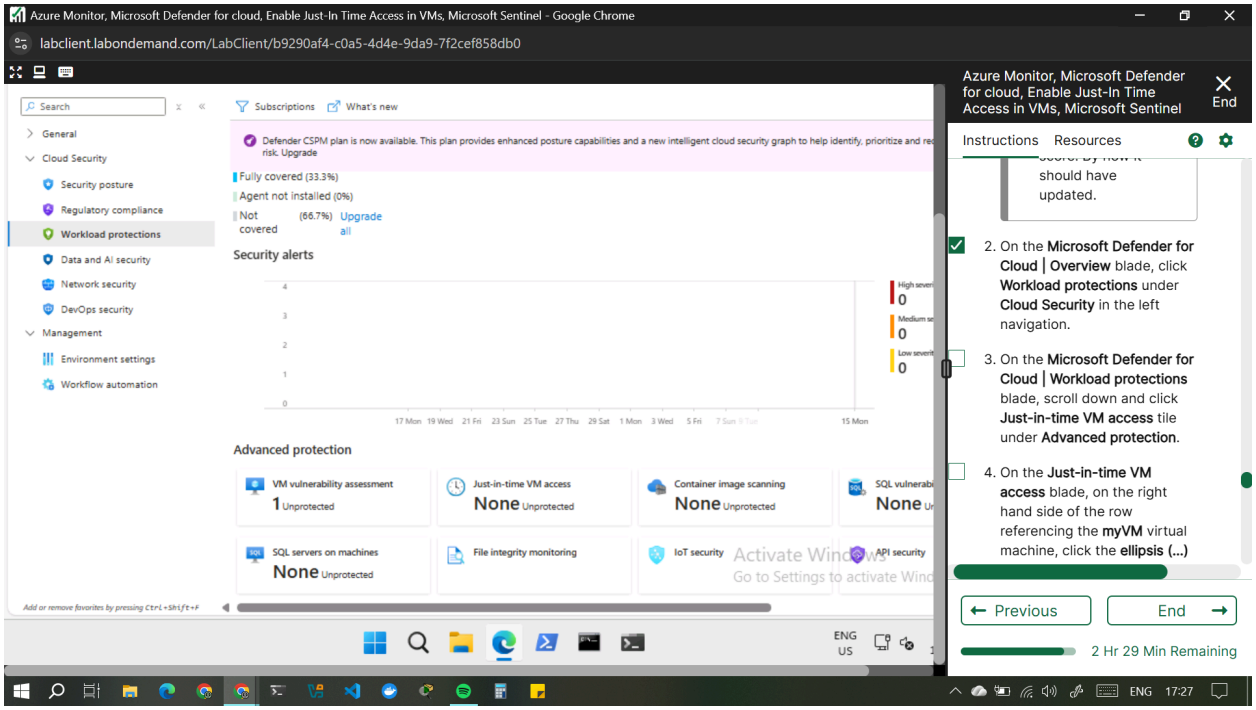


Task 6: Invoke an incident and review the associated actions.

