

Course: Online Session Azure Weekday BC= 2301060606

AZURE CAPSTONE PROJECT

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Going to the vm dashboard and clicking on create new vm we will be creating 2 vm in east us and 2 vm in west us in different vnet as per question alspl we have created a storage account with an error page

(screenshot 1 to 22)

also we have created a storage account with an error page

(screenshot 23 to 29)

We will be creating 2 application gateway and routing the traffics to our vms

(screenshot 29 to 49)

We will install our application on the vms

(screenshot 29 to 49)

Configuring and testing of our application

(screenshot 50 to 70)

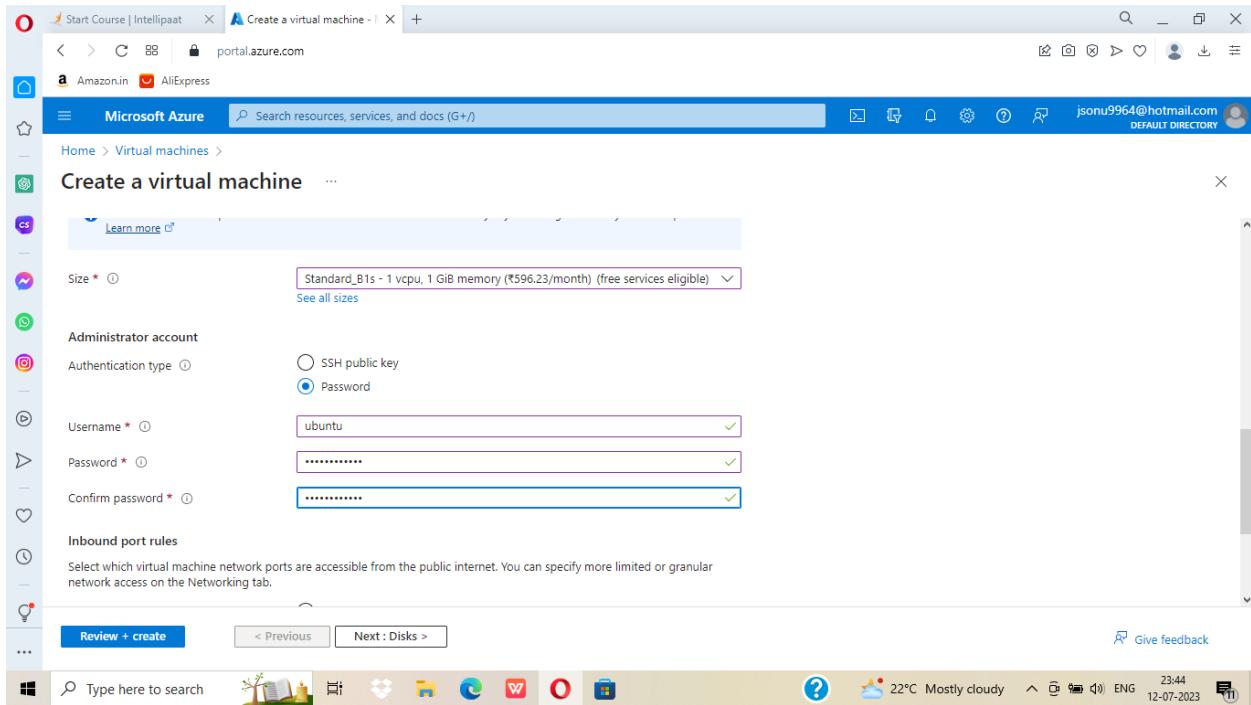
1

The screenshot shows the Microsoft Azure portal interface. The user is on the 'Virtual machines' page under the 'Default Directory'. A sidebar on the left lists options like 'Create', 'Switch to classic', 'Reservations', 'Manage view', 'Refresh', 'Export to CSV', 'Open query', 'Assign tags', 'Start', 'Restart', 'Stop', 'Delete', and more. A search bar at the top says 'Search resources, services, and docs (G+)'. The main area has filters: 'Type equals all', 'Resource group equals all', 'Location equals all', and 'Add filter'. Below these are sorting options: 'Subscription ↑', 'Resource group ↑↓', 'Location ↑↓', 'Status ↑↓', 'Operating system ↑↓', 'Size ↑↓', and 'Pul:'. A large message in the center says 'No virtual machines to display' with a small icon of a computer monitor. Below it, a sub-message says 'Create a virtual machine that runs Linux or Windows. Select an image from the marketplace or use your own customized image.' with a 'Create' button. At the bottom, there's a 'Learn more about Windows virtual machines' link and a 'Give feedback' button. The taskbar at the bottom shows various icons and the date/time: 23:41, 12-07-2023.

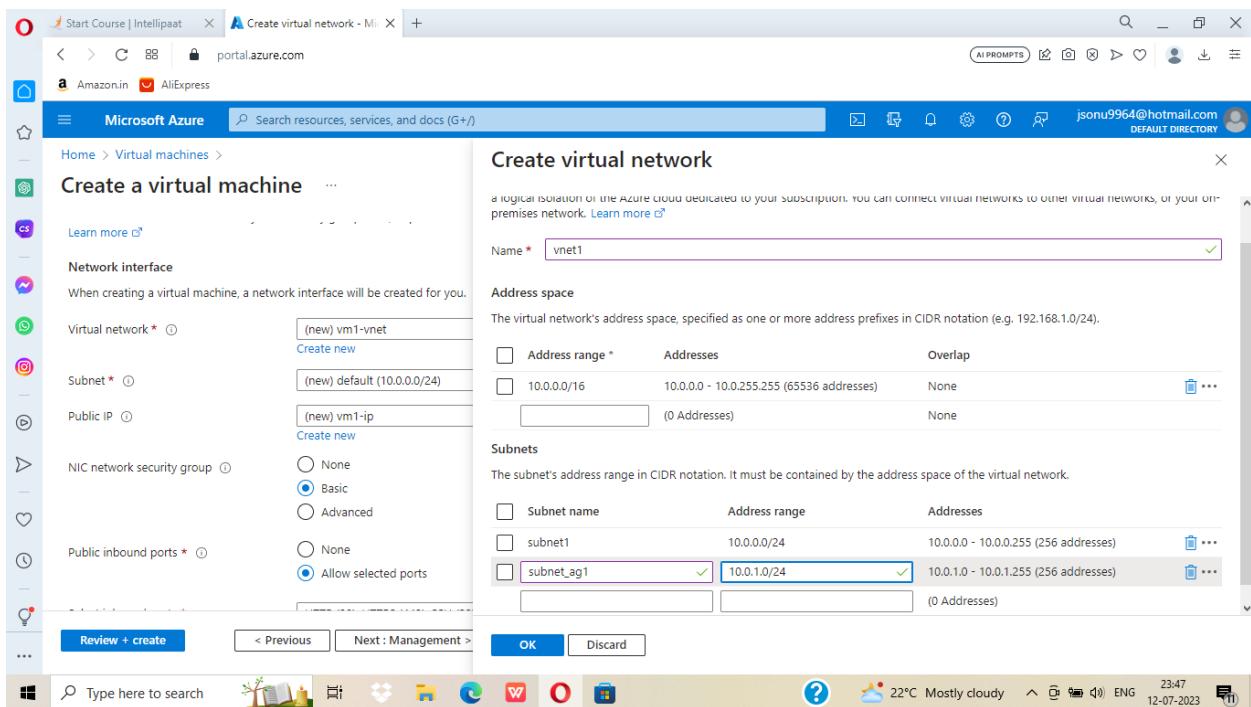
2.we enable alerts.

The screenshot shows the 'Create a virtual machine' wizard on the 'Subscription' step. The user has selected 'Free Trial' for the subscription and '(New) project' for the resource group. The 'Instance details' section includes fields for 'Virtual machine name *' (set to 'vm1'), 'Region *' (set to '(US) East US'), 'Availability options' (set to 'No infrastructure redundancy required'), 'Security type' (set to 'Standard'), 'Image *' (set to 'Ubuntu Server 20.04 LTS - x64 Gen2 (free services eligible)'), and 'VM architecture' (set to 'x64'). There are also buttons for 'Review + create' and 'Next : Disks >'. The taskbar at the bottom shows various icons and the date/time: 23:42, 12-07-2023.

3.we give rules and select signal



4.



5.

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

jsonu9964@hotmail.com DEFAULT DIRECTORY

Home > Virtual machines >

Create a virtual machine

Validation passed

Basics Disks Networking Management Monitoring Advanced Tags **Review + create**

Cost given below is an estimate and not the final price. Please use [Pricing calculator](#) for all your pricing needs.

Price

1 X Standard B1s by Microsoft **0.8168 INR/hr**

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Pricing for other VM sizes

TERMS

By clicking "Create", I (a) agree to the legal terms and privacy statement(s) associated with the Marketplace offering(s) listed above; (b) authorize Microsoft to bill my current payment method for the fees associated with the offering(s), with the same

Create < Previous Next > Download a template for automation Give feedback

Type here to search

22°C Mostly cloudy 12-07-2023

6.we now create action group

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Home >

CreateVm-canonical.0001-com-ubuntu-server-focal-2-20230712234144 | Overview

Deployment

Search

Delete Cancel Redeploy Download Refresh

Your deployment is complete

Deployment name: CreateVm-canonical.0001-com-ubuntu-serv... Start time: 7/12/2023, 11:51:00 PM

Subscription: [Free Trial](#) Correlation ID: cf250d91-c366-4559-8b3c-f2

Resource group: project

Deployment 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

Give feedback Tell us about your experience with deployment

Cost Management Get notified to stay within your budget and prevent unexpected charges on your bill. Set up cost alerts >

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7.we add our email

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Home > CreateVm-canonical.0001-com-ubuntu-server-focal-2-20230712234144 | Overview >

Create a virtual machine ...

Project details

Select the subscription to manage deployed resources and costs. Use resource groups like folders to organize and manage all your resources.

Subscription *

Resource group *

Instance details

Virtual machine name *

Region *

Availability options

Security type

Image *

[See all images](#) [Configure VM generation](#)

Review + create < Previous Next : Disks > Give feedback

Type here to search

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8.

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Home > CreateVm-canonical.0001-com-ubuntu-server-focal-2-20230712234144 | Overview >

Create a virtual machine ...

Username *

Password *

Confirm password *

Inbound port rules

Select which virtual machine network ports are accessible from the public internet. You can specify more limited or granular network access on the Networking tab.

Public inbound ports * None Allow selected ports

Select inbound ports *

All traffic from the internet will be blocked by default. You will be able to change inbound port rules in the VM > Networking page.

Review + create < Previous Next : Disks > Give feedback

Type here to search

22°C Mostly cloudy 23:54 12-07-2023

9.

The screenshot shows the Microsoft Azure portal interface for creating a virtual machine. The title bar says "Create a virtual machine - Start Course | Intellipaat". The main content area is titled "Create a virtual machine". The configuration settings are as follows:

- Virtual network ***: vnet1
- Subnet ***: subnet1 (10.0.0.0/24)
- Public IP**: (new) vm2-ip
- NIC network security group**: Basic (selected)
- Public inbound ports ***: Allow selected ports
- Select inbound ports ***: HTTP (80), HTTPS (443), SSH (22)

At the bottom, there are buttons for "Review + create" (highlighted in blue), "< Previous", "Next : Management >", and "Give feedback". The taskbar at the bottom shows various pinned icons and the system status bar indicates it's 23:54 on 12-07-2023.

