

REPORT ON
MICROSOFT AZURE FUNDAMENTALS

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1)Sandbox:

Create a Linux virtual machine and install Nginx

The screenshot shows a Microsoft Learn exercise titled "Exercise - Create an Azure virtual machine". On the left, there's a "Verify your account" section with a CAPTCHA placeholder and a "Start Puzzle" button. On the right, an "Azure Cloud Shell" terminal window is open, displaying a JSON configuration object for a custom script extension. The configuration includes fields like "autoUpgradeMinorVersion", "enableAutomaticUpgrade", "forceUpdateTag", "id", "instanceView", "location", "name", "protectedSettings", "protectedSettingsFromKeyVault", "provisionAfterExtensions", "provisioningState", "publisher", "resourceGroup", "settings", "tags", "type", "typeHandlerVersion", and "typePropertiesType". The command entered in the shell is `az vm extension set --vm my-vm --name customScript --publisher Microsoft.Compute --version 2.1 --resource-group learn-7646aa64-acf9-4865-8f26-40b0465f6785`.

Access your web server

The screenshot shows a Microsoft Learn exercise titled "Exercise - Configure network access". It includes a message about activating the sandbox for 50 minutes and a note about using one of ten sandboxes per day. Below this, a paragraph explains the goal of configuring network access for a VM. A blue "Important" callout box contains a note about the sandbox timing out. On the right, an "Azure Cloud Shell" terminal window is open, showing the output of the command `az network nsg rule list --resource-group "learn-7646aa64-acf9-4865-8f26-40b0465f6785" --nsg-name my-vmNSG --query '[{Name:name, Priority:priority, Port:destinationPortRange, Access:access}]' --output table`. The resulting table shows a single rule named "default-allow-ssh" with priority 1000, port 22, and access "Allow". The command entered in the shell is `veerasivasakthiveera [~]\$ az network nsg rule list --resource-group "learn-7646aa64-acf9-4865-8f26-40b0465f6785" --nsg-name my-vmNSG --query '[{Name:name, Priority:priority, Port:destinationPortRange, Access:access}]' --output table`.

List the current network security group rules

```
"autoUpgradeMinorVersion": true,
"enableAutomaticUpgrade": null,
"forceUpdateTag": null,
"id": "/subscriptions/293caa52-ebff-42e6-9e6f-48771148aed/resourceGroups/learn-7646aa64-acf9-4865-8f26-40b0465f6785/providers/Microsoft.Compute/virtualMachines/my-vm/extensions/customScript",
"instanceView": null,
"location": "westus",
"name": "customScript",
"protectedSettings": null,
"protectedSettingsFromKeyVault": null,
"provisionAfterExtensions": null,
"provisioningState": "Succeeded",
"publisher": "Microsoft.Azure.Extensions",
"resourceGroup": "learn-7646aa64-acf9-4865-8f26-40b0465f6785",
"settings": {
  "fileUris": [
    "https://raw.githubusercontent.com/MicrosoftDocs/mslearn-welcome-to-azure/master/configure-nginx.sh"
  ],
  "suppressFailures": null,
  "tags": null,
  "type": "Microsoft.Compute/virtualMachines/extensions",
  "typeHandlerVersion": "2.1",
  "typePropertiesType": "customScript"
}
```

Create the network security rule

```
az network nsg rule list --resource-group "learn-7646aa64-acf9-4865-8f26-40b0465f6785" --nsg-name my-vmNSG --query '[] .{Name:name, Priority:priority, Port:destinationPortRange, Access:access}' --output table
```

Name	Priority	Port	Access
default-allow-ssh	1000	22	Allow

You see the default rule, *default-allow-ssh*. This rule allows inbound connections over port 22 (SSH). SSH (Secure Shell) is a protocol that's used on Linux to allow administrators to access the system remotely. The priority of this rule is 1000. Rules are processed in priority order, with lower numbers processed before higher numbers.

By default, a Linux VM's NSG allows network access only on port 22. This port enables administrators to access the system. You need to also allow inbound connections on port 80, which allows access over HTTP.

Task 3: Create the network security rule

Here you create a network security rule that allows inbound access on port 80 (HTTP)

```
veerasivasakthiveera [ ~ ]$ az network nsg rule list --resource-group "learn-7646aa64-acf9-4865-8f26-40b0465f6785" --nsg-name my-vmNSG --query '[] .{Name:name, Priority:priority, Port:destinationPortRange, Access:access}' --output table
```

Name	Priority	Port	Access
default-allow-ssh	1000	22	Allow

```
veerasivasakthiveera [ ~ ]$ Name Priority Port Access
```

Name	Priority	Port	Access
default-allow-ssh	1000	22	Allow

```
veerasivasakthiveera [ ~ ]$ bash: Name: command not found
bash: _____: command not found
bash: default-allow-ssh: command not found
veerasivasakthiveera [ ~ ]$
```

Access your web server again

The screenshot shows a browser window with several tabs open. The active tab is titled "Exercise - Configure network". Below the tabs, there's a navigation bar with "Learn", "Discover", "Product documentation", "Development languages", and "Topics". A progress bar at the top right indicates "LEVEL 3" and "2100 / 3699 XP".