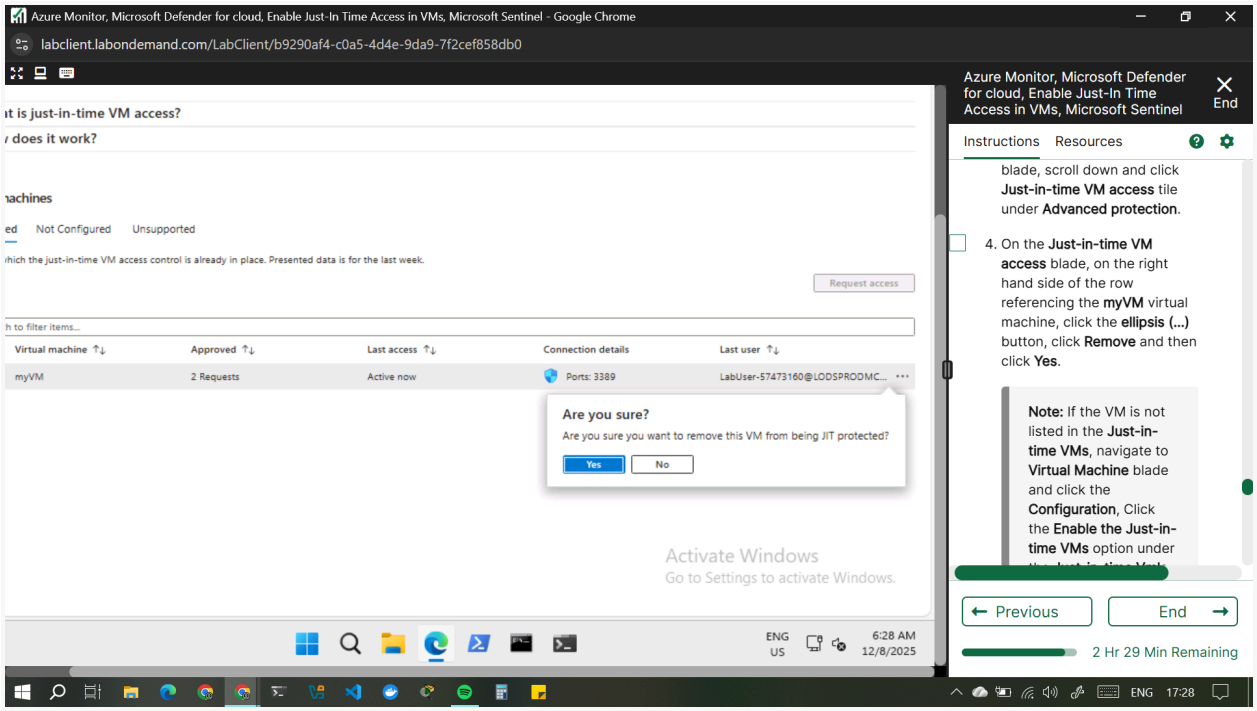
1. In the Azure portal, navigate to the Microsoft Defender for Cloud | Overview blade.
   Check your secure score. By now it should have updated.

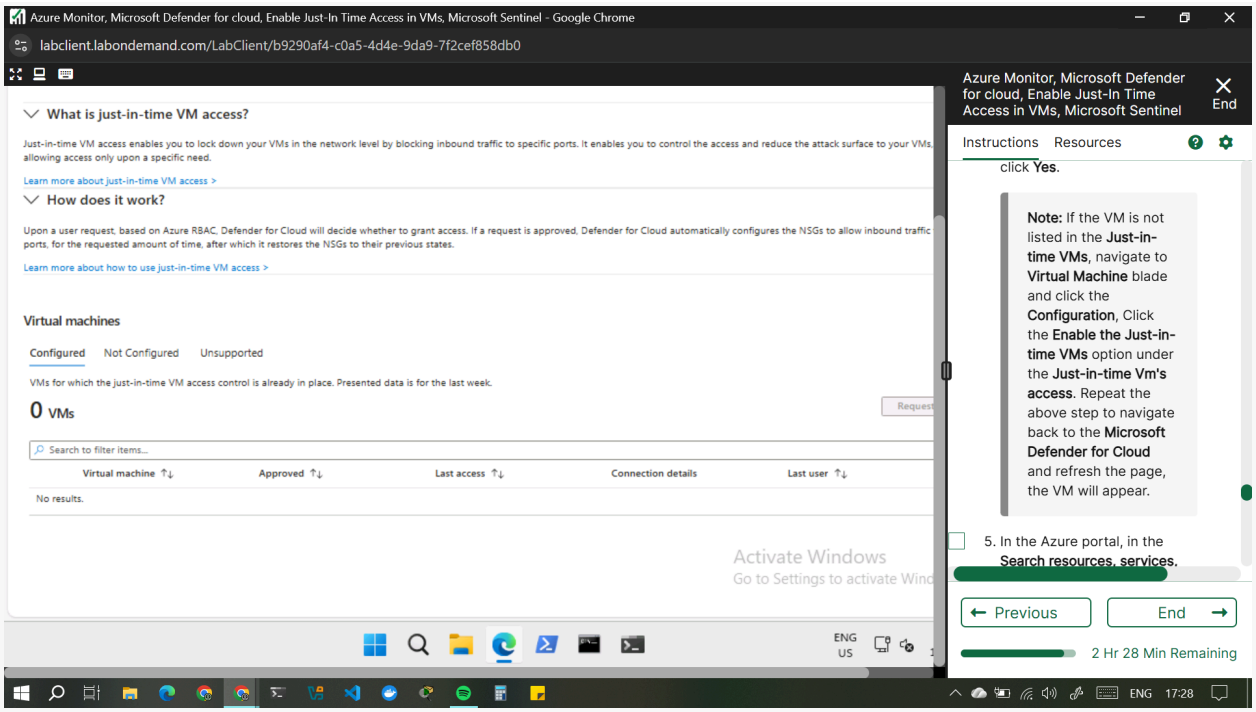


2. On the Microsoft Defender for Cloud | Overview blade, click Workload protections under Cloud Security in the left navigation.
3. On the Microsoft Defender for Cloud | Workload protections blade, scroll down and click Just-in-time VM access tile under Advanced protection.



