Lab 10

CST8912_011

Yuntian Du

du000086

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Submitted to :

Prof. **Ragini Madaan**

Introduction & Purpose

Introduction:

When you build a cloud infrastructure, you might have anywhere from a small to many resources. Checking the needed parameters for each resource that you have into your cloud environment could become hard. That's where monitoring can help you organize and handle the metrics and checks for your resources. Cloud Monitoring is a Cloud service that collects metrics, events, and metadata from your Cloud environment. Cloud Monitoring automatically detects all the resources that you are running into your cloud infrastructure and provides you rich visualization tools to work with. By using Cloud Monitoring, you can create dashboards with metrics that you need, create checks on critical resources, and create alerts triggered when certain events happen. In this lab, you will work in a cloud environment where you will find an existent Compute Engine instance to work with. You will install the Cloud Monitoring agent and then start practicing with Cloud Monitoring. You will create an uptime check and an alert policy triggered when the uptime check fails. You will also create a chart with the CPU metrics of your Compute Engine instance.

Purpose:

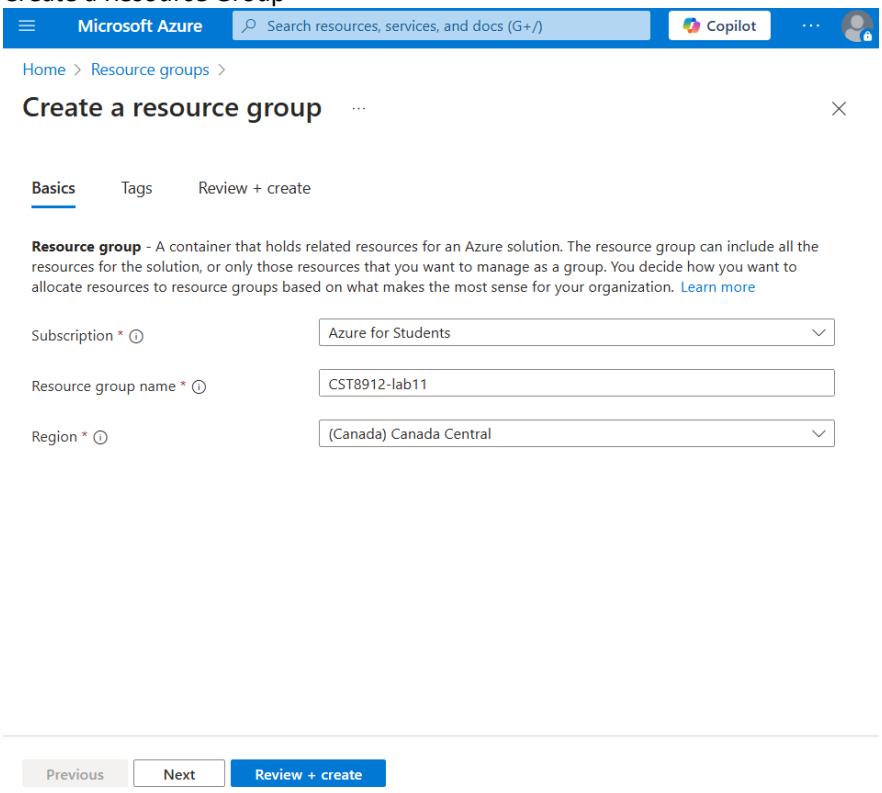
Upon completion of this lab, you will be able to create resources for azure:

1. Create an uptime check for your resources (storage account and a virtual machine with lowest memory option) created in Canada central region
2. Define an alert policy that will advise you when certain events happen.
3. Handle the Cloud Monitoring dashboard to create a chart that will show you the CPU metrics of the instance
4. Use log queries to interact with data
5. Create azure data factory in Canada central region
6. Create Azure Log Analytics workspace in same region as other resources
7. Configure Diagnostic settings for Azure Data Factory
8. Create and review a Log Solution for the Azure Data Factory
9. Setup Monitor Alerts for Azure Data Factory
10. After demo delete all the resources created in the lab

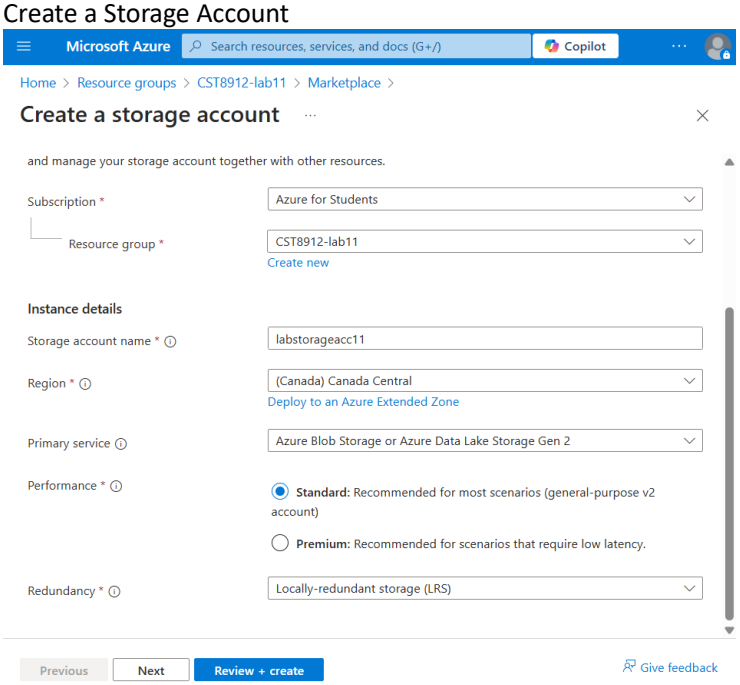
Steps covered in the lab

Step 1: Create a Resource Group, a Storage Account and a Virtual Machine:

