

Lab 11 CST8912_011

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Submitted to:

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Lab-11

Title

- Cloud Monitoring and Alerting in Azure

Introduction

- The objective of this laboratory is to establish cloud monitoring within Azure by configuring and supervising Virtual Machines and Azure Data Factory resources. Within the Azure Monitor you will master the creation of uptime checks and alert policy definition as well as metric visualization and log query implementation for resource performance tracking. The configuration of diagnostic settings along with Log Analytics workspace creation enables proper monitoring and prompt alerts management for Azure Data Factory operations. Your hands-on experience will offer improved capability to handle cloud infrastructure with higher efficiency.

Steps

- You will start by making a storage account and virtual machine within the Canada Central region before establishing Azure Monitor uptime checks for these resources. You need to establish an alert policy for uptime notifications before creating a dashboard for virtual machine CPU performance monitoring data. After learning to work with log data through queries you will manage Azure Data Factory setup and configure it properly before establishing an Azure Log Analytics workspace to access detailed analytics. Throughout this task you will set up monitor alerts for Data Factory pipeline failures and configure diagnostic settings for the factory and create and review the log solution. The final step of the lab includes removing every resource that was generated for proper maintenance.

Microsoft Azure

Search resources, services, and docs (G+J)

Copilot

Home >

Create a storage account

Basics Advanced Networking Data protection Encryption Tags **Review + create**

[View automation template](#)

Basics

Subscription	Azure for Students
Resource group	CST8912
Location	Canada Central
Storage account name	storage8912demo
Primary service	
Performance	Standard
Replication	Locally-redundant storage (LRS)

Advanced

Enable hierarchical namespace	Disabled
Enable SFTP	Disabled
Enable network file system v3	Disabled
Allow cross-tenant replication	Disabled
Access tier	Hot
Enable large file shares	Enabled

Security

Secure transfer	Enabled
Blob anonymous access	Disabled
Allow storage account key access	Enabled
Default to Microsoft Entra authorization in the Azure portal	Disabled
Minimum TLS version	Version 1.2
Permitted scope for copy operations (preview)	From any storage account

Networking

Network connectivity	Public endpoint (all networks)
Default routing tier	Microsoft network routing

[Previous](#) [Next](#) [Create](#)

[Give feedback](#)

1. Creating Storage account

Microsoft Azure

Search resources, services, and docs (G+J)

Copilot

Home >

MonitoringVM

Virtual machines

Search

Help me copy this VM in any region

Overview **Connect** Start Restart Stop Hibernate Capture Delete Refresh Open in mobile Feedback CLI / PS

Essentials

Resource group	(move) : CST8912	Operating system	: Linux
Status	: Creating	Size	: Standard B1s (1 vcpu, 1 GiB memory)
Location	: Canada Central (Zone 1)	Public IP address	: 4.172.249.158
Subscription	(move) : Azure for Students	Virtual network/subnet	: MonitoringVM-vnet/default
Subscription ID	: fc12c2d4-1b36-460b-9a72-d18c25ff8b97	DNS name	: Not configured
Availability zone	: 1	Health state	: -
		Time created	: 02/04/2025, 22:35 UTC

Tags [\(edit\)](#) : [Add tags](#)

Properties

Virtual machine	
Computer name	MonitoringVM
Operating system	Linux
VM generation	V2
VM architecture	x64
Hibernation	Disabled
Host group	-
Proximity placement group	-
Colocation status	N/A
Capacity reservation group	-
Disk controller type	SCSI
Azure Spot	
Azure Spot	-
Azure Spot eviction policy	-
Availability + scaling	
Availability zone (edit)	1
Availability set	-

Networking

Public IP address	4.172.249.158 (Network interface monitoringvm653_x1)
Public IP address (IPv6)	-
Private IP address	10.0.0.4
Private IP address (IPv6)	-
Virtual network/subnet	MonitoringVM-vnet/default
DNS name	Configure