10.

The screenshot shows the Microsoft Azure portal interface for creating a virtual machine. The title bar says "Create a virtual machine - Start Course | Intellipaat". The main content area is titled "Create a virtual machine". The validation status is shown as "Validation passed". The configuration tabs are Basics, Disks, Networking, Management, Monitoring, Advanced, Tags, and Review + create (which is underlined). A note below the tabs states: "Cost given below is an estimate and not the final price. Please use [Pricing calculator](#) for all your pricing needs." The "Price" section shows "1 X Standard B1s by Microsoft" with a price of "0.8168 INR/hr". There are links for "Subscription credits apply", "Terms of use", and "Privacy policy". The "TERMS" section contains legal disclaimers. At the bottom, there are buttons for "Create" (highlighted in blue), "< Previous", "Next > Download a template for automation", and "Give feedback". The taskbar at the bottom shows various pinned icons and the system status bar indicates it's 23:54 on 12-07-2023.

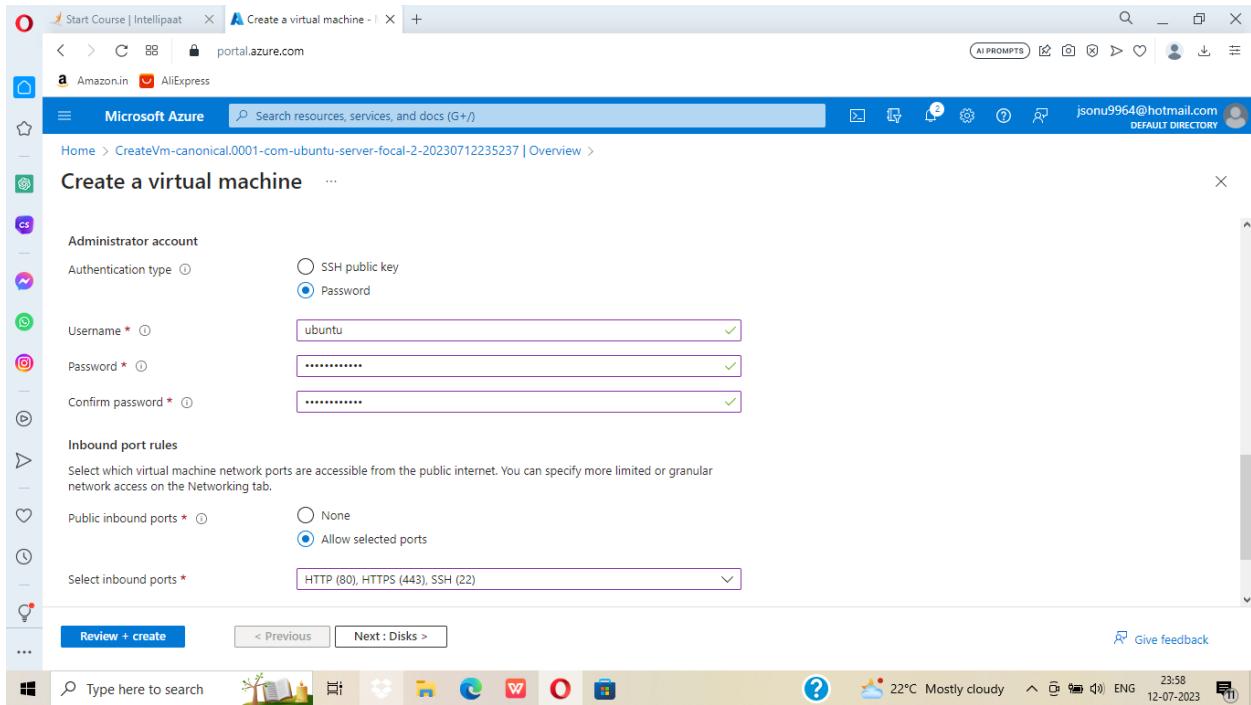
11.

The screenshot shows the Microsoft Azure portal interface. A deployment named "CreateVm-canonical.0001-com-ubuntu-server-focal-2-20230712235237" has been successfully completed. The deployment details include a deployment name, subscription ("Free Trial"), start time (7/12/2023, 11:54:52 PM), and resource group ("project"). The portal sidebar shows options like Overview, Inputs, Outputs, and Template. A right-hand sidebar provides links to Cost Management, Microsoft Defender for Cloud, and Free Microsoft tutorials. The bottom navigation bar includes icons for Start, Task View, File Explorer, Edge browser, File, and Task Manager.

12. we got our email

The screenshot shows the Microsoft Azure portal interface, specifically the "Create a virtual machine" wizard. The "Project details" step is selected, showing the user is creating a new resource group named "project". Other fields include the virtual machine name ("vm3"), region ("(US) West US"), availability options ("No infrastructure redundancy required"), security type ("Standard"), and image ("Ubuntu Server 20.04 LTS - x64 Gen2 (free services eligible)"). The "Review + create" button is visible at the bottom left. The bottom navigation bar includes icons for Start, Task View, File Explorer, Edge browser, File, and Task Manager.

13



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Home > CreateVm-canonical.0001-com-ubuntu-server-focal-2-20230712235237 | Overview >

Create a virtual machine

Administrator account

Authentication type SSH public key Password

Username *

Password *

Confirm password *

Inbound port rules

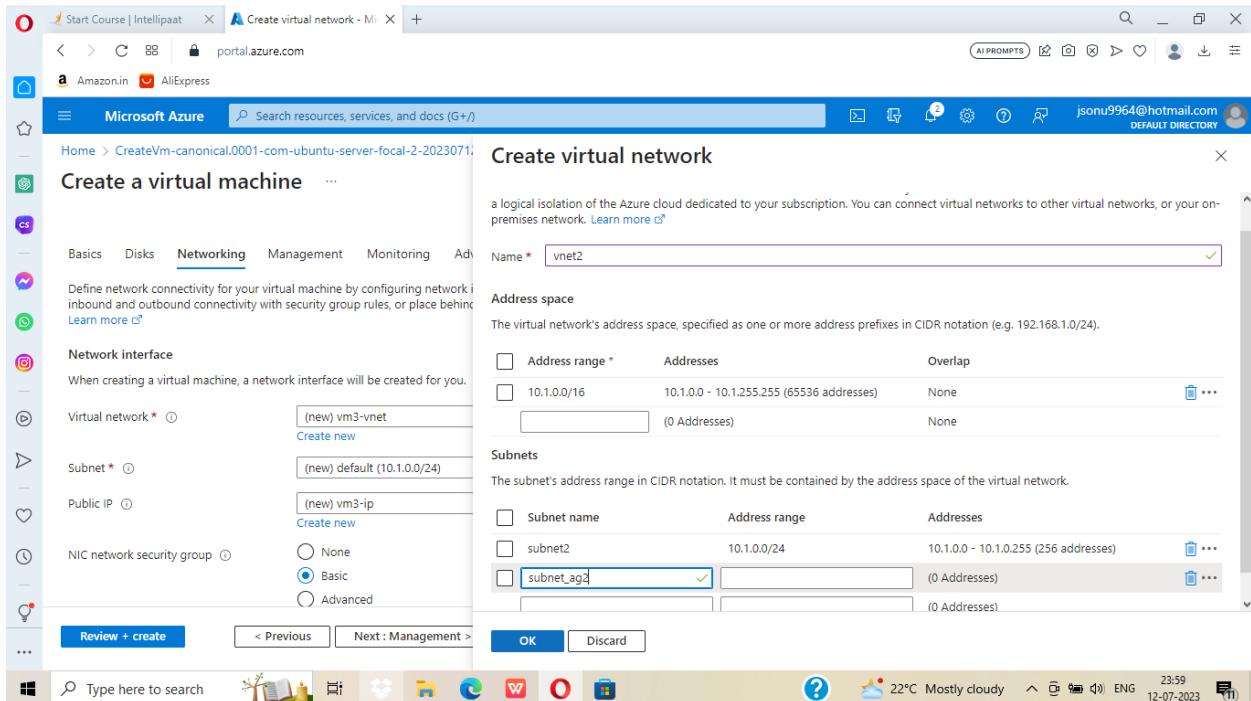
Select which virtual machine network ports are accessible from the public internet. You can specify more limited or granular network access on the Networking tab.

Public inbound ports * None Allow selected ports

Select inbound ports *

Review + create < Previous Next : Disks > Give feedback

14



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Home > CreateVm-canonical.0001-com-ubuntu-server-focal-2-20230712235237 | Overview >

Create a virtual network

a logical isolation of the Azure cloud dedicated to your subscription. You can connect virtual networks to other virtual networks, or your on-premises network. [Learn more](#)

Name *

Address space

The virtual network's address space, specified as one or more address prefixes in CIDR notation (e.g. 192.168.1.0/24).

Address range *	Addresses	Overlap
<input type="checkbox"/> 10.1.0.0/16	10.1.0.0 - 10.1.255.255 (65536 addresses)	None
<input type="checkbox"/>	(0 Addresses)	None

Subnets

The subnet's address range in CIDR notation. It must be contained by the address space of the virtual network.

Subnet name	Address range	Addresses
<input type="checkbox"/> subnet2	10.1.0.0/24	10.1.0.0 - 10.1.0.255 (256 addresses)
<input type="checkbox"/> subnet_ag2	<input type="text"/>	(0 Addresses)

Review + create < Previous Next : Management > **OK** **Discard**

15

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Home > CreateVm-canonical.0001-com-ubuntu-server-focal-2-20230712235237 | Overview

Create a virtual machine X

Validation passed

Basics Disks Networking Management Monitoring Advanced Tags Review + create

Cost given below is an estimate and not the final price. Please use [Pricing calculator](#) for all your pricing needs.

Price

1 X Standard B1s by Microsoft

Subscription credits apply ?

0.9738 INR/hr

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Pricing for other VM sizes

TERMS

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Create < Previous Next > Download a template for automation Give feedback

Type here to search

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16

Start Course | Intellipaat X CreateVm-canonical.0001-com-ubuntu-server-focal-2-20230712235652 | Overview X

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Home >

Deployment

Search Delete Cancel Redeploy Download Refresh

Your deployment is complete

Deployment name: CreateVm-canonical.0001-com-ubuntu-ser... Start time: 7/13/2023, 12:00:25 AM

Subscription: [Free Trial](#) Correlation ID: e777d898-a30d-4682-8f29-b1

Resource group: project

Deployment 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

Give feedback Tell us about your experience with deployment

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17

The screenshot shows the Microsoft Azure portal with the URL portal.azure.com in the address bar. The user is logged in with the email jsonsu9964@hotmail.com. The page title is "Create a virtual machine". The "Project details" section is active, showing the following configuration:

- Subscription:** Free Trial
- Resource group:** project (selected from a dropdown)
- Virtual machine name:** vm4
- Region:** (US) West US
- Availability options:** No infrastructure redundancy required
- Security type:** Standard
- Image:** Ubuntu Server 20.04 LTS - x64 Gen2 (free services eligible)

At the bottom of the form are "Review + create" and "Next : Disks >" buttons. The taskbar at the bottom includes icons for Start, Task View, File Explorer, Edge browser, File, and others. The system tray shows the date as 13-07-2023.