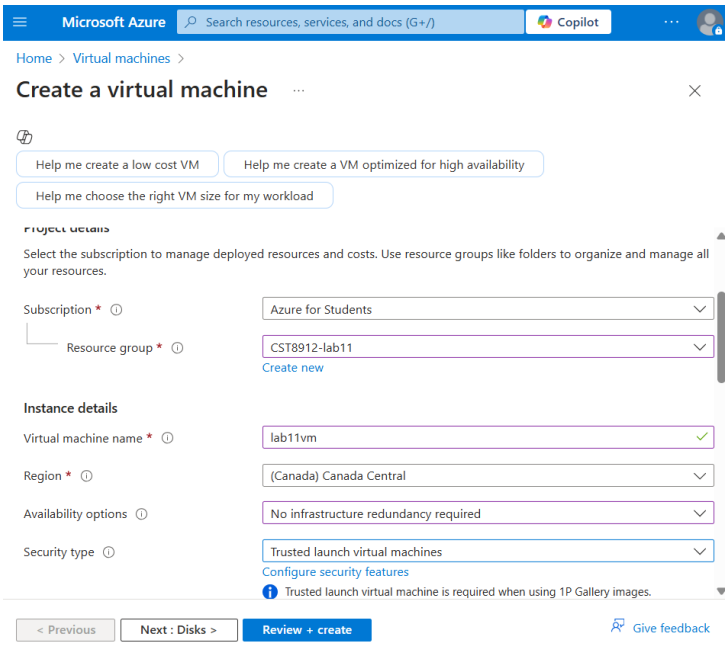
1. Create a Resource Group

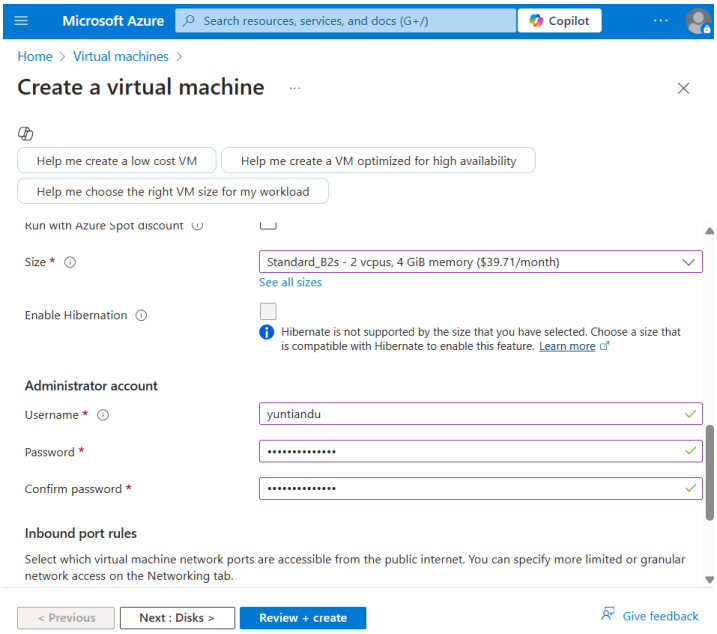


2. Create a Storage Account

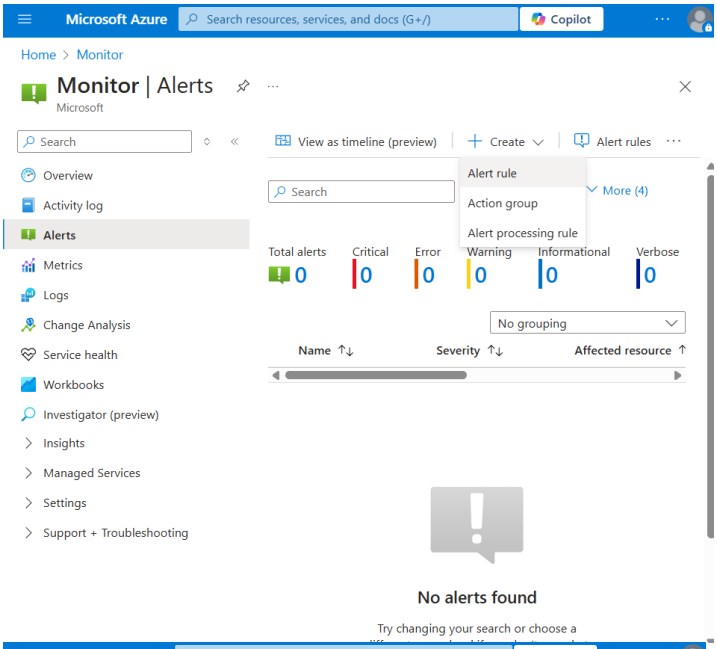


3. Create a Virtual Machine





Step 2: Define an Alert Policy for Virtual Machine, when CPU usage is above 80%, this alert will trigger.