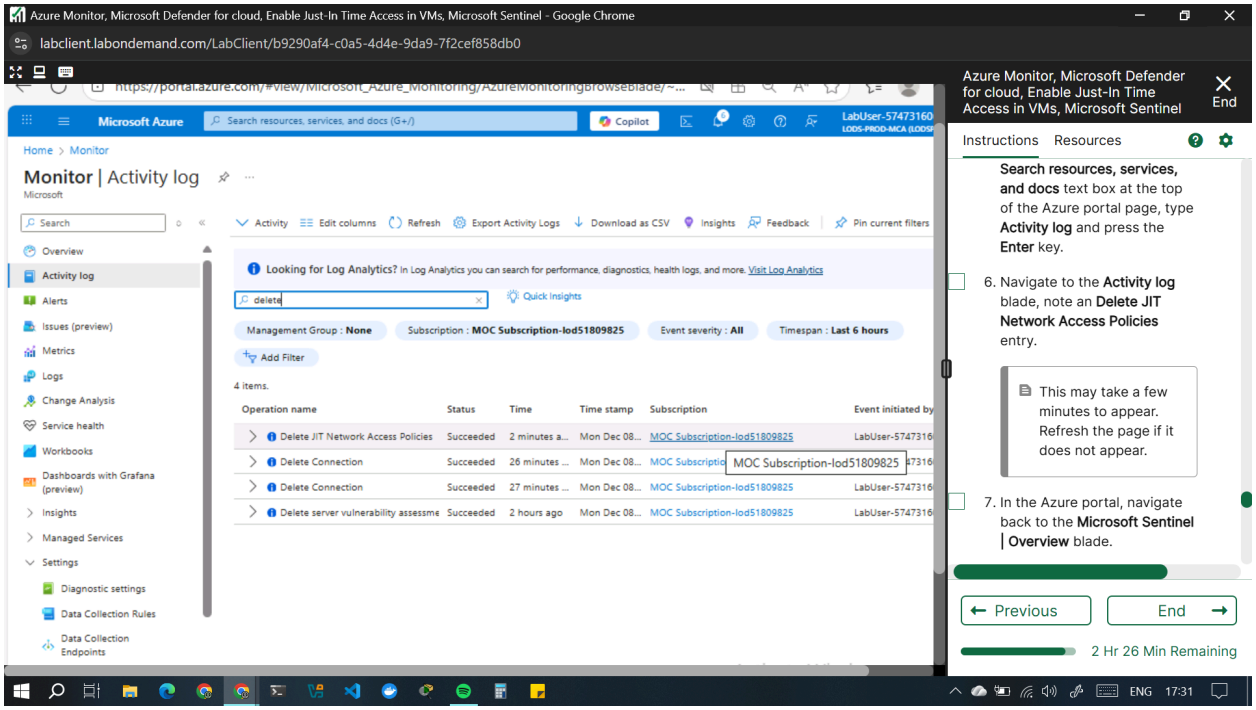
4. On the Just-in-time VM access blade, on the right hand side of the row referencing the myVM virtual machine, click the ellipsis (...) button, click Remove and then click Yes.