18

The screenshot shows the Microsoft Azure portal with the URL portal.azure.com in the address bar. The user is logged in with the email jsonsu9964@hotmail.com. The page title is "Create a virtual machine". The "Inbound port rules" section is active, showing the following configuration:

- Username:** ubuntu
- Password:** (redacted)
- Confirm password:** (redacted)
- Inbound port rules:** Public inbound ports * (radio button selected: Allow selected ports)
- Select inbound ports:** HTTP (80), HTTPS (443), SSH (22)

A tooltip message states: "All traffic from the internet will be blocked by default. You will be able to change inbound port rules in the VM > Networking page." At the bottom of the form are "Review + create" and "Next : Disks >" buttons. The taskbar at the bottom includes icons for Start, Task View, File Explorer, Edge browser, File, and others. The system tray shows the date as 13-07-2023.

19

The screenshot shows the Microsoft Azure portal with the URL portal.azure.com in the address bar. The user is creating a virtual machine, specifically a Canonical Ubuntu Server Focal 2-20230712235652. The current step is 'Create a virtual machine' under the 'Networking' section. The configuration includes:

- Virtual network: vnet2 (selected from dropdown)
- Subnet: subnet2 (10.1.0.0/24) (selected from dropdown)
- Public IP: (new) vm4-ip (selected from dropdown)
- NIC network security group: Basic (radio button selected)
- Public inbound ports: Allow selected ports (radio button selected)
- Select inbound ports: HTTP (80), HTTPS (443), SSH (22) (selected from dropdown)

At the bottom, there are buttons for 'Review + create' (highlighted in blue), '< Previous', 'Next : Management >', and 'Give feedback'.

20

The screenshot shows the Microsoft Azure portal with the URL portal.azure.com in the address bar. The user is creating a virtual machine, specifically a Canonical Ubuntu Server Focal 2-20230712235652. The current step is 'Review + create'. The summary shows:

- Validation passed (green success message)
- Basics tab selected
- Price: 1 X Standard B1s by Microsoft (Subscription credits apply: 0.9738 INR/hr)
- TERMS: By clicking "Create", I (a) agree to the legal terms and privacy statement(s) associated with the Marketplace offering(s) listed above; (b) authorize Microsoft to bill my current payment method for the fees associated with the offering(s), with the same

At the bottom, there are buttons for 'Create' (highlighted in blue), '< Previous', 'Next >', 'Download a template for automation', and 'Give feedback'.

21

The screenshot shows the Microsoft Azure portal interface. The main title bar says "CreateVm-canonical.0001-com-ubuntu-server-focal-2-20230713000144 | Overview". On the left, there's a sidebar with icons for Home, Deployment, Overview, Inputs, Outputs, and Template. The main content area displays a green checkmark indicating "Your deployment is complete". It shows deployment details: Deployment name: CreateVm-canonical.0001-com-ubuntu-ser..., Start time: 7/13/2023, 12:04:47 AM, Subscription: Free Trial, Resource group: project, Correlation ID: 108345e3-606b-4bb3-86dd-a. Below this, there's a section for "Deployment details" with options like "Setup auto-shutdown" (Recommended), "Monitor VM health, performance and network dependencies" (Recommended), and "Run a script inside the virtual machine" (Recommended). At the bottom, there are buttons for "Go to resource" and "Create another VM". A right-hand sidebar includes links for Cost Management, Microsoft Defender for Cloud, Free Microsoft tutorials, and Work with an expert.

22

The screenshot shows the Microsoft Azure portal interface with the title bar "Virtual machines - Microsoft Azure". The left sidebar has icons for Home, Virtual machines, Default Directory, and others. The main content area shows a table of virtual machines. The columns are: Name, Type, Subscription, Resource group, Location, Status, Operating system, Size, and Pub. There are four entries: vm1, vm2, vm3, and vm4, all listed as "Running" in the status column. At the bottom, there are navigation buttons for < Previous, Page 1 of 1, and Next >, along with a "Give feedback" link. The bottom navigation bar is identical to the one in screenshot 21.

Name	Type	Subscription	Resource group	Location	Status	Operating system	Size	Pub
vm1	Virtual machine	Free Trial	project	East US	Running	Linux	Standard_B1s	20.1
vm2	Virtual machine	Free Trial	project	East US	Running	Linux	Standard_B1s	20.2
vm3	Virtual machine	Free Trial	project	West US	Running	Linux	Standard_B1s	13.8
vm4	Virtual machine	Free Trial	project	West US	Running	Linux	Standard_B1s	40.8

23

The screenshot shows the Microsoft Azure Storage accounts page. At the top, there is a search bar and a navigation bar with links for Home, Storage accounts, and other services like AI PROMPTS, AI HELP, and AI TUTOR. The main content area is titled "Storage accounts" and shows a message: "No storage accounts to display". Below this, there is a brief description: "Create a storage account to store up to 500TB of data in the cloud. Use a general-purpose storage account to store object data, use a NoSQL data store, define and use queues for message processing, and set up file shares in the cloud. Use the Blob storage account and the hot or cool access tiers to optimize your costs based on how frequently your object data is accessed." A blue button labeled "Create storage account" is visible. The bottom of the screen shows the Windows taskbar with various pinned icons and the system tray.

24

The screenshot shows the "Create a storage account" wizard on the "Basics" step. The title bar says "Create a storage account -". The left sidebar has tabs for Basics, Advanced, Networking, Data protection, Encryption, Tags, and Review. The "Basics" tab is selected. The main form is titled "Instance details". It includes fields for "Storage account name" (set to "mystorageproject10"), "Region" (set to "(US) East US"), and "Performance". Under "Performance", the "Standard: Recommended for most scenarios (general-purpose v2 account)" option is selected. Under "Redundancy", "Locally-redundant storage (LRS)" is selected. At the bottom, there are buttons for "Review" (highlighted in blue), "< Previous", and "Next : Advanced >". The bottom of the screen shows the Windows taskbar with various pinned icons and the system tray.

25

The screenshot shows the Microsoft Azure portal interface. The main title bar says "mystorageproject10_1689187452228 | Overview". On the left sidebar, under the "Deployment" section, "Overview" is selected. The main content area displays a green checkmark icon and the message "Your deployment is complete". Below this, it shows deployment details: "Deployment name: mystorageproject10_1689187...", "Subscription: Free Trial", "Resource group: project", "Start time: 7/13/2023, 12:14:19 AM", and "Correlation ID: 9d0adf39-b03f-4c01-87e2-9a016ad829f4". There are sections for "Deployment details" and "Next steps" with a "Go to resource" button. At the bottom, there are links for "Give feedback" and "Tell us about your experience with deployment". A sidebar on the right provides links to "Cost Management", "Microsoft Defender for Cloud", "Free Microsoft tutorials", and "Work with an expert". The taskbar at the bottom includes icons for File Explorer, Task View, Start, Taskbar settings, and system status.

26

The screenshot shows the Microsoft Azure portal interface. The main title bar says "New container - Microsoft" and "mystorageproject10_1689187452228 | Overview". On the left sidebar, under the "Storage account" section, "Containers" is selected. The main content area shows a table with one row: "Name" (Slogs), "Last modified" (7/13/2023, 12:14:52 AM), and "Public access level" (Private). A "Create" button is visible at the bottom of the table. A modal window titled "New container" is open on the right, prompting for "Name" (set to "upload") and "Public access level" (set to "Private (no anonymous access)"). The taskbar at the bottom includes icons for File Explorer, Task View, Start, Taskbar settings, and system status.

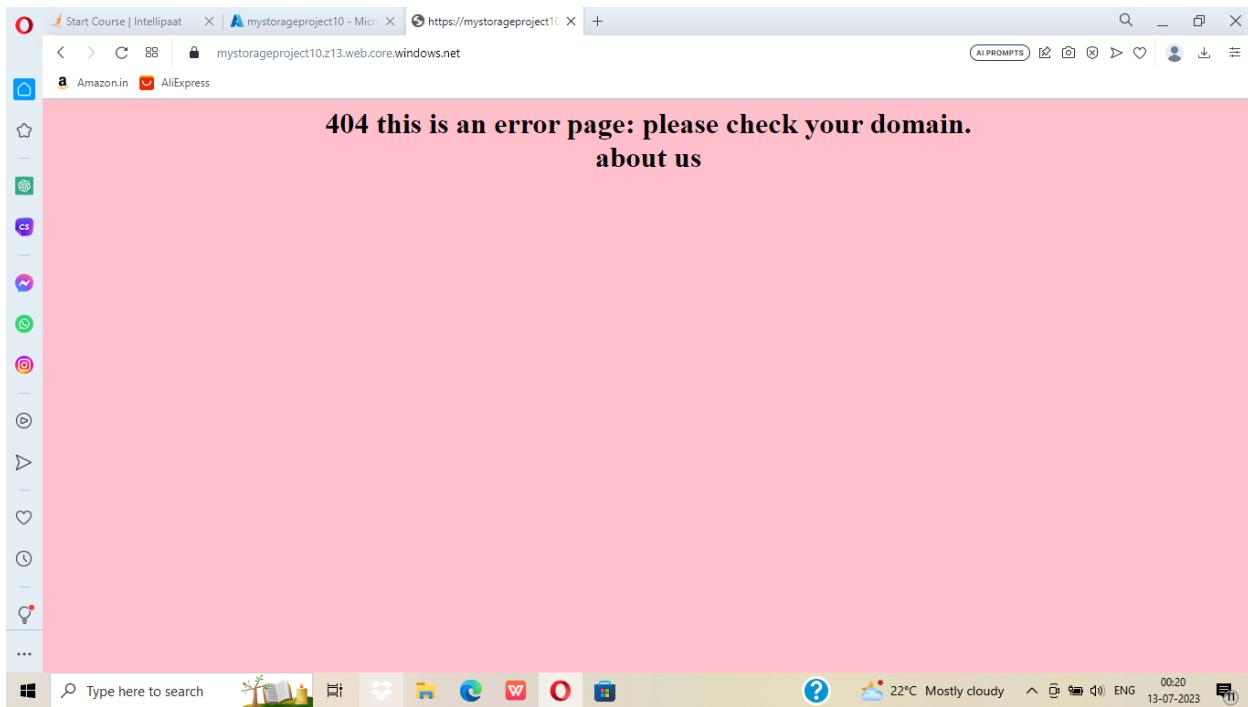
27

The screenshot shows the Microsoft Azure portal interface. The user is in the 'mystorageproject10' storage account under the 'Static website' section. The 'Enabled' button is selected, and the 'Index document name' field contains 'error.html'. The Azure search bar at the top has 'static' typed into it. The taskbar at the bottom shows various pinned icons.