Size

Size	Standard B1s
vCPUs	1
RAM	1 GiB

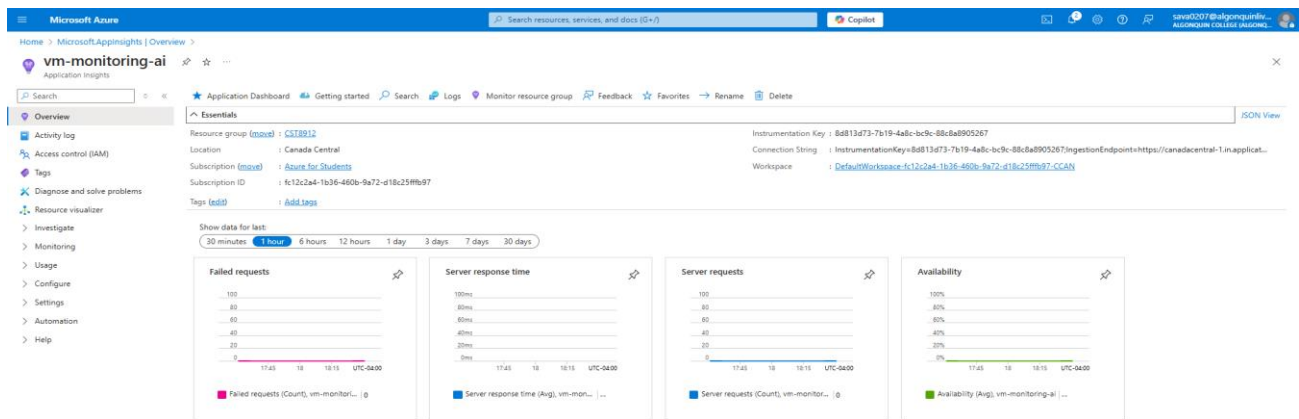
Source image details

Source image publisher	canonical
Source image offer	ubuntu-24.04-lts
Source image plan	ubuntu-pro

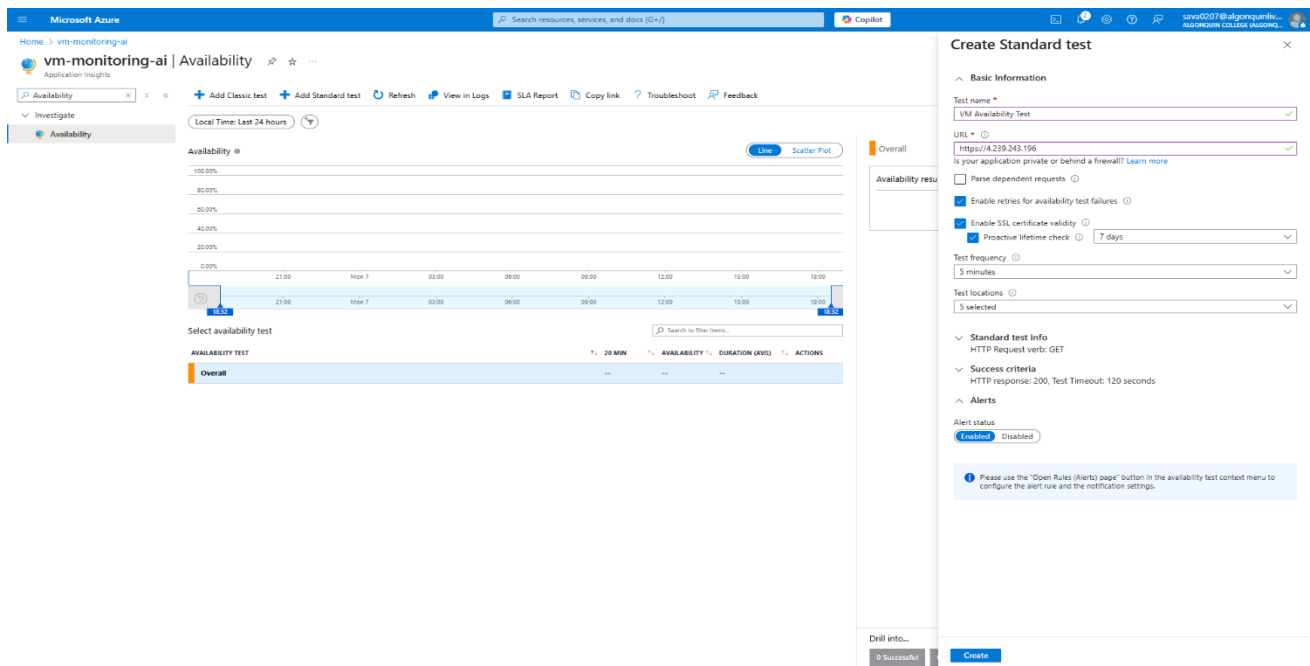
Disk

OS disk	MonitoringVM_OsDisk_1_ea93ac92974e4ea0b28b60a56291f0d0
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2. Overview of Virtual machine



3. overview of application insight



4. Create standard test

Microsoft Azure

Home > Monitor | Alerts >

Create an alert rule

Scope Condition Actions Details Tags Review + create

Create an alert rule to identify and address issues when important conditions are found in your monitoring data. [Learn more](#)

+ Select scope

Resource	Hierarchy
No resource selected yet	

Review + create Previous Next: Condition >

Select a resource

Browse Recent

Subscription: All subscriptions Resource types: Availability tests Locations: Canada Central

Search to filter items...