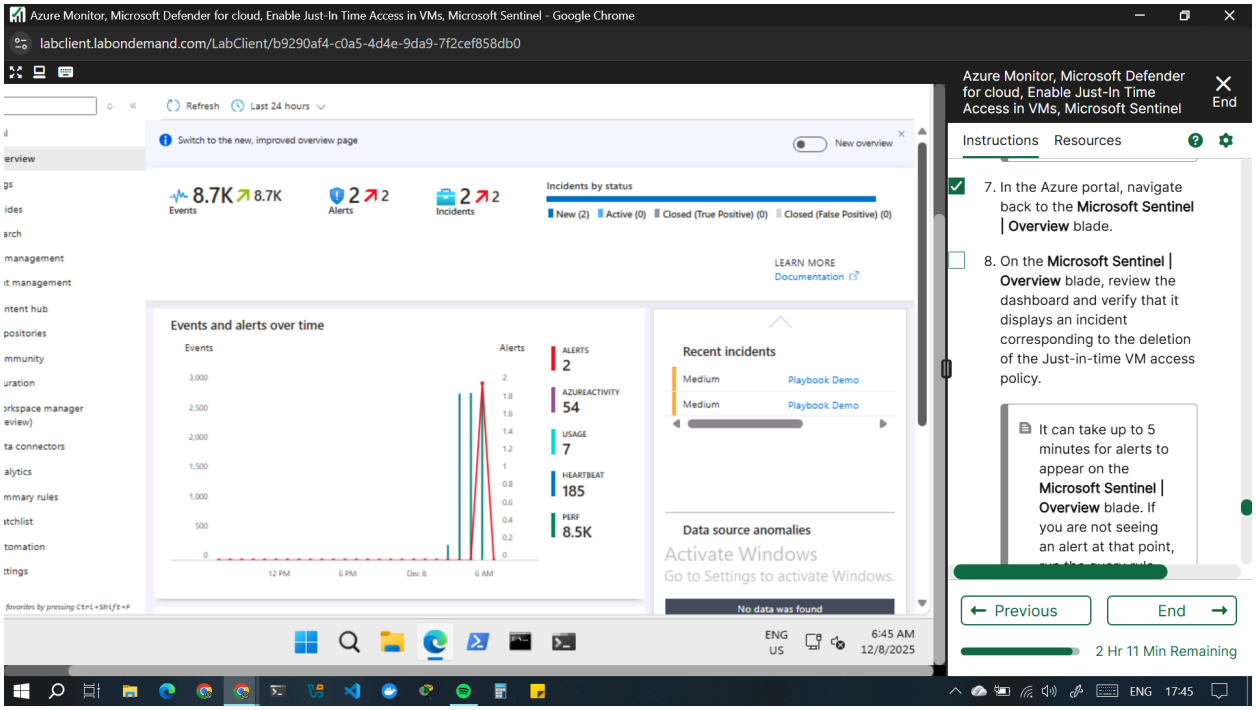
5. In the Azure portal, in the Search resources, services, and docs text box at the top of the Azure portal page, type Activity log and press the Enter key.
6. Navigate to the Activity log blade, note an **Delete JIT Network Access Policies** entry.

   This may take a few minutes to appear. Refresh the page if it does not appear.