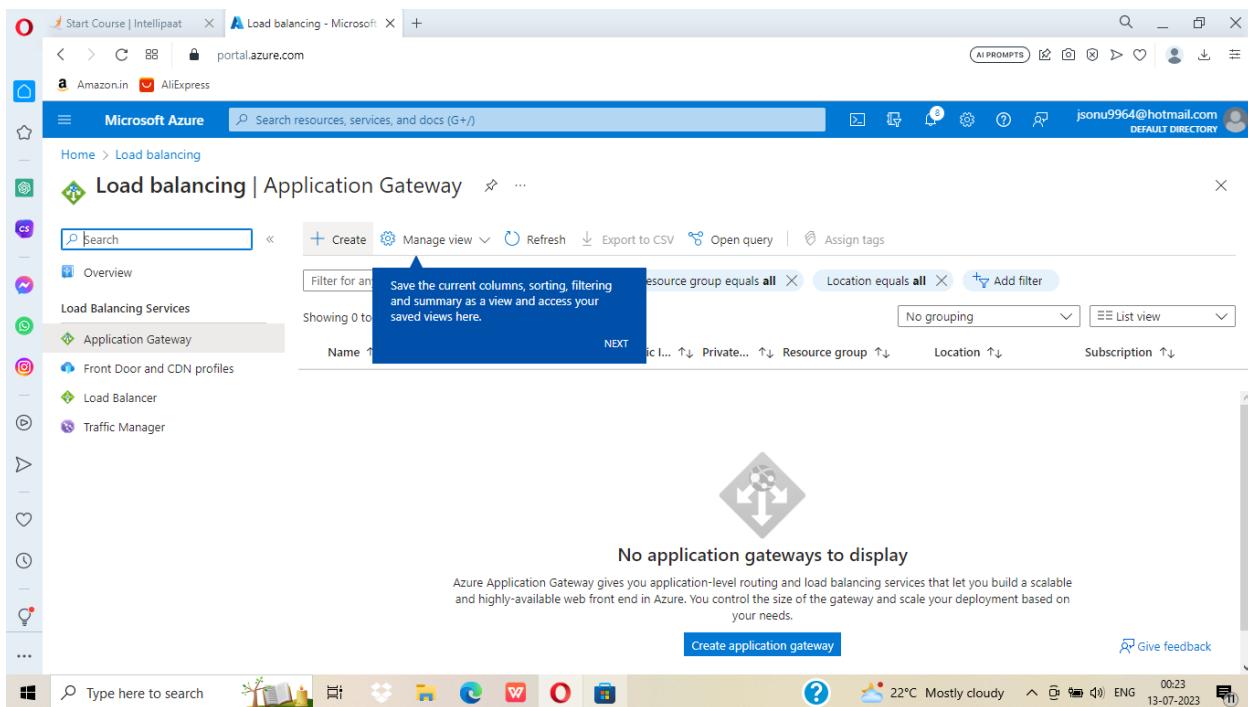
28

The screenshot shows the Microsoft Azure portal interface. The user is in the '\$web' container under the 'Static website' section. They are performing a 'Upload blob' operation. A file named 'error.html' is being uploaded. The blob upload interface includes a 'Drag and drop files here' area and a 'Browse for files' button. The taskbar at the bottom shows various pinned icons.

29



30



31

The screenshot shows the Microsoft Azure portal with the URL portal.azure.com in the address bar. The user is creating an Application Gateway named 'ag1' in the 'Free Trial' subscription and the 'project' resource group. The 'Region' is set to 'East US' and the 'Tier' to 'Standard V2'. Autoscaling is enabled with a minimum of 1 instance and a maximum of 5 instances. The 'Next : Frontends >' button is visible at the bottom.

32

The screenshot shows the continuation of the 'Create application gateway' wizard. The 'Tier' is set to 'Standard V2', 'Autoscaling' is enabled, and the 'Minimum instance count' is 1. The 'Maximum instance count' is 5. The 'Availability zone' is set to 'None'. 'HTTP2' is enabled. Under 'Configure virtual network', the 'Virtual network' is 'vnet1' and the 'Subnet' is 'subnet_ag1 (10.0.1.0/24)'. The 'Next : Frontends >' button is visible at the bottom.

33

The screenshot shows the Microsoft Azure portal with the URL portal.azure.com in the address bar. The user is creating an Application Gateway, currently on the 'Frontends' step. The 'Frontend IP address type' is set to 'Public'. A dropdown menu shows '(New) ag1ip' selected. The navigation bar includes tabs for Basics, Frontends, Backends, Configuration, Tags, and Review + create. The status bar at the bottom shows the date as 13-07-2023.

34

The screenshot shows the Microsoft Azure portal with the URL portal.azure.com in the address bar. The user is creating an Application Gateway, currently on the 'Backends' step. Under 'Add a backend pool', there are two entries: 'pool1' and 'pool2', each with a target count of '1 target'. The navigation bar includes tabs for Basics, Frontends, Backends, Configuration, Tags, and Review + create. The status bar at the bottom shows the date as 13-07-2023.

35

The screenshot shows the Microsoft Azure portal with the URL portal.azure.com in the address bar. The user is in the 'Create application gateway' section under the 'Configuration' tab. On the left, there's a 'Frontends' panel showing a single frontend IP named 'Public: (new) ag1ip'. The main 'Add a routing rule' form has the following settings:

- Rule name:** rule
- Priority:** 1
- Listener:** Listener 1
- Backend targets:** Backend targets
- Listener name:** name
- Frontend IP:** Public
- Protocol:** HTTP
- Port:** 80
- Additional settings:**
 - Listener type:** Basic
 - Error page url:** https://mystorageproject10.z13.web.core.windows.net/error.html
 - Bad gateway - 502:** https://mystorageproject10.z13.web.core.windows.net/error.html
 - Forbidden - 403:** https://mystorageproject10.z13.web.core.windows.net/error.html

At the bottom right of the form are 'Add' and 'Cancel' buttons.

36

This screenshot shows the same 'Add a routing rule' configuration page as the previous one, but with different settings for the backend pool:

- Rule name:** rule1
- Priority:** 1
- Listener:** Listener 1
- Backend targets:** Backend targets
- Target type:** Backend pool
- Backend target:** pool2
- Backend settings:** default

The rest of the configuration (Additional settings, Path-based routing) is identical to the previous screenshot. The bottom right of the form still has 'Add' and 'Cancel' buttons.

37

The screenshot shows the Microsoft Azure portal interface. The top navigation bar includes links for 'Start Course | Intellipaat', 'Add a routing rule - Micro...', and 'mystorageproject10 - Micro...'. The main header says 'Microsoft Azure' with a search bar and user info 'jsonu9964@hotmail.com DEFAULT DIRECTORY'. Below the header, the breadcrumb navigation shows 'Home > Load balancing | Application Gateway > Create application gateway'. The main content area is titled 'Add a routing rule' under 'Configuration'. It has tabs for 'Basics', 'Frontends', 'Backends', and 'Configuration', with 'Configuration' selected. A note says 'Create routing rules that link your frontend(s) and backend(s). You can also add a default route.' On the left, there's a 'Frontends' section with a plus icon to 'Add a frontend IP'. In the center, the 'Target type' is set to 'Backend pool' (radio button selected), and the path is '/upload'. The 'Target name' dropdown shows 'pool1' (selected), 'default', and 'Add new'. Below that, 'Backend settings' and 'Backend target' sections are shown. At the bottom, there are 'Add' and 'Cancel' buttons. The taskbar at the bottom shows various pinned icons and the date/time '13-07-2023 00:35'.

38

The screenshot shows the Microsoft Azure portal interface. The top navigation bar includes links for 'Start Course | Intellipaat', 'Create application gateway - Micro...', and 'mystorageproject10 - Micro...'. The main header says 'Microsoft Azure' with a search bar and user info 'jsonu9964@hotmail.com DEFAULT DIRECTORY'. Below the header, the breadcrumb navigation shows 'Home > Load balancing | Application Gateway > Create application gateway'. The main content area is titled 'Create application gateway' and has tabs for 'Basics', 'Frontends', 'Backends', 'Configuration', 'Tags', and 'Review + create' (which is selected). A green banner at the top says 'Validation passed'. The 'Basics' section contains the following configuration details:

Subscription	Free Trial
Resource group	project
Name	ag1
Region	East US
Tier	Standard_v2
Enable autoscaling	Enabled
Minimum instance count	1
Maximum instance count	5
Availability zone	None
HTTP2	Enabled
Virtual network	vnet1

At the bottom, there are 'Create', 'Previous', 'Next', and 'Download a template for automation' buttons. The taskbar at the bottom shows various pinned icons and the date/time '13-07-2023 00:36'.

39

The screenshot shows the Microsoft Azure portal interface. The main title bar reads "Microsoft.ApplicationGateway-20230713002348 | Overview". On the left, there's a sidebar with icons for Home, Deployment, Overview, Inputs, Outputs, and Template. The main content area displays a green checkmark indicating "Your deployment is complete". It provides deployment details: Deployment name: Microsoft.ApplicationGateway-20230713002348, Start time: 7/13/2023, 12:36:50 AM, Subscription: Free Trial, Correlation ID: 4db19c63-d26e-4d43-94d5-538b5..., Resource group: project. Below this, there are sections for "Deployment details" and "Next steps", with a "Go to resource group" button. At the bottom, there are links for "Give feedback" and "Tell us about your experience with deployment". To the right, there are promotional cards for "Cost management", "Microsoft Defender for Cloud", "Free Microsoft tutorials", and "Work with an expert". The bottom navigation bar includes a search bar, pinned tiles for Home, Azure Monitor, Storage, Functions, App Service, Logic Apps, and Container Registry, and a system tray showing weather (22°C Mostly cloudy), date (13-07-2023), and time (00:43).

40

The screenshot shows the Microsoft Azure portal interface with the title bar "Create application gateway". The left sidebar has icons for Home, Load balancing, Application Gateway, and others. The main form is titled "Create application gateway". It contains the following fields:

- Subscription:** Free Trial
- Resource group:** project (selected from a dropdown)
- Instance details:**
 - Application gateway name:** ag2
 - Region:** West US
 - Tier:** Standard V2
 - Enable autoscaling:** Yes (radio button selected)
 - Minimum instance count:** 1
 - Maximum instance count:** 5
 - Availability zone:** None
 - HTTP2:** Enabled (radio button selected)

At the bottom, there are "Previous" and "Next : Frontends + " buttons. The bottom navigation bar is identical to the one in screenshot 39, including the search bar, pinned tiles, and system tray.

41

Create application gateway

Tier: Standard V2

Enable autoscaling: Yes

Minimum instance count: 1

Maximum instance count: 5

Availability zone: None

HTTP2: Enabled

Configure virtual network

Virtual network: vnet2

Subnet: subnet_ag2 (10.1.1.0/24)

Previous Next : Frontends >

Type here to search

22°C Mostly cloudy 13-07-2023 00:47

42

Create application gateway

Basics Frontends Backends Configuration Tags Review + create

Traffic enters the application gateway via its frontend IP address(es). An application gateway can use a public IP address, private IP address, or one of each type.