Resource	Resource type	Location
<input type="checkbox"/> > AVD-Prod	Subscription	-
<input type="checkbox"/> > Azure for Students	Subscription	-
<input checked="" type="checkbox"/> > CST8912	Resource group	-
<input type="checkbox"/> > DefaultResourceGroup-CCAN	Resource group	-
<input type="checkbox"/> > NetworkWatcherRG	Resource group	-
<input type="checkbox"/> > savajtarangr	Resource group	-

Metric and Log signals might not be available if the scope includes multiple resources.

Refine scope

Resource type: Availability tests Location: Canada Central

Selected resources: 1 scope

☒ CST8912 Resource group: -

vm availability test-vm-monitoring-ai Availability test Canada Central

Apply Cancel Clear all selections

5. Add scope

Microsoft Azure

Home > Monitor | Alerts > Create an alert rule >

Create action group

Basics Notifications Actions Tags Review + create

Choose how to get notified when the action group is triggered. This step is optional.

Notification type	Name	Selected
Email/SMS message/Push/Voice		<input checked="" type="checkbox"/>
		<input type="checkbox"/>

Review + create Previous Next: Actions >

Email/SMS message/Push/Voice

Add or edit Email/SMS message/Push/Voice action

☒ Email
Email *

☐ SMS (Carrier charges may apply)
Country code
Phone number

☐ Azure mobile app notification
Azure account email

☐ Voice
Country code
Phone number

Enable the common alert schema. [Learn more](#)

Yes No

OK

6. notification in action group

Microsoft Azure

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 action groups + Create action group

Action group name	Contains actions
NotifyAdmin	1 Email

Review + create Previous Next: Details +

7. Created Action group

Microsoft Azure

Home > Monitor > Alerts >

Create an alert rule

Scope Condition Actions **Details** Tags Review + create

Product details

Log search alert rule

1 Condition

[Terms of use](#) | [Privacy statement](#)

Scope

Resource

Azure for Students > CSTB912 > All availability tests (Canada Central)

Condition

Search query

Measure

Table rows

Aggregation type

Count

Aggregation granularity

5 minutes

Alert logic

Operator

LessThan

Threshold value

100

Frequency of evaluation

5 minutes

Advanced options

Number of violations

1 violations

Evaluation period

5 minutes (1 aggregated points)

Actions

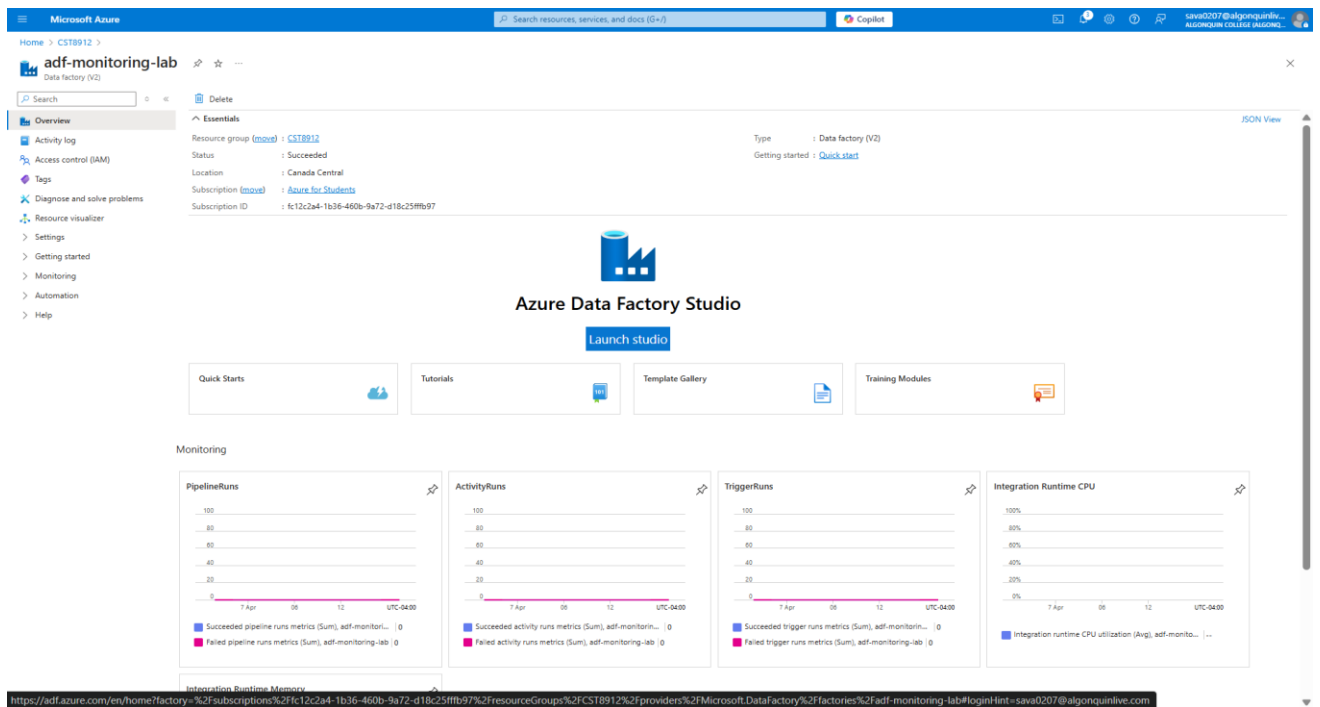
Action group name	Contains actions
NotifyAdmin	1 Email