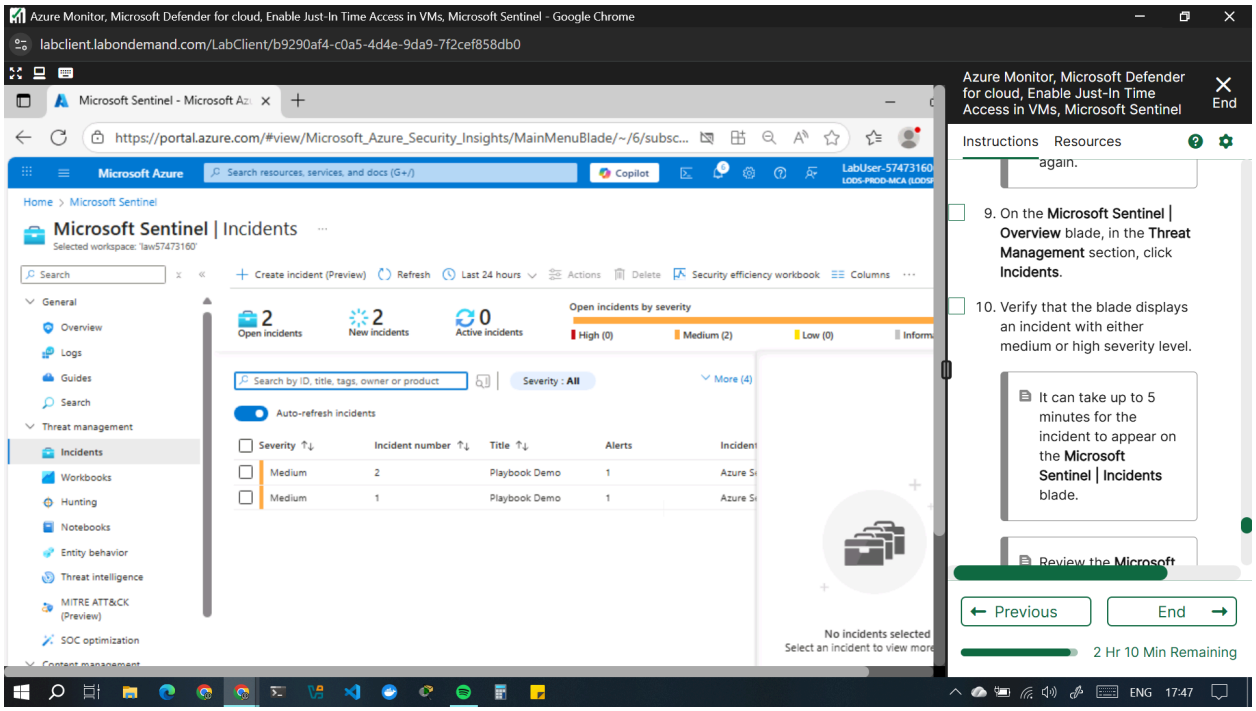


7. In the Azure portal, navigate back to the Microsoft Sentinel | Overview blade.
8. On the Microsoft Sentinel | Overview blade, review the dashboard and verify that it displays an incident corresponding to the deletion of the Just-in-time VM access policy.

   It can take up to 5 minutes for alerts to appear on the Microsoft Sentinel | Overview blade. If you are not seeing an alert at that point, run the query rule referenced in the previous task to verify that the Just-in-time access policy deletion activity has been propagated to the Log Analytics workspace associated with your Microsoft Sentinel instance. If that is not the case, re-create the Just-in-time VM access policy and delete it again.



9. On the Microsoft Sentinel | Overview blade, in the Threat Management section, click Incidents.

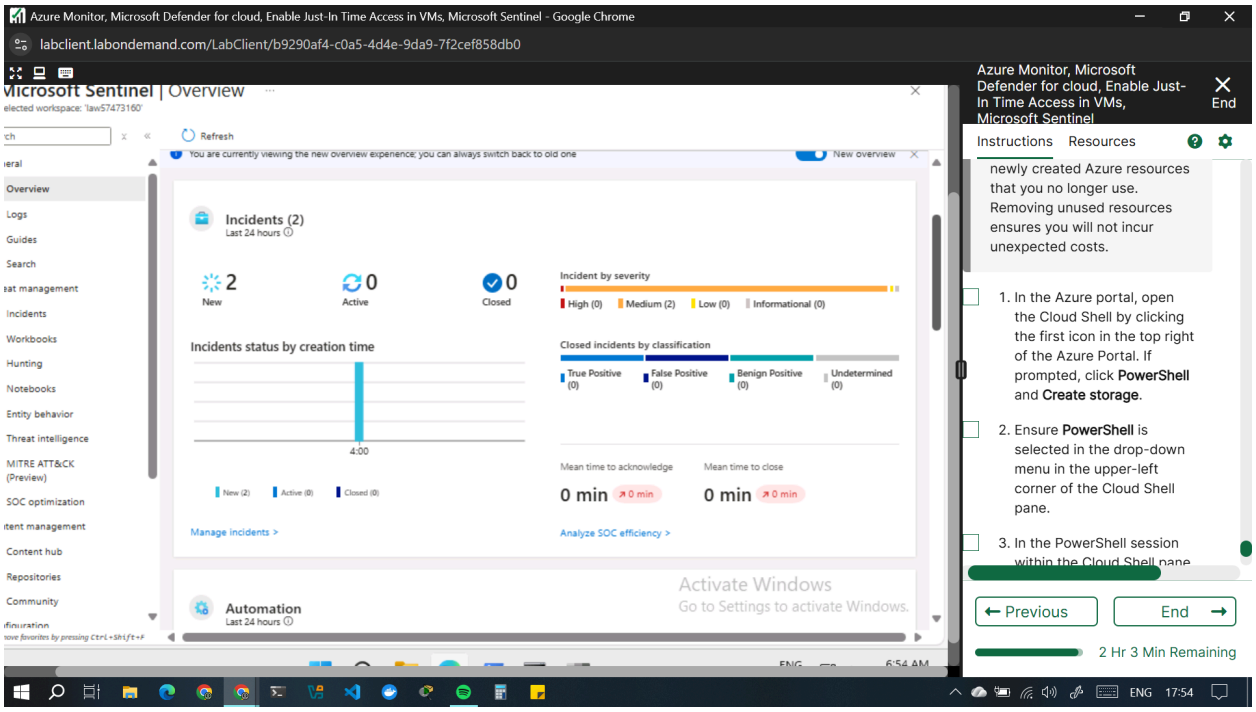


10. Verify that the blade displays an incident with either medium or high severity level.

    It can take up to 5 minutes for the incident to appear on the Microsoft Sentinel | Incidents blade.