Frontend IP address type: Public

Public IP address: (New) ag2ip

Previous Next : Backends >

Type here to search

22°C Mostly cloudy 13-07-2023 00:48

43

The screenshot shows the Microsoft Azure portal interface. The top navigation bar includes links for 'Start Course | Intellipaat', 'mystorageproject10 - Microsoft Storage', 'Add a backend pool - Microsoft Azure', and a '+' button. The user's email, 'jsonu9964@hotmail.com', is visible in the top right corner.

The main content area displays the 'Create application gateway' wizard, step 3: Backends. The 'Backends' tab is selected. A sub-dialog titled 'Add a backend pool' is open on the right. The sub-dialog header says 'Add a backend pool.' and provides a brief description: 'A backend pool is a collection of resources to which your application gateway can send traffic. A backend pool can contain virtual machines, virtual machine scale sets, app services, IP addresses, or fully qualified domain names (FQDN).'. It includes fields for 'Name' (set to 'pool3'), 'Add backend pool without targets' (set to 'Yes'), and a 'Backend targets' section. The 'Backend targets' section shows one item: 'vm3585 (10.1.0.4)' under 'Virtual machine'. Below this, there is a dropdown for 'IP address or FQDN' which is currently empty.

At the bottom of the sub-dialog are 'Add' and 'Cancel' buttons. The main wizard navigation buttons are 'Previous' and 'Next : Configuration >'. The taskbar at the bottom shows various pinned icons and the system status bar indicates it's 00:49 on 13-07-2023.

44

This screenshot shows the same Microsoft Azure portal interface as the previous one, but with the 'Create application gateway' wizard at a later stage. The 'Backends' tab is still selected.

The 'Backend pool' table now lists two entries: 'pool3' and 'pool4'. Both entries show '1 target' and have three dots (...) next to them, indicating more options. The rest of the interface, including the sub-dialog for adding a backend pool, remains the same as in the previous screenshot.

The taskbar and system status bar at the bottom are identical to the previous screenshot.

45

The screenshot shows the Microsoft Azure portal with the URL portal.azure.com in the address bar. The user is in the 'Load balancing | Application Gateway' section under 'Create application gateway'. On the left, there's a 'Frontends' section with a 'Public' frontend listed. On the right, the 'Add a routing rule' configuration page is open. The 'Configuration' tab is selected. The 'Rule name' field contains 'rule2'. The 'Priority' field is set to '1'. Under 'Listener', the 'Listener name' is 'name', 'Frontend IP' is 'Public', 'Protocol' is 'HTTP', and 'Port' is '80'. Under 'Additional settings', 'Listener type' is 'Basic' and 'Error page url' is 'No'. At the bottom, there are 'Add' and 'Cancel' buttons.

46

This screenshot is nearly identical to the one above, showing the 'Add a routing rule' configuration page. The main difference is in the 'Backend targets' section. Instead of selecting a 'Backend pool', the 'Redirection' option is selected. The 'Backend target' dropdown shows 'pool4' and 'default'. The rest of the configuration, including the rule name, priority, listener settings, and additional settings, remains the same as in step 45.

47

The screenshot shows the Microsoft Azure portal interface. The title bar indicates the user is on the 'Add a path - Microsoft Azure' page. The main content area is titled 'Add a path' and shows the 'Configuration' tab selected. Under 'Target type', 'Backend pool' is chosen. The 'Path' field contains '/upload'. Below it, 'Target name' is set to 'pool3'. A dropdown menu for 'Backend settings' shows 'pool3' selected. The 'Backend target' dropdown also has 'pool3' selected. On the left, there's a sidebar for 'Frontends' with a note about creating routing rules. The bottom navigation bar includes 'Previous' and 'Next : Tags >' buttons, along with 'Add' and 'Cancel' buttons.

48

The screenshot shows the Microsoft Azure portal interface. The title bar indicates the user is on the 'Create application gateway' page. The main content area shows the 'Review + create' step. A green validation message 'Validation passed' is displayed. The 'Review + create' tab is selected. The 'Basics' section displays the following configuration details:

Setting	Value
Subscription	Free Trial
Resource group	project
Name	ag2
Region	West US
Tier	Standard_v2
Enable autoscaling	Enabled
Minimum instance count	1
Maximum instance count	5
Availability zone	None
HTTP2	Enabled
Virtual network	vnet2

At the bottom, there are 'Create', 'Previous', and 'Next' buttons, along with a link to 'Download a template for automation'. The status bar at the bottom right shows the date and time as 13-07-2023 00:56.

49

The screenshot shows the Microsoft Azure portal interface. The main title bar says "Microsoft ApplicationGateway-20230713004636 | Overview". On the left sidebar, under "Deployment", there is a "Overview" section. A green checkmark icon indicates "Your deployment is complete". Below it, deployment details are listed: Deployment name: Microsoft.ApplicationGateway-202..., Start time: 7/13/2023, 12:56:20 AM; Subscription: Free Trial; Resource group: project. There are also sections for "Deployment details" and "Next steps", with a "Go to resource group" button. On the right side, there are promotional cards for "Cost management", "Microsoft Defender for Cloud", "Free Microsoft tutorials", and "Work with an expert". The bottom of the screen shows the Windows taskbar with various pinned icons.

50

The screenshot shows the Microsoft Azure portal interface. The main title bar says "vm4 - Microsoft Azure". The left sidebar shows "Virtual machines" with a list of VMs: vm1, vm2, vm3, and vm4. The "vm4" card is selected and expanded. The "Essentials" panel on the right displays information about the VM: Resource group (PROJECT), Status: Running, Location: West US, Subscription (move) Free Trial, and Subscriptions ID: 5227ddee-3802-44fa-9651-172c03fe624d. It also shows the operating system as Linux (ubuntu 20.04). The "Properties" tab is selected at the bottom. The bottom of the screen shows the Windows taskbar with various pinned icons.

51

```
ubuntu@vm1:~$ 
Expanded Security Maintenance for Applications is not enabled.
0 updates can be applied immediately.

ubuntu@vm2:~$ 
Expanded Security Maintenance for Applications is not enabled.
0 updates can be applied immediately.

ubuntu@vm3:~$ 
The list of available updates is more than a week old.
To check for new updates run: sudo apt update

The programs included with the Ubuntu system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*copyright.

Ubuntu comes with ABSOLUTELY NO WARRANTY, to the extent permitted by
applicable law.

To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.

ubuntu@vm4:~$ 
The programs included with the Ubuntu system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*copyright.

Ubuntu comes with ABSOLUTELY NO WARRANTY, to the extent permitted by
applicable law.

To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.
```

