CST 8912- Cloud Solution Architecture

LAB 1

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These are all the following steps that I completed for this lab followed by screenshots of everything to prove their completion.

1. I created a new instance of the resource (Azure Virtual Machine) and selected the Ubuntu Server 18.04 LTS image from the marketplace. Azure refused to use Ubuntu Server 18.04 LTS on the student account and so I was forced to use Ubuntu Server 24.04 LTS instead to complete this lab. This does not have any effect on anything for this lab other than using a newer version. I included the error message

2. I configured and launched a VM for the Canada Central region with SKU size Standard_B1s (1 vCPU, 1 GiB memory) and used an SSH public key as the authentication type.

3. I configured the disk type as Premium SSD.

4. I configured networking to create a virtual network and kept the default settings.

5. I kept the default options on the management, advanced, and tags tabs.

6. I performed basic VM controls (start, stop, restart, delete).

7. I created a Log Analytics workspace and configured it with the same region as the existing resources.

8. I connected my virtual machine to Log Analytics to monitor the virtual machine's health:
a. I created a data collection rule and selected the VM created in scope.
b. In the collect and deliver tab, I selected "Linux syslog" as the data source.
c. I went to "Insights" and saw monitoring information from the VM selected.
d. I switched to the health/agents tabs to get more details on the VM monitored.

9. After the demo, I deleted all the resources created during the lab and documented all the steps performed in the lab in a report.

Errors

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Summary   Raw Error

ERROR DETAILS

Offer with PublisherId: 'bansirllc1619470302579', OfferId: 'vm-ban-lin-ubuntu-1804' cannot be purchased due to validation errors. For more information see details. Correlation Id: '40724000-fc97-4aac-a495-633fab83cd1d' The 'nopi_check' payment instrument(s) is not supported for offer with OfferId: 'vm-ban-lin-ubuntu-1804', PlanId 'ubuntu1804'. Correlation Id '40724000-fc97-4aac-a495-633fab83cd1d'. The offer with PublisherId: 'bansirllc1619470302579', OfferId: 'vm-ban-lin-ubuntu-1804' and PlanId: 'ubuntu1804' cannot be used on selected subscription to purchase paid marketplace offers. Please choose another subscription or update this one to allow purchases. Learn more https://aka.ms/UpgradeFreeSub ⬀, https://aka.ms/Switch-Azure-Offer ⬀ and https://aka.ms/Change-Credit-Card ⬀ about updating subscriptions in Azure, Correlation Id: '40724000-fc97-4aac-a495-633fab83cd1d'.[{"The 'nopi_check' payment instrument(s) is not supported for offer with OfferId: 'vm-ban-lin-ubuntu-1804', PlanId 'ubuntu1804'. Correlation Id '40724000-fc97-4aac-a495-633fab83cd1d'.":"StoreApi"},{"The offer with PublisherId: 'bansirllc1619470302579', OfferId: 'vm-ban-lin-ubuntu-1804' and PlanId: 'ubuntu1804' cannot be used on selected subscription to purchase paid marketplace offers. Please choose another subscription or update this one to allow purchases. Learn more https://aka.ms/UpgradeFreeSub ⬀, https://aka.ms/Switch-Azure-Offer ⬀ and https://aka.ms/Change-Credit-Card ⬀ about updating subscriptions in Azure, Correlation Id: '40724000-fc97-4aac-a495-633fab83cd1d'.":"StoreApi"}]

(Code: BadRequest)

WAS THIS HELPFUL? 👍 👎

[🟦 Explain with Copilot]

Figure 1: error for using old ubuntu

Basics

Subscription	Azure for Students
Resource group	CST8912
Virtual machine name	CST8912-VM
Region	Canada Central
Availability options	No infrastructure redundancy required
Zone options	Self-selected zone
Security type	Standard
Image	Ubuntu Server 24.04 LTS - Gen2
VM architecture	x64
Size	Standard B1s (1 vcpu, 1 GiB memory)
Enable Hibernation	No
Authentication type	SSH public key
Username	azureuser
SSH Key format	RSA
Key pair name	CST8912-VM_key
Public inbound ports	SSH
Azure Spot	No