    Review the Microsoft Sentinel | Playbooks blade. You will find there the count of successful and failed runs.

    You have the option of assigning a different severity level and status to an incident.

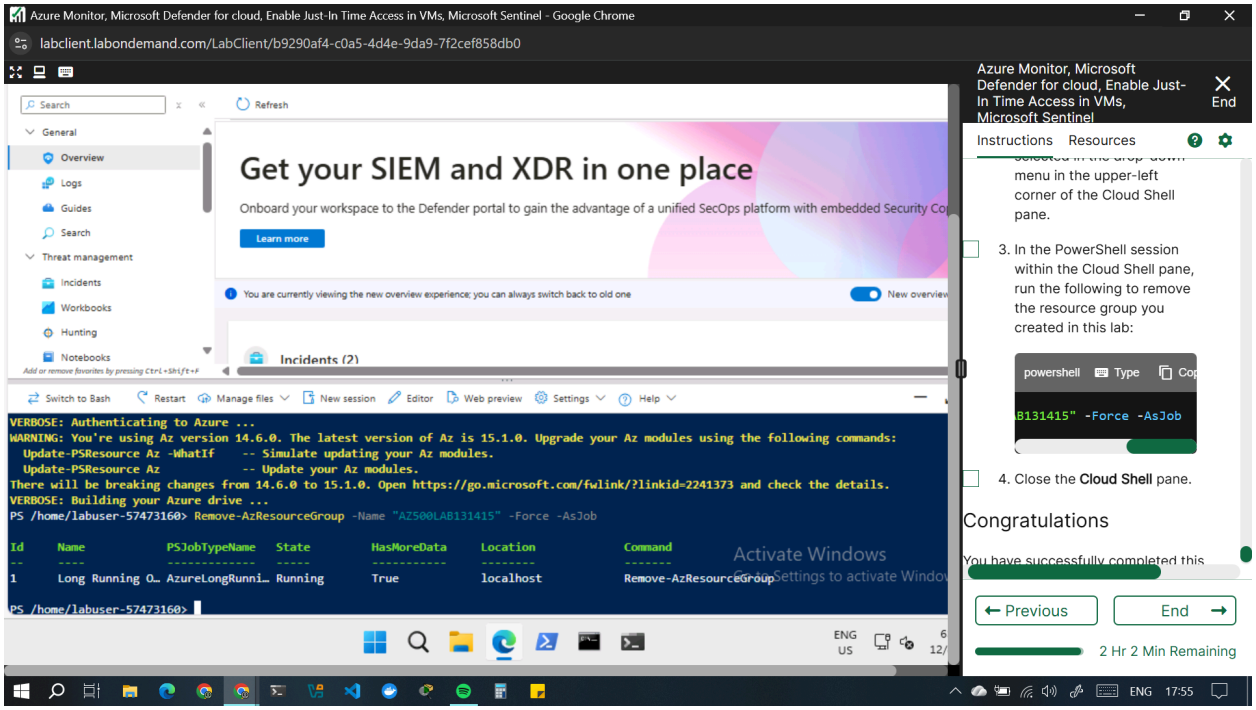


Results: You have created a Microsoft Sentinel workspace, connected it to Azure Activity logs, created a playbook and custom alerts that are triggered in response to the removal of Just-in-time VM access policies, and verified that the configuration is valid.

Clean up resources

Remember to remove any newly created Azure resources that you no longer use. Removing unused resources ensures you will not incur unexpected costs.

1. In the Azure portal, open the Cloud Shell by clicking the first icon in the top right of the Azure Portal. If prompted, click PowerShell and Create storage.
2. Ensure PowerShell is selected in the drop-down menu in the upper-left corner of the Cloud Shell pane.
3. In the PowerShell session within the Cloud Shell pane, run the following to remove the resource group you created in this lab:
4.
5. `Remove-AzResourceGroup -Name "AZ500LAB131415" -Force -AsJob`
6. Close the Cloud Shell pane.



Conclusion

This week's labs demonstrated how Azure's security and monitoring ecosystem works together to protect cloud environments. By implementing Azure Monitor, Defender for Cloud, Just-In-Time VM Access, and Microsoft Sentinel, I gained hands-on experience in collecting and analyzing logs, improving security posture, reducing attack surfaces, and detecting threats in real time. These labs strengthened my understanding of cloud security operations and provided practical skills in monitoring, incident response, and proactive threat prevention.