52

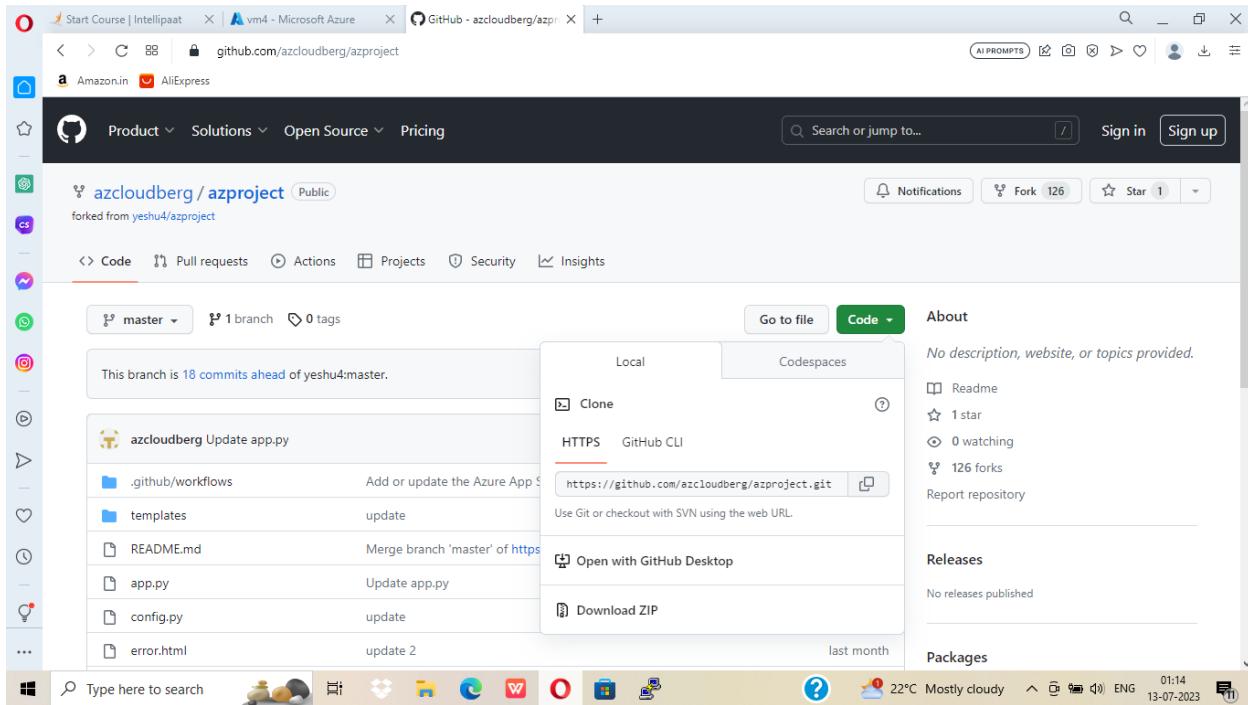
```
ubuntu@vm1:~$ 
Get:32 http://azure.archive.ubuntu.com/ubuntu focal-security/main Translation-en [366 kB]
Net:Get:33 http://azure.archive.ubuntu.com/ubuntu focal-security/main amd64 c-n-f Metadata [13.0 kB]
Get:34 http://azure.archive.ubuntu.com/ubuntu focal-security/restricted amd64 Packages [1987 kB]
Get:35 http://azure.archive.ubuntu.com/ubuntu focal-security/restricted Translation-en [277 kB]
Get:36 http://azure.archive.ubuntu.com/ubuntu focal-security/restricted amd64 c-n-f Metadata [576 B]
Get:37 http://azure.archive.ubuntu.com/ubuntu focal-security/universe amd64 Packages [855 kB]
Get:38 http://azure.archive.ubuntu.com/ubuntu focal-security/universe Translation-en [177 kB]
Get:39 http://azure.archive.ubuntu.com/ubuntu focal-security/universe amd64 c-n-f Metadata [18.7 kB]
Top Get:40 http://azure.archive.ubuntu.com/ubuntu focal-security/multiverse amd64 Packages [23.6 kB]
Get:41 http://azure.archive.ubuntu.com/ubuntu focal-security/multiverse Translation-en [5504 B]
Top Get:42 http://azure.archive.ubuntu.com/ubuntu focal-security/multiverse amd64 c-n-f Metadata [548 B]
Fetched 27.7 MB in 6s (4571 kB/s)

ubuntu@vm2:~$ 
[2304 kB]
Get:32 http://azure.archive.ubuntu.com/ubuntu focal-security/main Translation-en [366 kB]
Get:33 http://azure.archive.ubuntu.com/ubuntu focal-security/main amd64 c-n-f Metadata [13.0 kB]
Get:34 http://azure.archive.ubuntu.com/ubuntu focal-security/restricted amd64 Packages [1987 kB]
Get:35 http://azure.archive.ubuntu.com/ubuntu focal-security/restricted Translation-en [277 kB]
Get:36 http://azure.archive.ubuntu.com/ubuntu focal-security/restricted amd64 c-n-f Metadata [576 B]
Get:37 http://azure.archive.ubuntu.com/ubuntu focal-security/universe amd64 Packages [855 kB]
Get:38 http://azure.archive.ubuntu.com/ubuntu focal-security/universe Translation-en [177 kB]
Get:39 http://azure.archive.ubuntu.com/ubuntu focal-security/universe amd64 c-n-f Metadata [18.7 kB]
Get:40 http://azure.archive.ubuntu.com/ubuntu focal-security/multiverse amd64 Packages [23.6 kB]
Get:41 http://azure.archive.ubuntu.com/ubuntu focal-security/multiverse Translation-en [5504 B]
Get:42 http://azure.archive.ubuntu.com/ubuntu focal-security/multiverse amd64 c-n-f Metadata [548 B]
92% [11 Packages store 0 B]

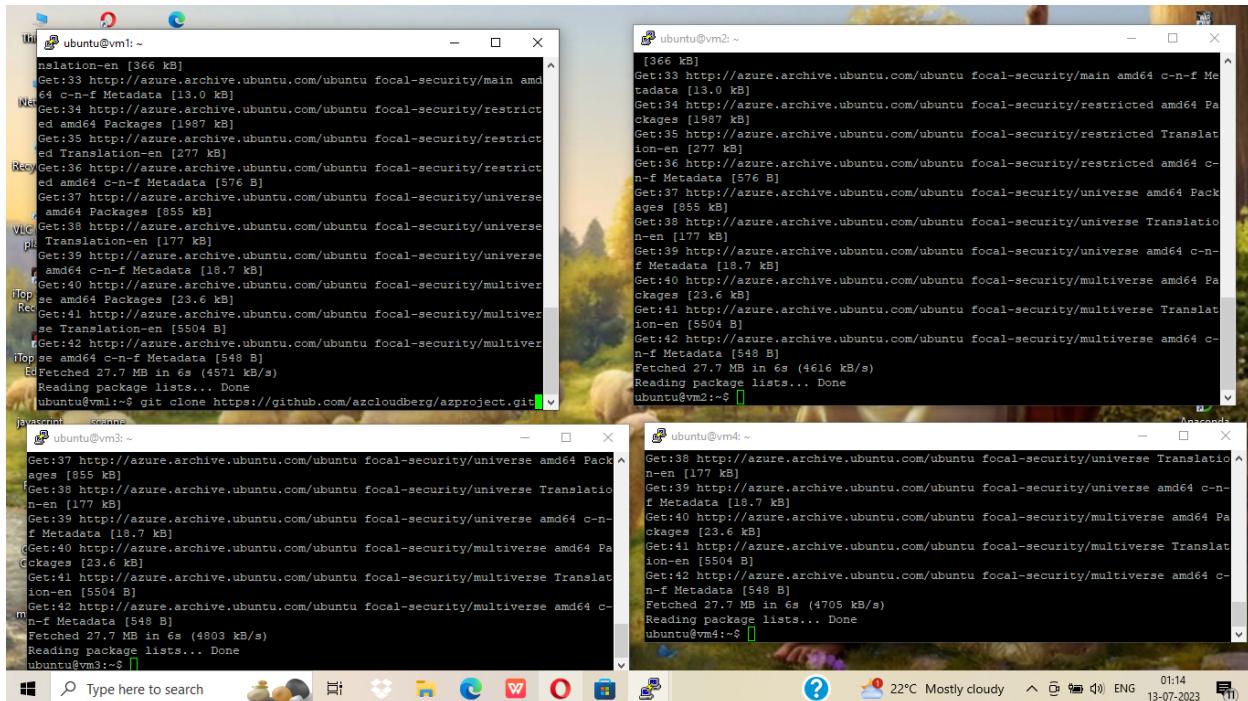
ubuntu@vm3:~$ 
Get:36 http://azure.archive.ubuntu.com/ubuntu focal-security/restricted amd64 c-n-f Metadata [576 B]
Get:37 http://azure.archive.ubuntu.com/ubuntu focal-security/universe amd64 Packages [855 kB]
Get:38 http://azure.archive.ubuntu.com/ubuntu focal-security/universe Translation-en [177 kB]
Get:39 http://azure.archive.ubuntu.com/ubuntu focal-security/universe amd64 c-n-f Metadata [18.7 kB]
Get:40 http://azure.archive.ubuntu.com/ubuntu focal-security/multiverse amd64 Packages [23.6 kB]
Get:41 http://azure.archive.ubuntu.com/ubuntu focal-security/multiverse Translation-en [5504 B]
Get:42 http://azure.archive.ubuntu.com/ubuntu focal-security/multiverse amd64 c-n-f Metadata [548 B]
91% [5 Packages store 0 B]

ubuntu@vm4:~$ 
Get:25 http://azure.archive.ubuntu.com/ubuntu focal-backports/main amd64 c-n-f Metadata [1420 B]
Get:26 http://azure.archive.ubuntu.com/ubuntu focal-backports/restricted amd64 c-n-f Metadata [116 B]
Get:27 http://azure.archive.ubuntu.com/ubuntu focal-backports/universe amd64 Packages [23.0 kB]
Get:28 http://azure.archive.ubuntu.com/ubuntu focal-backports/universe Translation-en [16.3 kB]
Get:29 http://azure.archive.ubuntu.com/ubuntu focal-backports/universe amd64 c-n-f Metadata [880 B]
Get:30 http://azure.archive.ubuntu.com/ubuntu focal-backports/multiverse amd64 c-n-f Metadata [116 B]
0% [5 Packages store 0 B]
```

53



54



55

The image shows four terminal windows side-by-side, each running on a different Ubuntu VM (vm1, vm2, vm3, vm4). Each window displays the command 'git clone https://github.com/azcloudberg/azproject.git' and its execution. The output shows the download of metadata and packages, followed by the cloning of the project into a local directory named 'azproject'. The progress bar indicates the completion of the download.

```
ubuntu@vm1:~$ git clone https://github.com/azcloudberg/azproject.git
Cloning into 'azproject'...
remote: Enumerating objects: 229, done.
remote: Counting objects: 100% (115/115), done.
remote: Compressing objects: 100% (77/77), done.
remote: Total 229 (delta 53), reused 88 (delta 36), pack-reused 114
Receiving objects: 100% (229/229), 52.37 KiB | 10.47 MiB/s, done.
ubuntu@vm1:~$ ls
azproject
ubuntu@vm1:~$ ^C
ubuntu@vm1:~$ ^C
ubuntu@vm1:~$ ^C
ubuntu@vm1:~$ [REDACTED]

ubuntu@vm2:~$ git clone https://github.com/azcloudberg/azproject.git
Cloning into 'azproject'...
remote: Enumerating objects: 229, done.
remote: Counting objects: 100% (115/115), done.
remote: Compressing objects: 100% (77/77), done.
remote: Total 229 (delta 53), reused 88 (delta 36), pack-reused 114
Receiving objects: 100% (229/229), 52.37 KiB | 10.47 MiB/s, done.
ubuntu@vm2:~$ ls
azproject
ubuntu@vm2:~$ [REDACTED]

ubuntu@vm3:~$ git clone https://github.com/azcloudberg/azproject.git
Cloning into 'azproject'...
remote: Enumerating objects: 229, done.
remote: Counting objects: 100% (115/115), done.
remote: Compressing objects: 100% (77/77), done.
remote: Total 229 (delta 53), reused 88 (delta 36), pack-reused 114
Receiving objects: 100% (229/229), 52.37 KiB | 5.82 MiB/s, done.
ubuntu@vm3:~$ ls
azproject
ubuntu@vm3:~$ [REDACTED]

ubuntu@vm4:~$ git clone https://github.com/azcloudberg/azproject.git
Cloning into 'azproject'...
remote: Enumerating objects: 229, done.
remote: Counting objects: 100% (115/115), done.
remote: Compressing objects: 100% (77/77), done.
remote: Total 229 (delta 53), reused 88 (delta 36), pack-reused 114
Receiving objects: 100% (229/229), 52.37 KiB | 10.47 MiB/s, done.
ubuntu@vm4:~$ ls
azproject
ubuntu@vm4:~$ [REDACTED]
```

56

The image shows four terminal windows side-by-side, each running on a different Ubuntu VM (vm1, vm2, vm3, vm4). Each window displays the command 'git clone https://github.com/azcloudberg/azproject.git' and its execution. The output shows the download of metadata and packages, followed by the cloning of the project into a local directory named 'azproject'. The progress bar indicates the completion of the download. After cloning, the user navigates into the 'azproject' directory and lists its contents, which include files like README.md, config.py, error.html, index.html, templates, vml.sh, and vm2.sh.

```
ubuntu@vm1:~$ git clone https://github.com/azcloudberg/azproject.git
Cloning into 'azproject'...
remote: Enumerating objects: 229, done.
remote: Counting objects: 100% (115/115), done.
remote: Compressing objects: 100% (77/77), done.
remote: Total 229 (delta 53), reused 88 (delta 36), pack-reused 114
Receiving objects: 100% (229/229), 52.37 KiB | 10.47 MiB/s, done.
ubuntu@vm1:~$ ls
azproject
ubuntu@vm1:~$ ^C
ubuntu@vm1:~$ ^C
ubuntu@vm1:~$ ^C
ubuntu@vm1:~$ [REDACTED]

ubuntu@vm2:~$ git clone https://github.com/azcloudberg/azproject.git
Cloning into 'azproject'...
remote: Enumerating objects: 229, done.
remote: Counting objects: 100% (115/115), done.
remote: Compressing objects: 100% (77/77), done.
remote: Total 229 (delta 53), reused 88 (delta 36), pack-reused 114
Receiving objects: 100% (229/229), 52.37 KiB | 10.47 MiB/s, done.
ubuntu@vm2:~$ ls
azproject
ubuntu@vm2:~$ [REDACTED]

ubuntu@vm3:~$ git clone https://github.com/azcloudberg/azproject.git
Cloning into 'azproject'...
remote: Enumerating objects: 229, done.
remote: Counting objects: 100% (115/115), done.
remote: Compressing objects: 100% (77/77), done.
remote: Total 229 (delta 53), reused 88 (delta 36), pack-reused 114
Receiving objects: 100% (229/229), 52.37 KiB | 5.82 MiB/s, done.
ubuntu@vm3:~$ ls
azproject
ubuntu@vm3:~$ [REDACTED]

ubuntu@vm4:~$ git clone https://github.com/azcloudberg/azproject.git
Cloning into 'azproject'...
remote: Enumerating objects: 229, done.
remote: Counting objects: 100% (115/115), done.
remote: Compressing objects: 100% (77/77), done.
remote: Total 229 (delta 53), reused 88 (delta 36), pack-reused 114
Receiving objects: 100% (229/229), 52.37 KiB | 5.24 MiB/s, done.
ubuntu@vm4:~$ ls
azproject
ubuntu@vm4:~$ [REDACTED]

ubuntu@vm1:~$ cd azproject/
ubuntu@vm1:~/azproject$ ls
README.md config.py index.html vml.sh
app.py error.html templates vm2.sh
ubuntu@vm1:~/azproject$ [REDACTED]

ubuntu@vm2:~$ cd azproject/
ubuntu@vm2:~/azproject$ ls
README.md app.py config.py error.html index.html templates vml.sh vm2.sh
ubuntu@vm2:~/azproject$ [REDACTED]

ubuntu@vm3:~$ cd azproject/
ubuntu@vm3:~/azproject$ ls
README.md app.py config.py error.html index.html templates vml.sh vm2.sh
ubuntu@vm3:~/azproject$ [REDACTED]

ubuntu@vm4:~$ cd azproject/
ubuntu@vm4:~/azproject$ ls
README.md app.py config.py error.html index.html templates vml.sh vm2.sh
ubuntu@vm4:~/azproject$ [REDACTED]
```