In the main content area, there's a text block about setting priority to 100 for learning purposes. Below it, a note says: "2. To verify the configuration, run `az network nsg rule list` to see the updated list of rules:"

```
Azure CLI
az network nsg rule list \
--resource-group "learn-7646aa64-acf9-4865-8f26-40b0465f6785" \
--nsg-name my-vmNSG \
--query '[].{Name:name, Priority:priority, Port:destinationPortRange}' \
--output table
```

You see both the `default-allow-ssh` rule and your new rule, `allow-http`:

Name	Priority	Port	Access
default-allow-ssh	1000	22	Allow
allow-http	100	80	Allow

To the right, there's a terminal window titled "Azure Cloud Shell" showing the command output:

```
"destinationAddressPrefixes": [],
"destinationPortRange": "80",
"destinationPortRanges": [],
"direction": "Inbound",
"etag": "W/\\"c6bcad8a-cace-4dce-9e85-9749ab07b1f0\\\"",
"id": "/subscriptions/293caa52-ebff-42e6-9e6f-48771148aeed/resourceGroups/learn-7646aa64-acf9-4865-8f26-40b0465f6785/providers/Microsoft.Network/networkSecurityGroups/my-vmNSG/securityRules/allow-http",
"name": "allow-http",
"priority": 100,
"protocol": "Tcp",
"provisioningState": "Succeeded",
"resourceGroup": "learn-7646aa64-acf9-4865-8f26-40b0465f6785",
"sourceAddressPrefix": "*",
"sourceAddressPrefixes": [],
"sourcePortRange": "80",
"sourcePortRanges": [],
"type": "Microsoft.Network/networkSecurityGroups/securityRules"
}
veerasivasakthiveera [ ~ ]$ az network nsg rule list --resource-group "learn-7646aa64-acf9-4865-8f26-40b0465f6785" --nsg-name my-vmNSG --query '[].{Name:name, Priority:priority, Port:destinationPortRange, Access:access}' --output table
Name          Priority    Port     Access
default-allow-ssh 1000      22      Allow
allow-http       100       80      Allow
veerasivasakthiveera [ ~ ]$
```

Task 4: Access your web server again

Final output:

The screenshot shows a browser window with the URL "23.99.92.39". The page content reads: "Welcome to Azure! My name is my-vm."

2) Azure Academic Services: Azure for Students

Microsoft Academic Verification Process

The screenshot shows the Microsoft Academic Verification process. At the top, there's a navigation bar with links for Home, FAQ, and Support. Below it, a section titled "Take advantage of your academic status" explains that 'school' includes schools, universities, colleges, technical/STEM schools, and other academic schools. A progress bar at the bottom indicates four steps: Profile information (checkmark), Security Check (checkmark), Additional information (circle), and Verifying (checkmark). A large green "Congratulations!" message is displayed, stating "Your academic status has been successfully verified." A blue "Continue" button is visible.

Creation of resource groups

The screenshot shows the Microsoft Azure portal interface. The user is navigating to the "Resource groups" section. The search bar contains "Search resources, services, and docs (G+)". The main table displays three resource groups: "NetworkWatcherRG", "RG", and "sec", all under "Azure for Students" subscription and located in "Central India". The table includes columns for Name, Subscription, and Location. At the bottom, there are navigation links for "Page 1 of 1" and "Next >".

Creation of Virtual Machine

The screenshot shows the Microsoft Azure Virtual Machines dashboard. At the top, there are tabs for WhatsApp, Create Your Azure Free Account, Exercise - Configure network, and Virtual machines - Microsoft. The main search bar contains 'Search resources, services, and docs (G+/-)'. Below the search bar, there are various management buttons like Copilot, Refresh, Export to CSV, Open query, Assign tags, Start, Restart, Stop, Delete, and Services. A filter bar allows filtering by Subscription, Type, Resource group, Location, and adding a filter. The table below lists one VM entry:

Name	Subscription	Resource group	Location	Status	Operating system	Size	Public IP address	Disk
veeraaa	Azure for Students	RG	Central India	Running	Linux	Standard_D2s_v3	98.70.75.110	1

At the bottom, there are navigation buttons for < Previous, Page 1 of 1, and Next >. On the right, there is a 'Give feedback' link.

Hosting my portfolio using Azure Cloud Services

The screenshot shows a browser window with multiple tabs open. The active tab displays a portfolio website with the title 'Meyawo' at the top left. The main content features a large 'HI!' and 'I am VEERA' text, followed by 'FRONTEND WEB DESIGNER'. A blue button labeled 'Visit My Works' is visible. The browser's address bar shows the URL '98.70.75.236'. Other tabs include WhatsApp, Create Your Azure, Exercise - Configure, demo - Microsoft, 403 Forbidden, and mac taking screen.