Figure 2: completed steps

Disks

OS disk size	Image default
OS disk type	Premium SSD LRS
Use managed disks	Yes
Delete OS disk with VM	Enabled
Ephemeral OS disk	No

Networking

Virtual network	vnet-canadacentral
Subnet	snet-canadacentral-1
Public IP	(new) CST8912-VM-ip
Accelerated networking	Off
Place this virtual machine behind an existing load balancing solution?	No
Delete public IP and NIC when VM is deleted	Disabled

Management

Microsoft Defender for Cloud	Basic (free)
System assigned managed identity	Off
Login with Microsoft Entra ID	Off
Auto-shutdown	Off
Backup	Disabled
Enable periodic assessment	Off
Enable hotpatch	Off
Patch orchestration options	Image Default

Figure 3: completed setup

Monitoring

Alerts	Off
Boot diagnostics	On
Enable OS guest diagnostics	Off
Enable application health monitoring	Off

Advanced

Extensions	None
VM applications	None
Cloud init	No
User data	No
Disk controller type	SCSI
Proximity placement group	None
Capacity reservation group	None

Figure 4: completed setup

✅ **Your deployment is complete**

Deployment name: CreateVm-canonical.ubuntu-24_04-lts-server-2...
Subscription: Azure for Students
Resource group: CST8912

Start time: 9/13/2025, 12:33:32 AM
Correlation ID: 7c9fa1b6-26d5-485c-a7fa-1afe17cd21c4

Deployment details

Resource	Type	Status	Operation details
CST8912-VM	Microsoft.Compute/virtualMachines	Created	Operation details
cst8912-vm251	Microsoft.Network/networkInterfaces	Created	Operation details
network-interface-associated-virtual-network-2025091300	Microsoft.Resources/deployments	OK	Operation details
CST8912-VM-nsg	Microsoft.Network/networkSecurityGroups	OK	Operation details
CST8912-VM-ip	Microsoft.Network/publicIpAddresses	OK	Operation details

Next steps

Setup auto-shutdown   Recommended
Monitor VM health, performance and network dependencies   Recommended
Run a script inside the virtual machine   Recommended

Go to resource   Create another VM

Figure 5: deployment completed

Figure 6: Starting for VM

Figure 7: restarting VM

Figure 8: Stopping VM

Create Log Analytics workspace ...

✅ Validation passed

Basics   **Tags**   **Review + Create**

📊 **Log Analytics workspace**
by Microsoft

Basics

Subscription	Azure for Students
Resource group	CST8912
Name	CST8912-LOG
Region	Canada Central

Pricing

Pricing tier	Pay-as-you-go (Per GB 2018)

The cost of your workspace depends on the volume of data ingested and how long it is retained. Regional pricing details are available on the Azure Monitor pricing page. You can change to a different pricing tier after the workspace is created. Learn more about Log Analytics pricing models.

Tags

None

Figure 9: creating log analytics

✅ **Your deployment is complete**

Deployment name : Microsoft.LogAnalyticsOMS
Subscription : Azure for Students
Resource group : CST8912

Start time : 9/13/2025, 12:38:24 AM
Correlation ID : b9b51dca-b00d-417a-845d-9262fbd0dc35

⌄ **Deployment details**

Resource	Type	Status	Operation details
✅ CST8912-LOG	📊 Log Analytics workspace	OK	Operation details

⌄ **Next steps**

Figure 10:deployment of LOG

Create Data Collection Rule ⋯

Data collection rule management

✅ Validation passed

Basics   Resources   Collect and deliver   Tags   **Review + create**

Basics

Data rule name	CST8912-RULE
Subscription	Azure for Students
Resource Group	CST8912

Selected resources

Resources	Type
cst8912-vm	microsoft.compute/virtualmachines

Showing 1 - 1 of 1 results.

Configurations

Data source	Destination(s)
Linux Syslog	Azure Monitor Logs

Platform Type

Platform	Linux

Figure 11:data collection rule settings

Figure 12:deployment of rule

Figure 13: Health tab

Figure 14: Monitor agents

Figure 15: Deleting all resources