Microsoft Azure
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Activity log
Alerts
Metrics
Logs
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Managed Services
Settings
Support + Troubleshooting
View as timeline (preview)
Create
Alert rules
Alert rule
Action group
Alert processing rule
Search
More (4)
Total alerts
Critical
Error
Warning
Informational
Verbose
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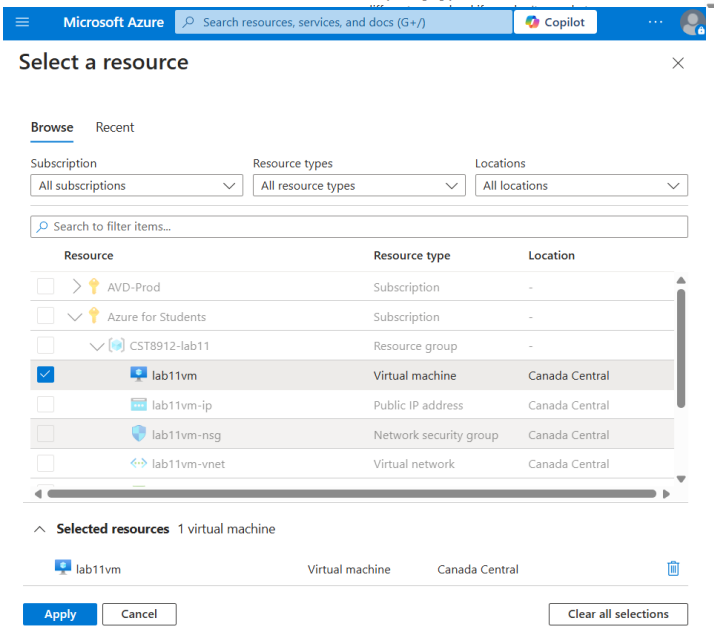
No grouping
Name
Severity
Affected resource
No alerts found
Try changing your search or choose a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Browse
Recent
Subscription
All subscriptions
Resource types
All resource types
Locations
All locations
Search to filter items...
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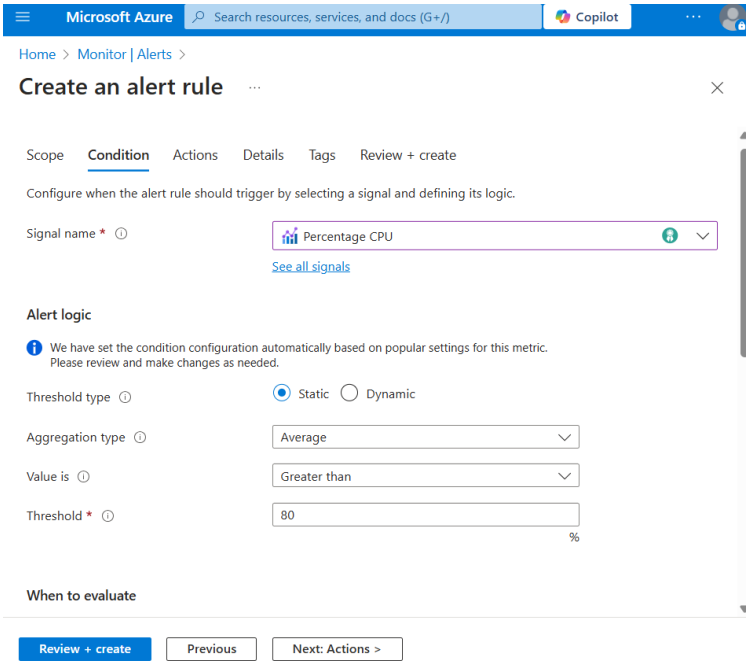
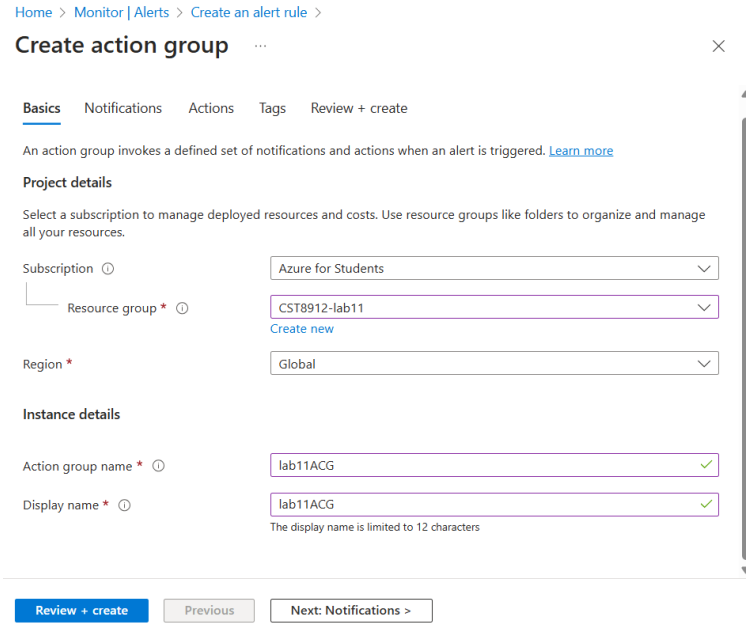
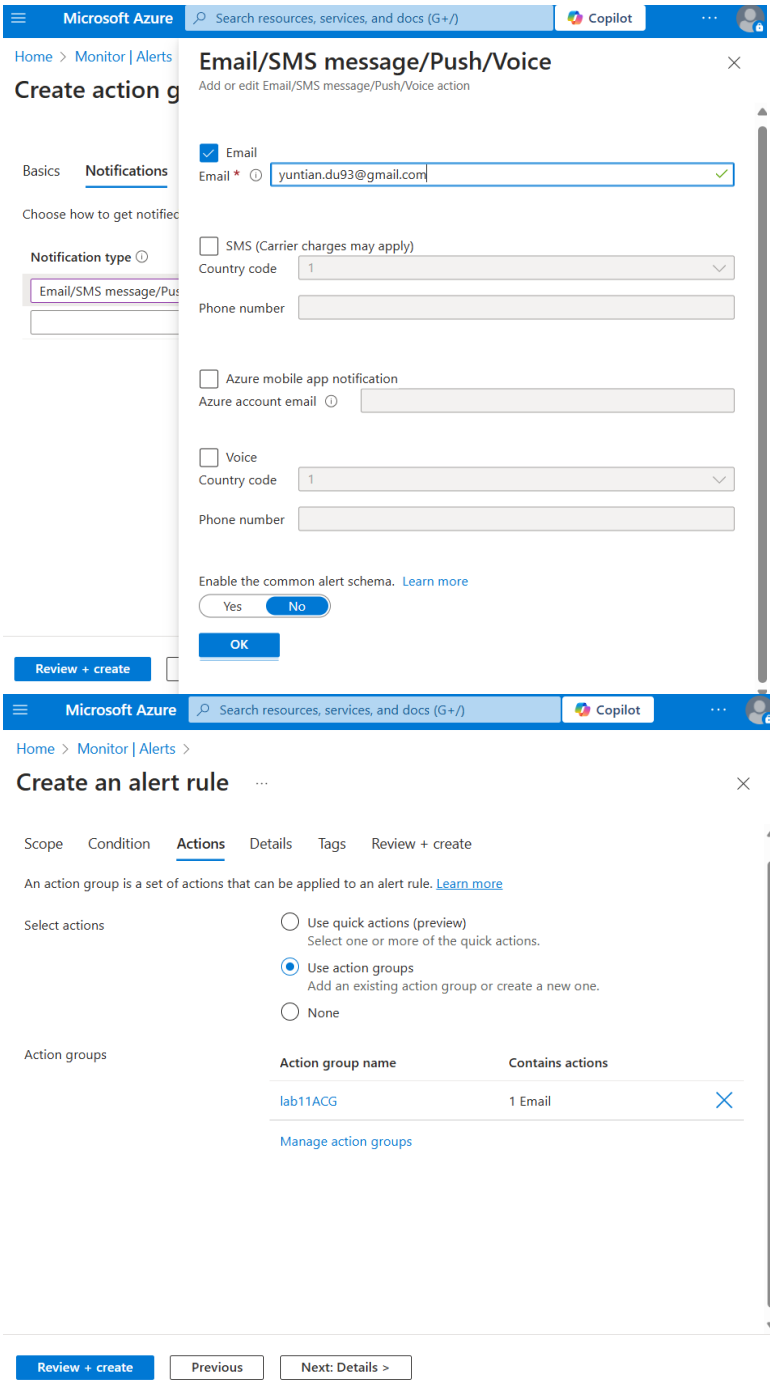
Resource type
Location
AVD-Prod
Subscription
Azure for Students
Subscription
CST8912-lab11
Resource group
lab11vm
Virtual machine
Canada Central
lab11vm-ip
Public IP address
Canada Central
lab11vm-nsg
Network security group
Canada Central
lab11vm-vnet
Virtual network
Canada Central
Selected resources 1 virtual machine
lab11vm
Virtual machine
Canada Central
Apply
Cancel
Clear all selections



Create action group

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Notifications
Choose how to get notifiec
Notification type
Email/SMS message/Pus
Review + create
Email/SMS message/Push/Voice
Add or edit Email/SMS message/Push/Voice action
Email
Email * yuntian.du93@gmail.com
SMS (Carrier charges may apply)
Country code 1
Phone number
Azure mobile app notification
Azure account email
Voice
Country code 1
Phone number
Enable the common alert schema. Learn more
Yes
No
OK