Details

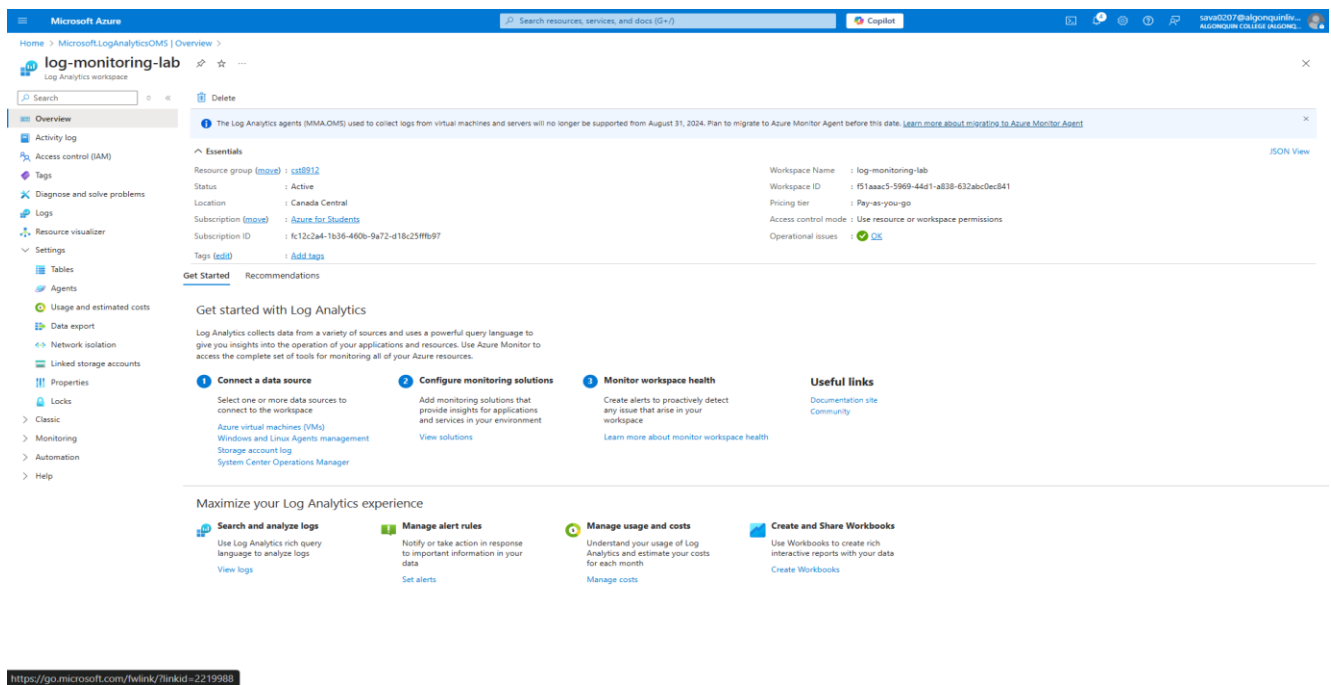
Project details

Create Previous

8. Create alert rule



9. Overview of Data factory



10. Overview of Log Analytics workspace

Microsoft Azure

Home > CST8912 > adf-monitoring-lab | Diagnostic settings >

Diagnostic setting

Save Discard Delete Feedback

A diagnostic setting specifies a list of categories of platform logs and/or metrics that you want to collect from a resource, and one or more destinations that you would stream them to. Normal usage charges for the destination will occur. [Learn more about the different log categories and contents of those logs](#)