Pricing calculator

The screenshot shows a Microsoft Excel spreadsheet titled "Microsoft Azure Estimate". The sheet contains a table with columns for Service category, Service type, Custom name, Region, Description, Estimated monthly cost, and Estimated upfront cost. The table includes rows for Compute (Virtual Machines) and Support (Licensing Program, Billing Account, Billing Profile). A total row at the bottom shows a monthly cost of \$137.24 and an upfront cost of \$0.00. The spreadsheet also includes a disclaimer and some footer text.

Service category	Service type	Custom name	Region	Description	Estimated monthly cost	Estimated upfront cost
Compute	Virtual Machines		East US	1 Dv3 (2 vCPUs, 8 GB RAM) x 730 Hours (Pay as you go), Windows (License included), OS Only; 0 managed disks - \$4; Inter Region transfer type, 5 GB outbound data transfer from East US to East Asia	\$137.24	\$0.00
Support			Support	Licensing Program Billing Account Billing Profile	\$0.00	\$0.00
			Total		\$137.24	\$0.00

Total Cost of Ownership (TCO) Calculator

The screenshot shows the Microsoft Azure TCO Calculator interface. The main page features a large callout stating "Over 5 year(s) with Microsoft Azure, your estimated cost savings could be as much as \$158,081". Below this, there's a section titled "Total on-premises vs. Azure cost over time" with a note about savings accruing over years. To the left, there are two smaller windows showing preview versions of the calculator.

Total Cost of Ownership (TCO) Calculator
Estimate the cost savings you can realize by migrating your workloads to Azure

Over 5 year(s) with Microsoft Azure, your estimated cost savings could be as much as **\$158,081**

Total on-premises vs. Azure cost over time
Savings from running workloads in Azure accrue over time. The following shows how those savings add up over years.

Creation of container

The screenshot shows the Microsoft Azure Storage Containers page. On the left, there's a sidebar with various options like Overview, Activity log, Tags, Diagnose and solve problems, Access Control (IAM), Data migration, Events, Storage browser, Storage Mover, Partner solutions, and Data storage (File shares, Queues, Tables). The main area shows a table of containers:

Name	Last modified	Anonymous access level	Lease state
\$logs	8/10/2024, 1:05:10 PM	Private	Available
veerasivasakthi	8/10/2024, 1:07:18 PM	Blob	Available

A success message at the top right says "Successfully created storage container 'veerasivasakthi'".

The screenshot shows the Microsoft Azure Storage Container blade for 'veerasivasakthi'. It includes sections for Overview, Diagnose and solve problems, Access Control (IAM), and Settings. The Overview section displays blob details:

Authentication method: Access key ([Switch to Microsoft Entra user account](#))
Location: veerasivasakthi

Search blobs by prefix (case-sensitive): Show deleted blobs

Add filter

Name	Modified	Access tier	Archive status	Blob type	Size	Lease state
wp11945054-one-piece-2k-wallp...	8/10/2024, 1:08:25 PM	Hot (Inferred)		Block blob	11.97 MiB	Available

Chrome File Edit View History Bookmarks Profiles Tab Window Help

Sat 10 Aug 1:09 PM

WhatsApp Create Your Azure Free Account Exercise - Configure network wp11945054-one-piece-2k-wallpapers.jpg Sign in to GitHub - GitHub

portal.azure.com/#view/Microsoft_Azure_Storage/BlobPropertiesBladeV2/storageAccountId/%2Fsubscriptions%2Ffaa2e35e-62d3-4e67-ab81-94486dcfe... iamyogeshsigamani@... DEFAULT DIRECTORY (IAMYOG...

Microsoft Azure Search resources, services, and docs (G+)

Home > sivaaa_1723275270040 | Overview > sivaaa | Containers > veerasivasakthi >

veerasivasakthi Container

Search Upload Change access level ...

Overview Diagnose and solve problems Access Control (IAM) Settings

Authentication method: Access key (Switch to Microsoft Entra user account)
Location: veerasivasakthi

Search blobs by prefix (case...) Show deleted blobs

Add filter

Name wp11945054-one-piece-2k-w...

wp11945054-one-piece-2k-wallpapers.jpg Blob

Save Discard Download Refresh Delete Change tier Acquire lease Break lease ...

Overview Versions Snapshots Edit Generate SAS

Properties

URL https://sivaaa.blob.c...

LAST MODIFIED 8/10/2024, 1:08:25 PM
CREATION TIME 8/10/2024, 1:08:25 PM
VERSION ID -
TYPE Block blob
SIZE 11.97 MiB
ACCESS TIER Hot (Inferred)
ACCESS TIER LAST MODIFIED N/A
ARCHIVE STATUS -
REHYDRATE PRIORITY -
SERVER ENCRYPTED true
ETAG 0x8DCB90F6B026FEB
VERSION-LEVEL IMMUTABILITY POLICY Disabled
CACHE-CONTROL
CONTENT-TYPE image/jpeg
CONTENT-MD5 h8PZzCdKID4M27fBdmt8...
CONTENT-ENCODING