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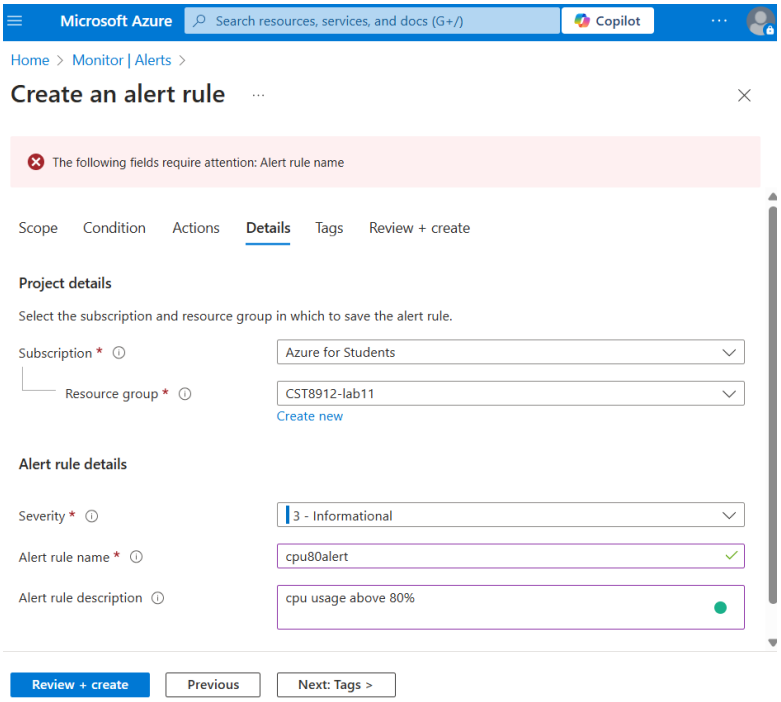
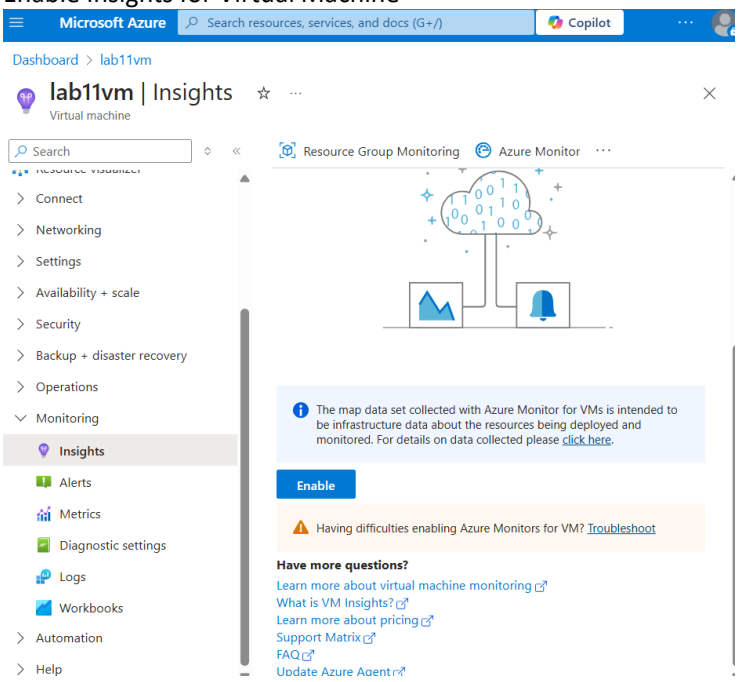
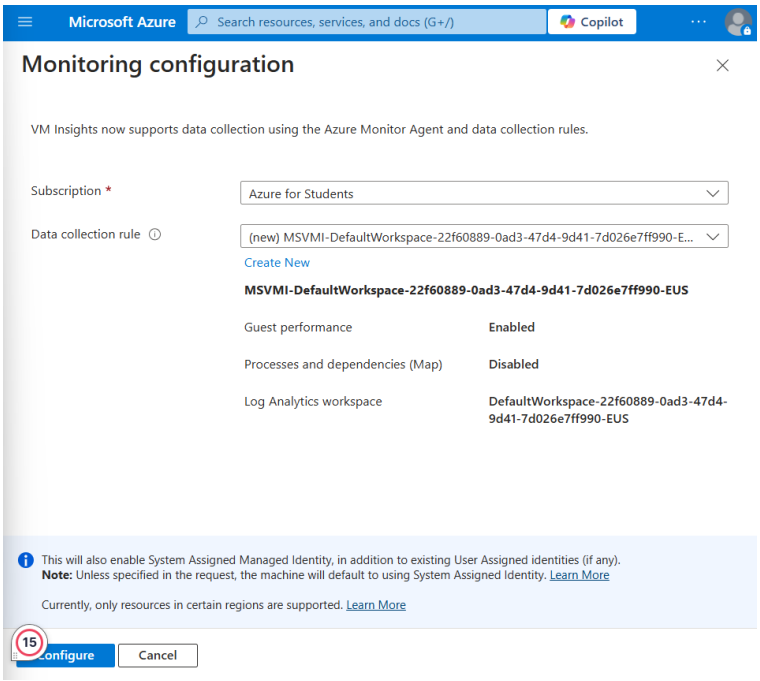
Copilot
Home > Monitor | Alerts >
Create an alert rule
Scope
Condition
Actions
Details
Tags
Review + create
An action group is a set of actions that can be applied to an alert rule. Learn more
Select actions
Use quick actions (preview)
Select one or more of the quick actions.
Use action groups
Add an existing action group or create a new one.
None
Action groups
Action group name
Contains actions
lab11ACG
1 Email
Manage action groups
Review + create
Previous
Next: Details >



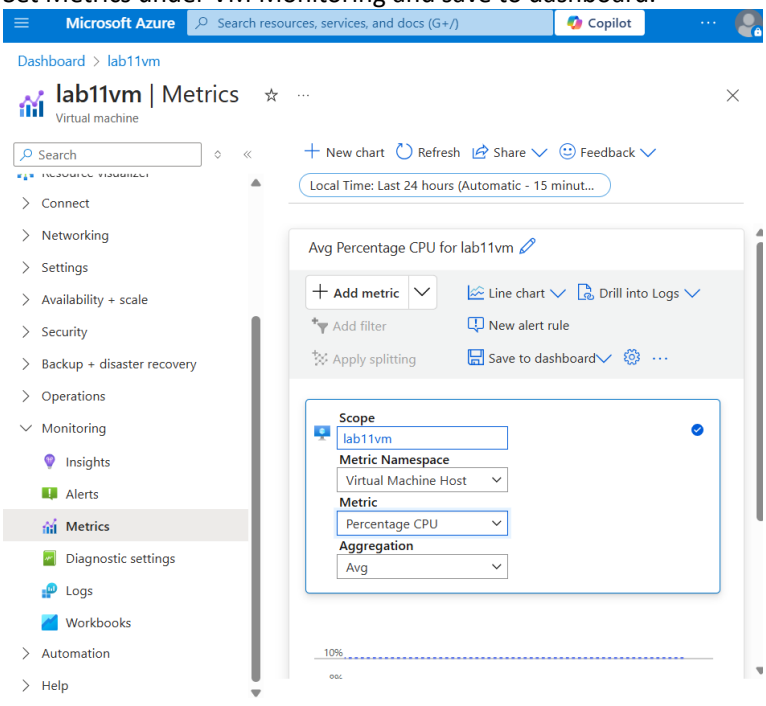
Step 3: Create a Cloud Monitoring Dashboard