Diagnostic setting name *

Logs

Category groups

☐ All logs

Categories

- ☒ Pipeline activity runs log
- ☒ Pipeline runs log
- ☒ Trigger runs log
- ☐ Sandbox Pipeline runs log
- ☐ Sandbox Activity runs log
- ☐ SSIS package event messages
- ☐ SSIS package executable statistics
- ☐ SSIS package event message context
- ☐ SSIS package execution component phases
- ☐ SSIS package execution data statistics
- ☐ SSIS integration runtime logs
- ☐ Airflow task execution logs
- ☐ Airflow worker logs
- ☐ Airflow dag processing logs
- ☐ Airflow scheduler logs

Destination details

☒ Send to Log Analytics workspace

Subscription

Log Analytics workspace

Destination table

☐ Archive to a storage account

☐ Stream to an event hub

☐ Send to partner solution

JSON View

11. Configure Diagnostic Settings

Microsoft Azure

Home > CST8912

Resource group

Search

+ Create Manage view Delete resource group Refresh Export to CSV Open query Assign tags Move Delete Export template Open

Overview

Activity log Access control (IAM) Tags Resource visualizer Events Settings Deployments Security Deployment stacks Policies Properties Locks Cost Management Monitoring Automation Help

Essentials

Subscription (mzal) : Azure for Students

Subscription ID : fc12c2a4-1b36-460b-9a72-d18c25ff9b97

Deployments : 7 Succeeded

Location : Canada Central

Tags (edit) Add tags

Resources Recommendations (1)

Filter for any field... Type equals all Location equals all Add filter

Showing 1 to 17 of 17 records. Show hidden types

Name	Type
adf-monitoring-lab	Data factory (V2)
Application Insights Smart Detection	Action group
Failure Anomalies - vm-monitoring-ai	Smart detector alert rule
log-monitoring-lab	Log Analytics workspace
MonitoringVM	Virtual machine
MonitoringVM-ip	Public IP address
MonitoringVM-nsg	Network security group
MonitoringVM-vnet	Virtual network
monitoringvm683_21	Network interface
MonitoringVM_disk1_a8ccbd7be0849256019f8503b8ddc17	Disk
MonitoringVMip416	Public IP address
MonitoringVMnsg821	Network security group
NotifyAdmin	Action group
UptimeAlertPolicy	Log search alert rule
vm-availability-test-vm-monitoring-ai	Availability test
vm-availability-test-vm-monitoring-ai	Metric alert rule
vm-monitoring-ai	Application Insights

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Delete a resource group

The following resource group and all its dependent resources will be permanently deleted.

Resource group to be deleted

CST8912

Dependent resources to be deleted (17)

All dependent resources, including hidden types, are shown

Name	Resource type
adf-monitoring-lab	Data factory (V2)
Application Insights Smart Detection	Action group
Failure Anomalies - vm-monitoring-ai	Smart detector alert rule
log-monitoring-lab	Log Analytics workspace
MonitoringVM	Virtual machine
MonitoringVM-ip	Public IP address
MonitoringVM-nsg	Network security group
MonitoringVM-vnet	Virtual network
monitoringvm683_21	Network interface
MonitoringVM_disk1_a8ccbd7be0849256019	Disk
MonitoringVMip416	Public IP address
MonitoringVMnsg821	Network security group
NotifyAdmin	Action group
UptimeAlertPolicy	Log search alert rule
vm-availability-test-vm-monitoring-ai	Availability test
vm-availability-test-vm-monitoring-ai	Metric alert rule
vm-monitoring-ai	Application Insights

☐ Apply force delete for selected Virtual machines and Virtual machine scale sets

Enter resource group name to confirm deletion *

CST8912

Delete Cancel

12. Delete all the resources with resource group

References

- **Video/links for reference for azure:**
- <https://www.youtube.com/watch?v=MbyS0a2NCnk>
- <https://www.youtube.com/watch?v=1iZxhtxSDu0>
- https://www.youtube.com/watch?v=8gwdB_sCwEw
- **Video/links for reference for AWS:**
- <https://www.youtube.com/watch?v=9qKryBb7t6s>
- <https://www.youtube.com/watch?v=UxWU9mrSbmA>