57

Four terminal windows are shown side-by-side, each displaying the command to clone an Azure project from GitHub:

```
Get:42 http://azure.archive.ubuntu.com/ubuntu focal-security/universe amd64 c-n-f Metadata [18.7 kB]
Get:43 http://azure.archive.ubuntu.com/ubuntu focal-security/multiverse Packages [23.6 kB]
Get:44 http://azure.archive.ubuntu.com/ubuntu focal-security/multiverse Translation-en [5504 B]
Get:45 http://azure.archive.ubuntu.com/ubuntu focal-security/multiverse amd64 c-n-f Metadata [548 B]
Fetched 27.7 MB in 6s (4571 kB/s)
Reading package lists... Done
ubuntu@vm1:~$ git clone https://github.com/azcloudberg/azproject.git
Cloning into 'azproject'...
remote: Enumerating objects: 229, done.
remote: Counting objects: 100% (115/115), done.
remote: Compressing objects: 100% (77/77), done.
remote: Total 229 (delta 53), reused 88 (delta 36), pack-reused 114
Receiving objects: 100% (229/229), 52.37 KiB | 10.47 MiB/s, done.
Resolving deltas: 100% (101/101), done.
ubuntu@vm1:~$ ls
azproject
ubuntu@vm1:~$ cd azproject/
ubuntu@vm1:~/azproject$ ls
README.md config.py index.html vml.sh
app.py error.html templates vm2.sh
ubuntu@vm1:~/azproject$ ./vml.sh
```



```
Get:39 http://azure.archive.ubuntu.com/ubuntu focal-security/universe amd64 c-n-f Metadata [18.7 kB]
Get:40 http://azure.archive.ubuntu.com/ubuntu focal-security/multiverse amd64 Packages [23.6 kB]
Get:41 http://azure.archive.ubuntu.com/ubuntu focal-security/multiverse Translation-en [5504 B]
Get:42 http://azure.archive.ubuntu.com/ubuntu focal-security/multiverse amd64 c-n-f Metadata [548 B]
Fetched 27.7 MB in 6s (4561 kB/s)
Reading package lists... Done
ubuntu@vm2:~$ git clone https://github.com/azcloudberg/azproject.git
Cloning into 'azproject'...
remote: Enumerating objects: 229, done.
remote: Counting objects: 100% (115/115), done.
remote: Compressing objects: 100% (77/77), done.
remote: Total 229 (delta 53), reused 88 (delta 36), pack-reused 114
Receiving objects: 100% (229/229), 52.37 KiB | 10.47 MiB/s, done.
Resolving deltas: 100% (101/101), done.
ubuntu@vm2:~$ ls
azproject
ubuntu@vm2:~$ cd azproject/
ubuntu@vm2:~/azproject$ ls
README.md app.py config.py error.html index.html templates vml.sh vm2.sh
ubuntu@vm2:~/azproject$ ./vm2.sh
```



```
Cloning into 'azproject'...
remote: Enumerating objects: 229, done.
remote: Counting objects: 100% (115/115), done.
remote: Compressing objects: 100% (77/77), done.
remote: Total 229 (delta 53), reused 88 (delta 36), pack-reused 114
Receiving objects: 100% (229/229), 52.37 KiB | 5.24 MiB/s, done.
Resolving deltas: 100% (101/101), done.
ubuntu@vm4:~$ ls
azproject
ubuntu@vm4:~$ cd azproject/
ubuntu@vm4:~/azproject$ ls
README.md app.py config.py error.html index.html templates vml.sh vm2.sh
ubuntu@vm4:~/azproject$ ./vm2.sh
```

58

Four terminal windows are shown side-by-side, illustrating the configuration of the project and the setup of an Apache web server:

```
GNU nano 4.8 config.py Modified
[DEFAULT]
# Account name
account = mystorageproject10
# Azure Storage account access key
#<root>fzV0IRARuFFl+ASa3IEta=#
# Container name
container = upload

ubuntu@vm3:~$ ls
azproject
ubuntu@vm3:~/azproject$ cd azproject/
ubuntu@vm3:~/azproject$ ls
README.md app.py config.py error.html index.html templates vml.sh vm2.sh
ubuntu@vm3:~/azproject$ ./vml.sh
```



```
Enabling module autoindex.
Enabling module env.
Enabling module mime.
Enabling module negotiation.
Enabling module setenvif.
Enabling module filter.
Enabling module deflate.
Enabling module status.
Enabling module reqtimeout.
Enabling conf charset.
Enabling conf localized-error-pages.
Enabling conf other-vhosts-access-log.
Enabling conf security.
Enabling conf serve-cgi-bin.
Enabling site 000-default.
Created symlink /etc/systemd/system/multi-user.target.wants/apache2.service → /lib/systemd/system/apache2.service.
Created symlink /etc/systemd/system/multi-user.target.wants/apache-htcacheclean.service → /lib/systemd/system/apache-htcacheclean.service.
Processing triggers for ufw (0.36-6ubuntu1) ...
Processing triggers for systemd (245.4-4ubuntu3.22) ...
Processing triggers for man-db (2.9.1-1) ...
Processing triggers for libc-bin (2.31-0ubuntu9.9) ...
ubuntu@vm2:~$
```



```
Enabling conf other-vhosts-access-log.
Enabling conf security.
Enabling conf serve-cgi-bin.
Enabling site 000-default.
Created symlink /etc/systemd/system/multi-user.target.wants/apache2.service → /lib/systemd/system/apache2.service.
Created symlink /etc/systemd/system/multi-user.target.wants/apache-htcacheclean.service → /lib/systemd/system/apache-htcacheclean.service.
Processing triggers for ufw (0.36-6ubuntu1) ...
Processing triggers for systemd (245.4-4ubuntu3.22) ...
Processing triggers for man-db (2.9.1-1) ...
Processing triggers for libc-bin (2.31-0ubuntu9.9) ...
ubuntu@vm4:~$
```

59

The image shows four terminal windows side-by-side, each running on a different Ubuntu VM (vm1, vm2, vm3). The windows display the output of deployment commands:

- Terminal 1 (vm1):** Shows the deployment of an application using 'azproject'. It lists dependencies like Jinja2, MarkupSafe, Werkzeug, click, flask, importlib-metadata, itsdangerous, and werkzeug-sphinx.
- Terminal 2 (vm2):** Shows the configuration of Apache2 modules. It includes enabling autoindex, env, mime, negotiation, setenvif, filter, deflate, status, and reqtimeout, and creating a symlink for apache2.service.
- Terminal 3 (vm3):** Shows the configuration of Apache2 modules, similar to vm2, but also includes enabling conf charset, localized-error-pages, other-vhosts-access-log, security, and serve-cgi-bin.
- Terminal 4 (vm3):** Shows the creation of a default site for Apache2, linking it to /etc/systemd/system/multi-user.target.wants/apache2.service, and creating a htcacache clean service.

Each terminal window also displays the command to start the Flask app ('sudo python3 app.py') and the URL where it is accessible ('http://10.0.0.4:80').

60

The image shows the Microsoft Azure portal interface with the URL portal.azure.com in the address bar. The user is navigating through the Azure dashboard and has reached the configuration page for a Public IP address associated with an Application Gateway named 'ag1'.

Left Sidebar (Navigation):

- Start Course | Intellipaat
- vm1 - Microsoft Azure
- ag1ip - Microsoft Azure
- Amazon.in
- AliExpress
- Microsoft Azure
- Search resources, services, and docs (G+)
- jsonu9964@hotmail.com (jsonu996...)
- DEFAULT DIRECTORY

Current View: ag1ip | Configuration

Configuration Options:

- IP address assignment: Static
- IP address: 40.117.173.176
- Idle timeout (minutes): 4
- DNS name label (optional): ag1alpha.eastus.cloudapp.azure.com
- Alias record entry: ag1alpha.eastus.cloudapp.azure.com
- Learn more about adding a custom domain to this IP address

Bottom Navigation and Status:

- Type here to search
- Windows Start button
- Icons for File, Home, Task View, Start, Taskbar, and Network
- System tray: 22°C Mostly cloudy, ENG, 01:22, 13-07-2023

61

The screenshot shows the Azure portal interface with the URL portal.azure.com in the address bar. The user is navigating through the 'Load balancing | Application Gateway' section, specifically the 'ag2ip' configuration page. On the left, there's a navigation sidebar with options like Overview, Activity log, Access control (IAM), Tags, Settings, Configuration, Properties, Locks, Monitoring, Insights, Alerts, Metrics, and Diagnostic settings. The main content area displays the 'ag2ip | Configuration' page for a 'Public IP address'. It includes fields for IP address assignment (Static), IP address (168.62.8.238), Idle timeout (minutes) (set to 4), and DNS name label (optional) (set to 'ag2alpha'). A note indicates that the assignment type must be Dynamic because it's associated with a specific IP configuration. Below this, there's a link to learn more about adding a custom domain. The bottom right corner shows the Windows taskbar with various pinned icons.

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The screenshot shows the Azure portal interface with the URL portal.azure.com in the address bar. The user is navigating through the 'Load balancing' section. On the left, there's a navigation sidebar with options like Overview, Load Balancing Services (Application Gateway, Front Door and CDN profiles, Load Balancer, Traffic Manager), and others. The main content area displays the 'Load balancing | Traffic Manager' page. It features a search bar, a 'Create' button, and filter options for Subscription, Resource group, and Location. Below this, it says 'Showing 0 to 0 of 0 records.' and has a sorting option for 'Name'. In the center, there's a large octagonal icon with arrows pointing in different directions. Below the icon, a message states 'No traffic manager profiles to display'. A detailed description follows: 'Azure Traffic Manager is a DNS-based traffic load balancer. This service allows you to distribute traffic to your public-facing applications across the global Azure regions. Traffic Manager also provides your public endpoints with high availability and quick responsiveness.' At the bottom, there's a 'Create traffic manager profile' button and the Windows taskbar.