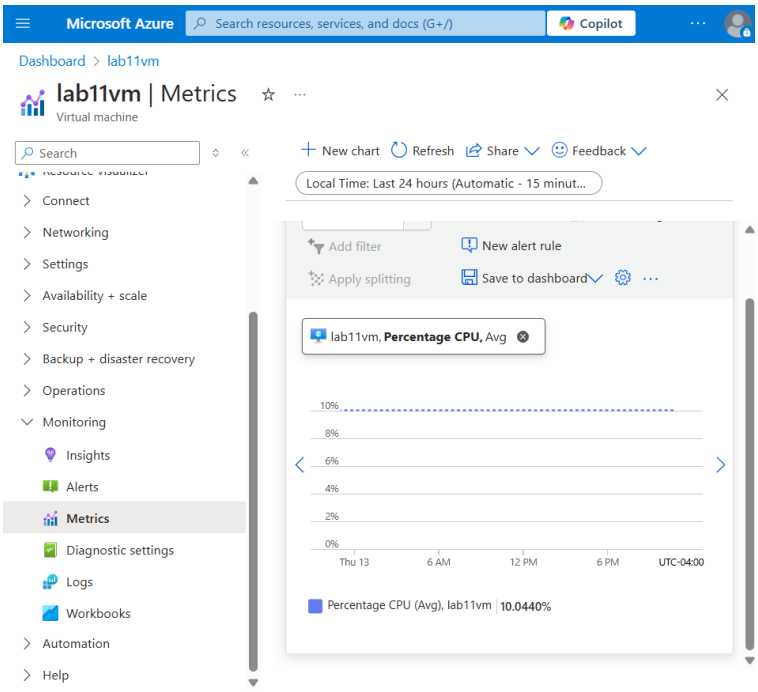
Enable Insights for Virtual Machine





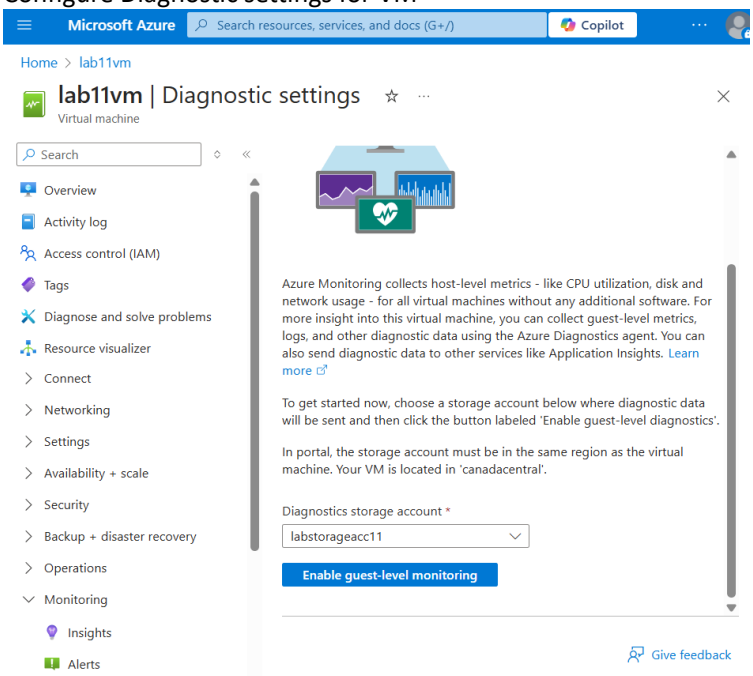
Set Metrics under VM Monitoring and save to dashboard.

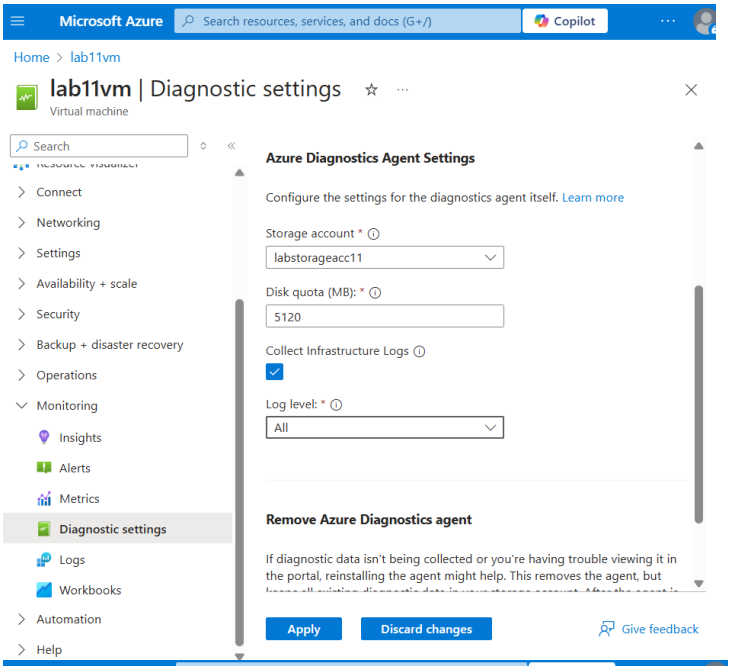


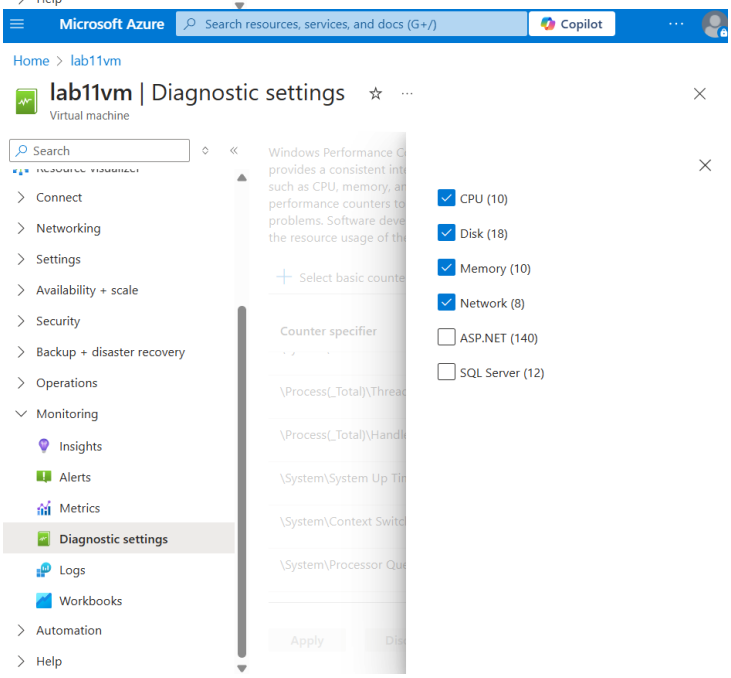


Step 4: Use Log Queries to Interact with Data

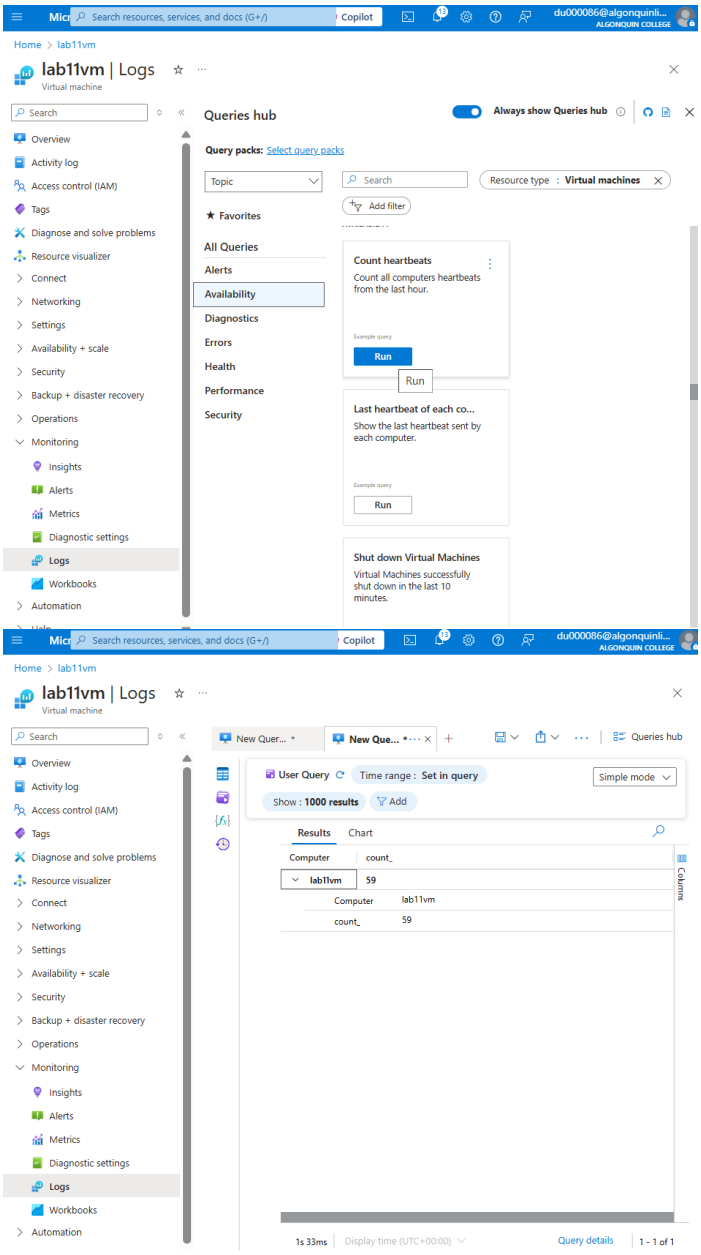
Configure Diagnostic settings for VM



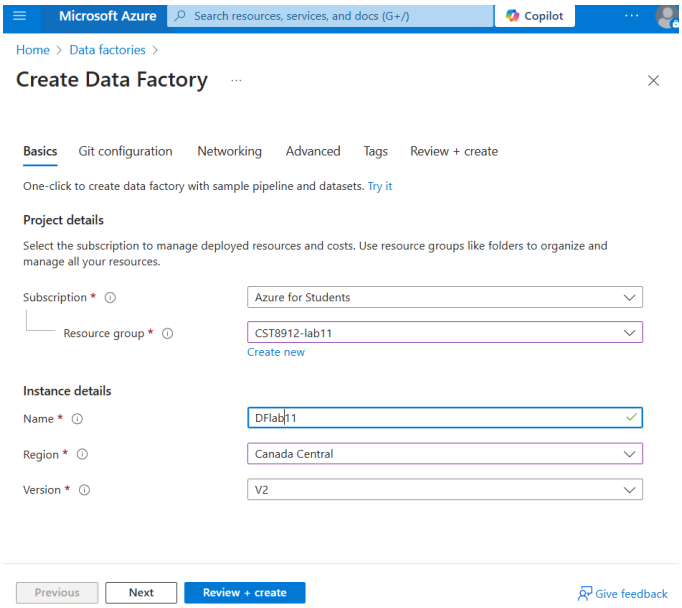




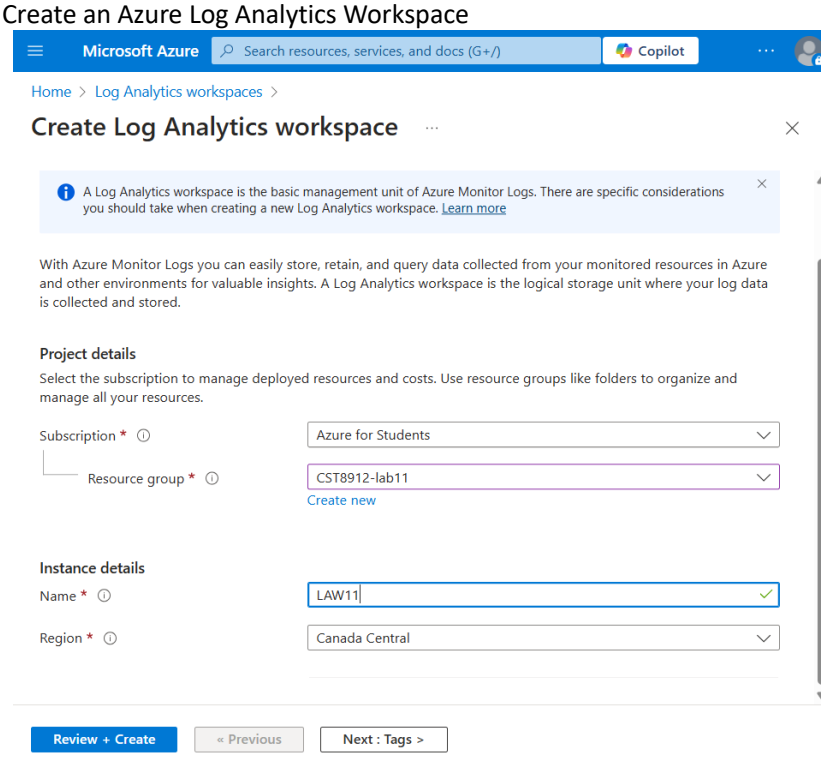
Use log query to Count heartbeats



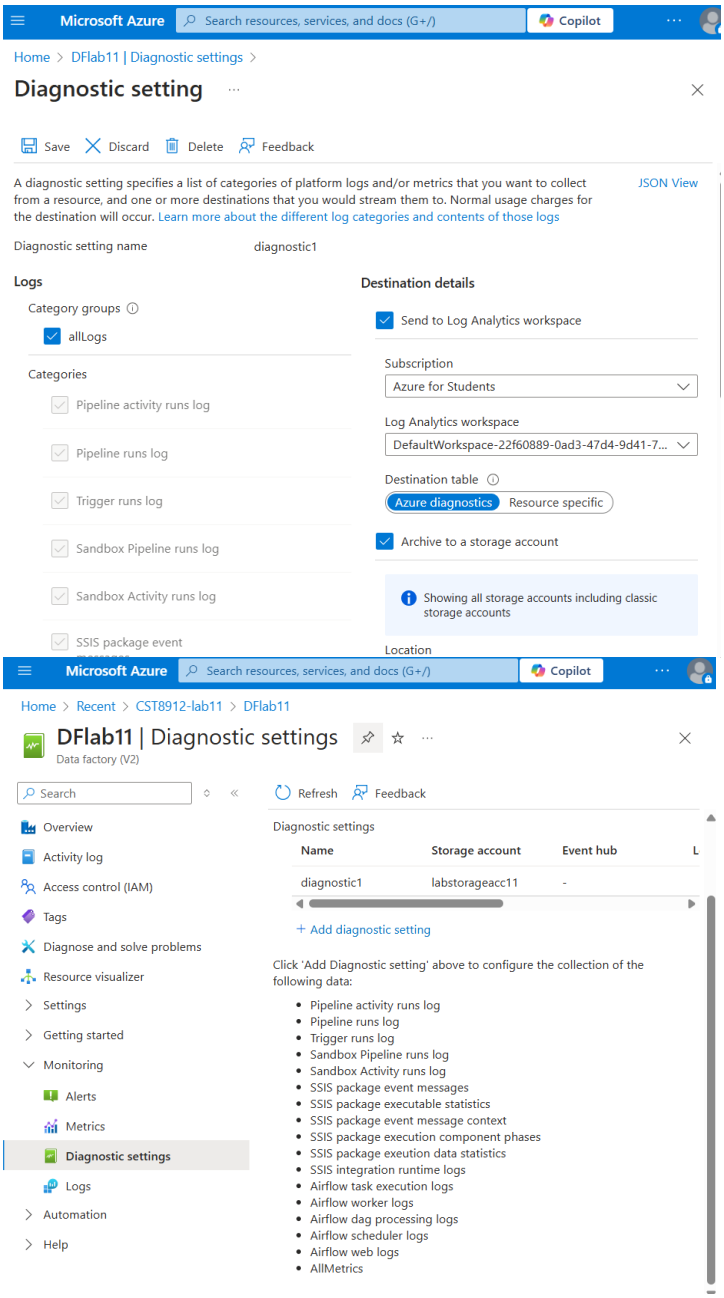
Step 5: Create an Azure Data Factory



Step 6: Create an Azure Log Analytics Workspace