63

The screenshot shows the Microsoft Azure portal interface. The title bar includes tabs for 'Start Course | Intellipaat', 'Create Traffic Manager pro', and 'ag2ip - Microsoft Azure'. The main content area is titled 'Create Traffic Manager profile'. The form fields are as follows:

- Name: mytrafficmanageralpha
- Routing method: Performance
- Subscription: Free Trial
- Resource group: project
- Resource group location: East US

At the bottom, there are 'Create' and 'Automation options' buttons.

64

The screenshot shows the Microsoft Azure portal interface. The title bar includes tabs for 'Start Course | Intellipaat', 'Load balancing - Microsoft', and 'ag2ip - Microsoft Azure'. The main content area is titled 'Load balancing | Traffic Manager'. The left sidebar shows 'Load Balancing Services' with 'Traffic Manager' selected. The right side displays a 'Notifications' panel with the following logs:

- Deployment succeeded: Deployment 'Microsoft.TrafficManagerProfile-20230713013745' to resource group 'project' was successful. (a few seconds ago)
- Deleted deployment: Deleted deployment 'Microsoft.TrafficManagerProfile-20230713013523' from resource group 'project' and subscription 'Free Trial' (a few seconds ago)
- Deployment failed: Deployment to resource group 'project' failed. Additional details from the underlying API that might be helpful: At least one resource deployment operation failed. Please list deployment operations for details. Please see <https://aka.ms/arm-deployment-operations> for usage details. (2 minutes ago)

At the bottom, there is a message about Azure Traffic Manager and a 'Create traffic manager' button.

65

Microsoft Azure | mynewtrafficmanagerorohect | Endpoints

Add endpoint

Type * Azure endpoint

Name * endpt1

Enable Endpoint

Target resource type Public IP address

Public IP address * ag1ip (40.117.173.176)

Custom Header settings Configure in this format, host:contoso.com,customheader:contoso

Health Checks Enable

Add

66

Microsoft Azure | mynewtrafficmanagerorohect | Endpoints

Add endpoint

Type * Azure endpoint

Name * endpt2

Enable Endpoint

Target resource type Public IP address

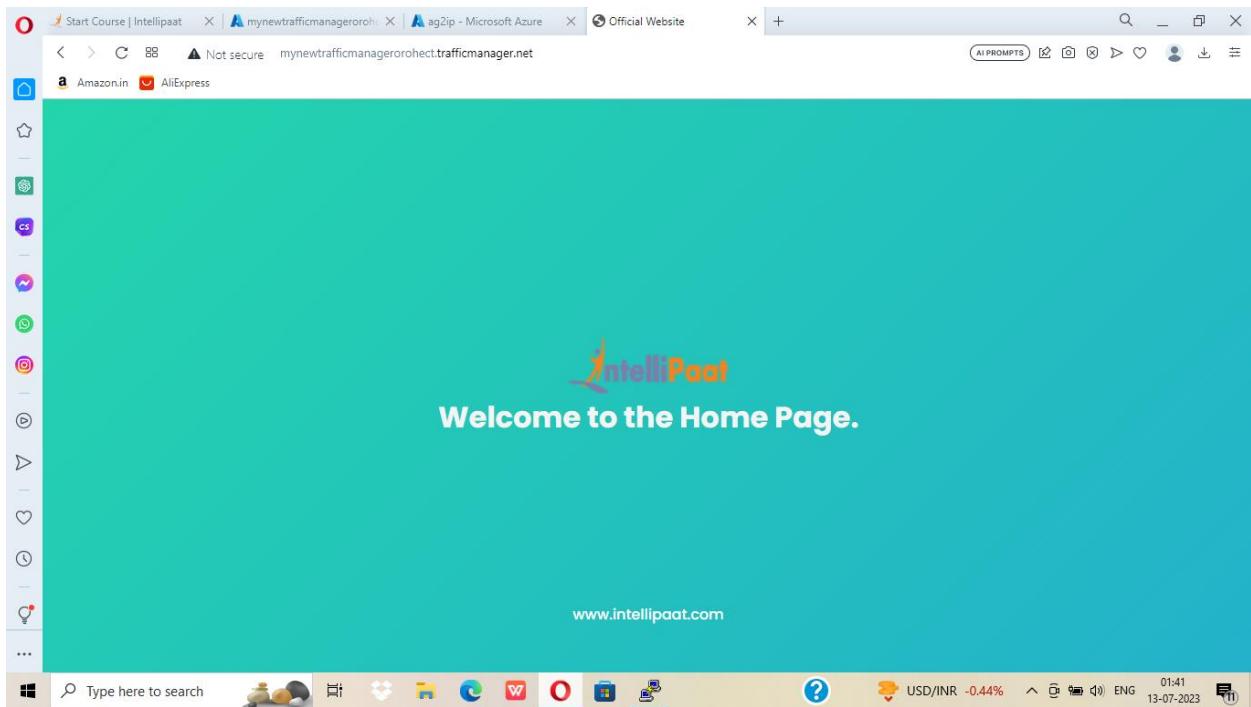
Public IP address * ag2ip (168.62.8.238)

Custom Header settings Configure in this format, host:contoso.com,customheader:contoso

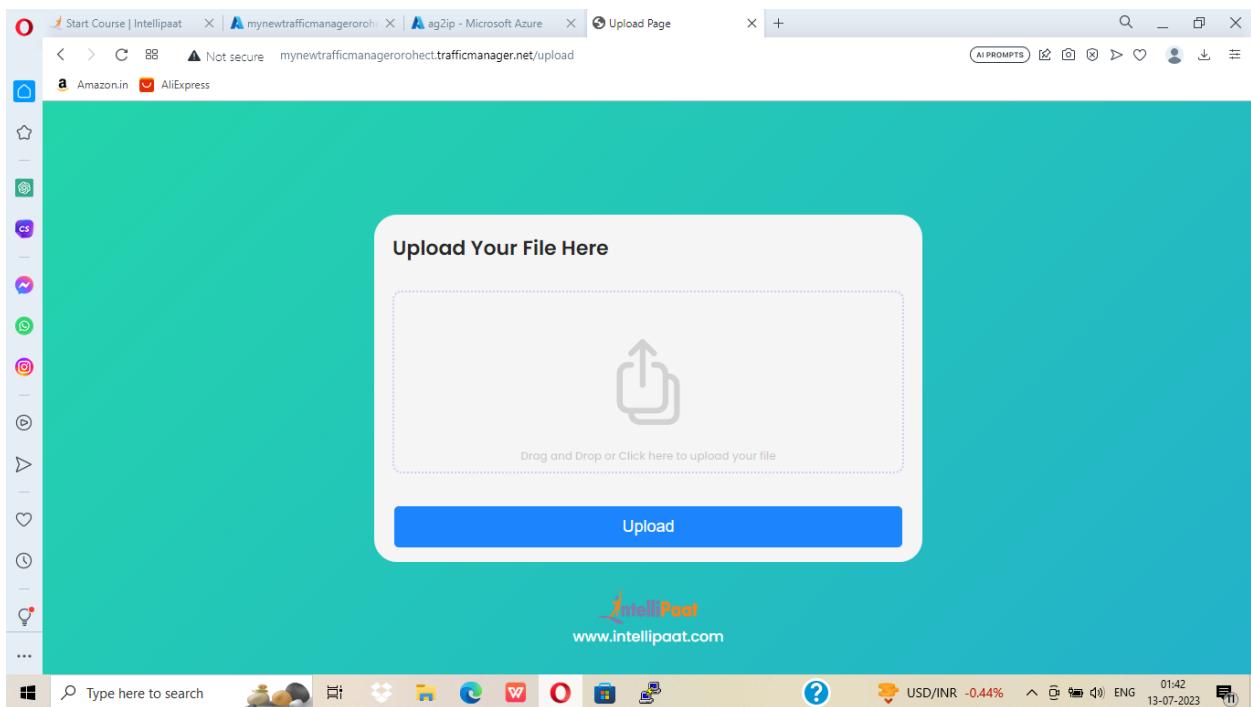
Health Checks Enable

Add

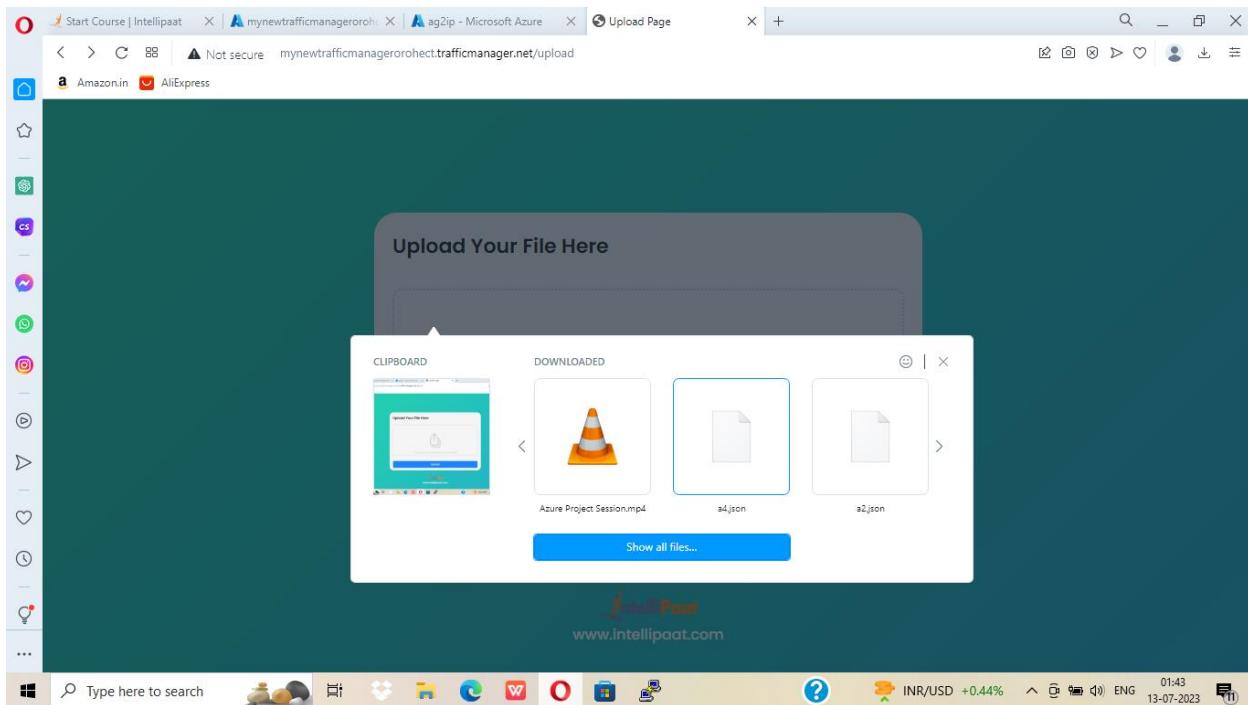
67



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69



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