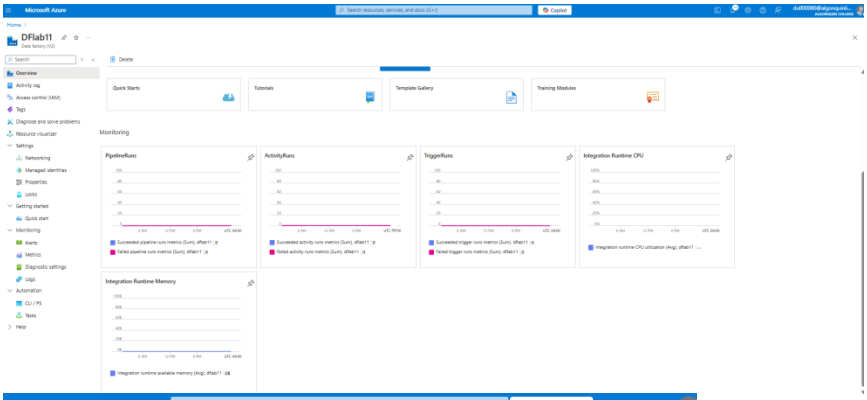


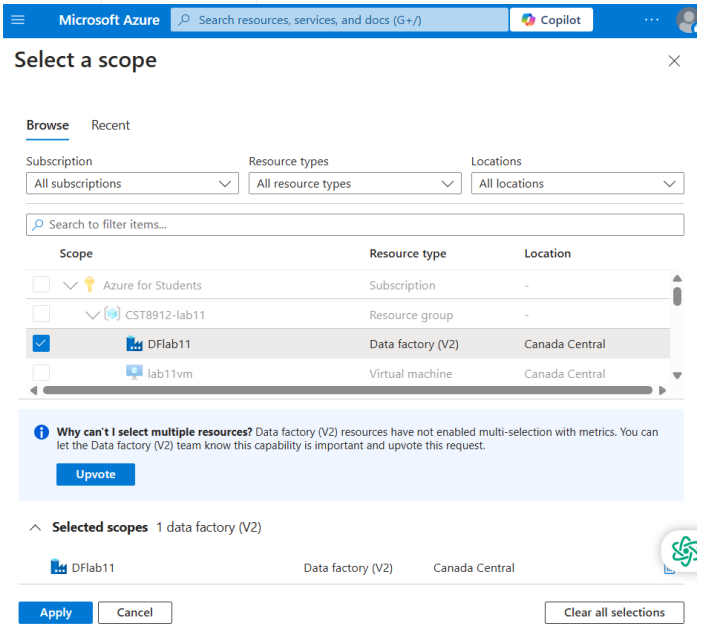
Step 7: Configure Diagnostic Settings for Azure Data Factory

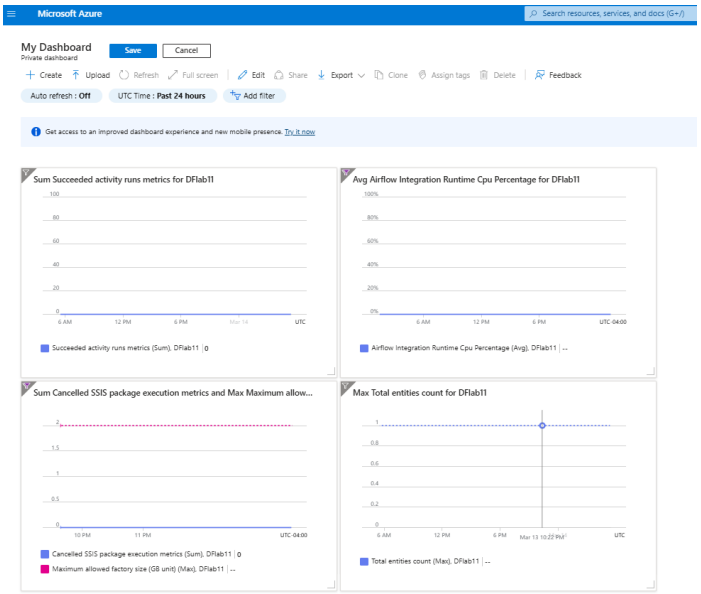


Step 8: Create and Review a Log Solution for Azure Data Factory

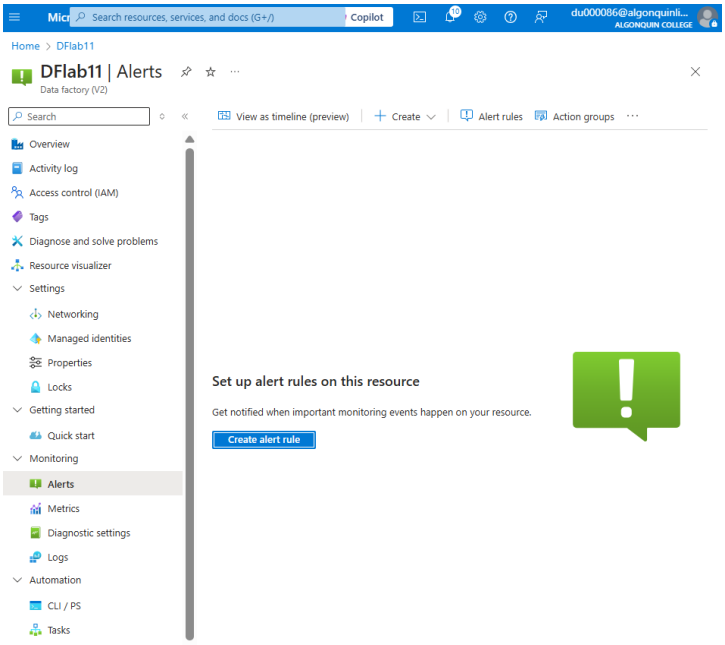
After step 8, we could see charts in the Overview section. We could also add Metrics related to Data Factory under Monitor and add the charts to Dashboard.







Step 9: Setup Monitor Alerts for Azure Data Factory


Search resources, services, and docs (G+/)
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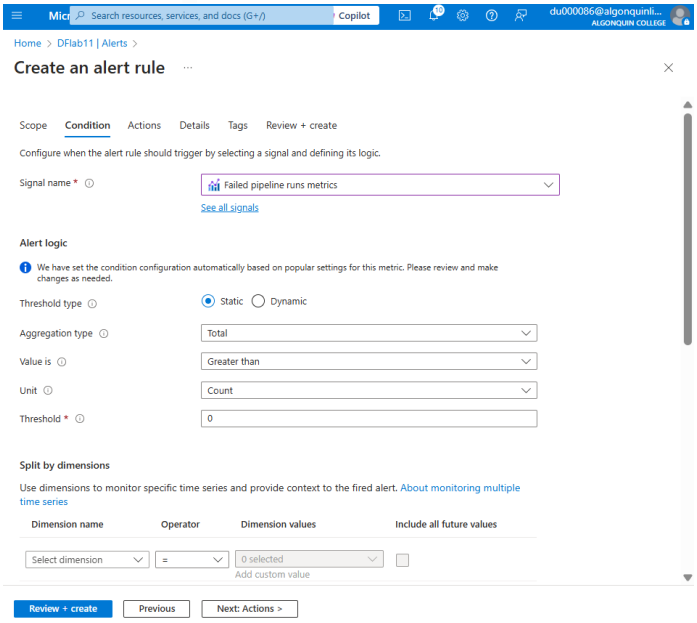
ALGONQUIN COLLEGE
Home > DFlab11
DFlab11 | Alerts
Data factory (V2)
Search
View as timeline (preview)
Create
Alert rules
Action groups
Overview
Activity log
Access control (IAM)
Tags
Diagnose and solve problems
Resource visualizer
Settings
Networking
Managed identities
Properties
Locks
Getting started
Quick start
Monitoring
Alerts
Metrics
Diagnostic settings
Logs
Automation
CLI / PS
Tasks
Set up alert rules on this resource
Get notified when important monitoring events happen on your resource.
Create alert rule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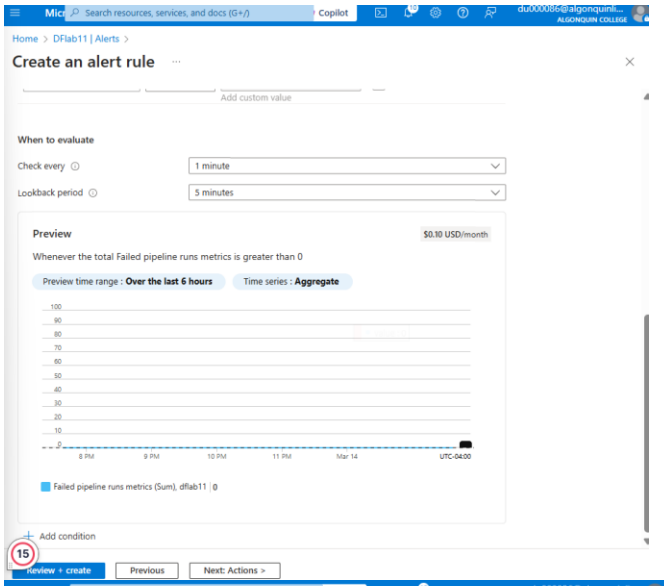
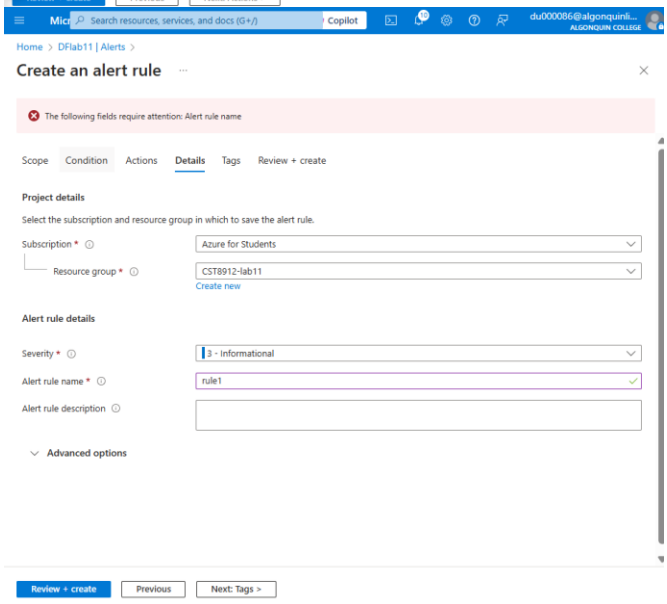
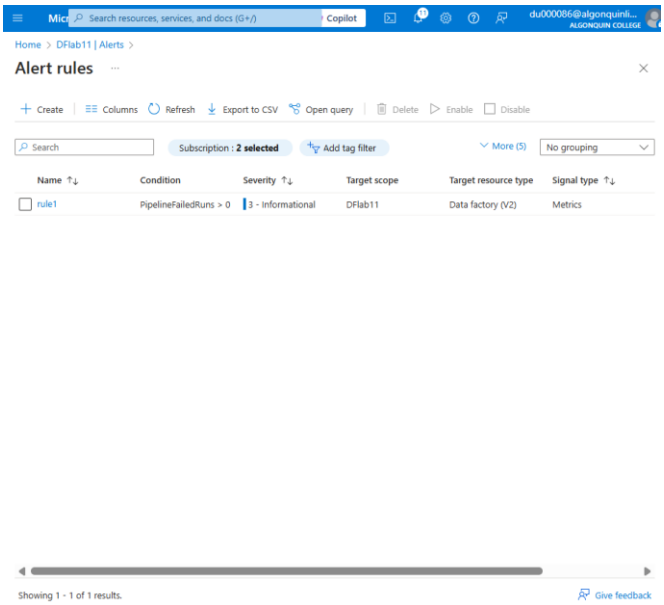
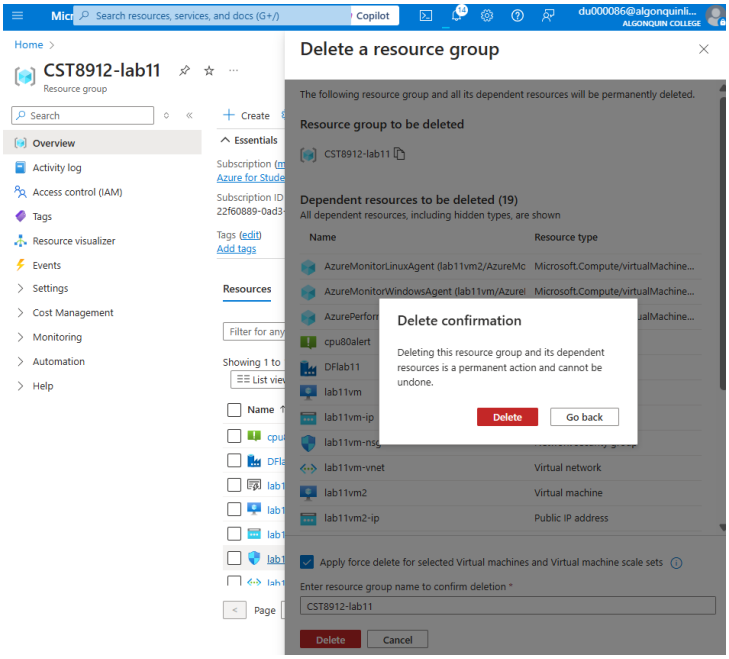
ALGONQUIN COLLEGE
Home > DFlab11 | Alerts >
Create an alert rule
Scope
Condition
Actions
Details
Tags
Review + create
Configure when the alert rule should trigger by selecting a signal and defining its logic.
Signal name *
Failed pipeline runs metrics
See all signals
Alert logic
We have set the condition configuration automatically based on popular settings for this metric. Please review and make changes as needed.
Threshold type
Static
Dynamic
Aggregation type
Total
Value is
Greater than
Unit
Count
Threshold *
0
Split by dimensions
Use dimensions to monitor specific time series and provide context to the fired alert. About monitoring multiple time series
Dimension name
Operator
Dimension values
Include all future values
Select dimension
=
0 selected
Add custom value
Review + create
Previous
Next: Actions >


Search resources, services, and docs (G+/)
Copilot
Home > DFlab11 | Alerts >
Create an alert rule
Add custom value
When to evaluate
Check every
1 minute
Lookback period
5 minutes
Preview
$0.10 USD/month
Whenever the total Failed pipeline runs metrics is greater than 0
Preview time range : Over the last 6 hours
Time series : Aggregate
100
90
80
70
60
50
40
30
20
10
0
8 PM
9 PM
10 PM
11 PM
Mar 14
UTC-04:00
Failed pipeline runs metrics (Sum), dflab11
Add condition
15
Review + create
Previous
Next: Actions >


Search resources, services, and docs (G+/)
Copilot
Home > DFlab11 | Alerts >
Create an alert rule
The following fields require attention: Alert rule name
Scope
Condition
Actions
Details
Tags
Review + create
Project details
Select the subscription and resource group in which to save the alert rule.
Subscription *
Azure for Students
Resource group *
CST8912-lab11
Create new
Alert rule details
Severity *
3 - Informational
Alert rule name *
rule1
Alert rule description
Advanced options
Review + create
Previous
Next: Tags >



Step 10: After demo delete all the resources created in the lab



References

None.