

**REPORT ON**  
**MICROSOFT AZURE FUNDAMENTALS**

<b>NAME</b>	VASUNDRAA S
<b>REGISTER NO.</b>	710722104115
<b>DEPARTMENT</b>	COMPUTER SCIENCE & ENGINEERING

## I. CREATING AN AZURE VIRTUAL MACHINE

```
Requesting a Cloud Shell.Succeeded.
Connecting terminal...

Welcome to Azure Cloud Shell

Type "az" to use Azure CLI
Type "help" to learn about Cloud Shell

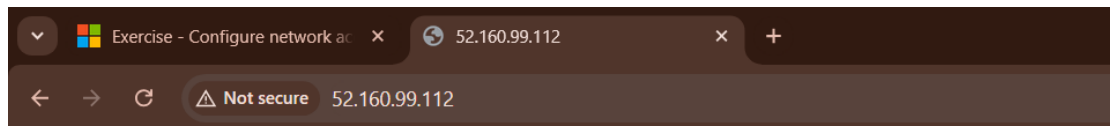
vasundraas [ ~ ]$ az vm create --resource-group "learn-9e8f481e-7bc8-46f9-9af3-d929d182fa6b"
--name my-vm --public-ip-sku Standard --image Ubuntu2204 --admin-username azureuser --generate-ssh-keys
SSH key files '/home/vasundraas/.ssh/id_rsa' and '/home/vasundraas/.ssh/id_rsa.pub' have been
generated under ~/.ssh to allow SSH access to the VM. If using machines without permanent storage, back up your keys to a safe location.
{
  "fqdns": "",
  "id": "/subscriptions/f27a2135-1ae7-44b2-b514-f0b7b1dcbfba/resourceGroups/learn-9e8f481e-7bc8-46f9-9af3-d929d182fa6b/providers/Microsoft.Compute/virtualMachines/my-vm",
  "location": "westus",
  "macAddress": "00-0D-3A-35-48-EE",
  "powerState": "VM running",
  "privateIpAddress": "10.0.0.4",
  "publicIpAddress": "52.160.99.112",
  "resourceGroup": "learn-9e8f481e-7bc8-46f9-9af3-d929d182fa6b",
  "zones": ""
}
vasundraas [ ~ ]$ az vm extension set --resource-group "learn-9e8f481e-7bc8-46f9-9af3-d929d182fa6b" --vm-name my-vm --name customScript --publisher Microsoft.Azure.Extensions --version 2.1 --settings '{"fileUri":["https://raw.githubusercontent.com/MicrosoftDocs/mslearn-welcome-to-azure/master/configure-nginx.sh"]}' --protected-settings '{"commandToExecute": "./configure-nginx.sh"}'
{
  "autoUpgradeMinorVersion": true,
  "enableAutomaticUpgrade": null,
  "forceUpdateTag": null,
  "id": "/subscriptions/f27a2135-1ae7-44b2-b514-f0b7b1dcbfba/resourceGroups/learn-9e8f481e-7bc8-46f9-9af3-d929d182fa6b/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-9e8f481e-7bc8-46f9-9af3-d929d182fa6b",
  "settings": {
    "fileUri": [
      "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"
}
vasundraas [ ~ ]$
```

## II. CONFIGURING NETWORK ACCESS

The screenshot displays the Microsoft Learn platform interface. On the left, the 'Exercise - Configure network access' page is visible, indicating a 10-minute duration and a '100 XP' reward. The main content area shows instructions for configuring network access to a virtual machine (VM) and a command to verify the VM's status: `az vm list --resource-group my-vm-rg --query '[].{Name:name, Priority:priority, Port:destinationPortRange, Access:access}' --output table`. On the right, the Azure Cloud Shell terminal window is open, showing the execution of the command. The output lists the network security group rules for the VM, including 'default-allow-ssh' and 'allow-http'.

```
on-port-range 80 --access Allow
{
  "access": "Allow",
  "destinationAddressPrefix": "*",
  "destinationAddressPrefixes": [],
  "destinationPortRange": "80",
  "destinationPortRanges": [],
  "direction": "Inbound",
  "etag": "/subscriptions/f27a2135-1ae7-44b2-b514-f0b7b1dcbfba/resourceGroups/learn-9e8f481e-7bc8-46f9-9af3-d929d182fa6b/providers/Microsoft.Network/networkSecurityGroups/my-vmNSG/securityRules/allow-http",
  "id": "/subscriptions/f27a2135-1ae7-44b2-b514-f0b7b1dcbfba/resourceGroups/learn-9e8f481e-7bc8-46f9-9af3-d929d182fa6b/providers/Microsoft.Network/networkSecurityGroups/my-vmNSG/securityRules/allow-http",
  "name": "allow-http",
  "priority": 100,
  "protocol": "Tcp",
  "provisioningState": "Succeeded",
  "resourceGroup": "learn-9e8f481e-7bc8-46f9-9af3-d929d182fa6b",
  "sourceAddressPrefix": "*",
  "sourceAddressPrefixes": [],
  "sourcePortRange": "*",
  "sourcePortRanges": [],
  "type": "Microsoft.Network/networkSecurityGroups/securityRules"
}
vasundraas [ ~ ]$ az network nsg rule list --resource-group "learn-9e8f481e-7bc8-46f9-9af3-d929d182fa6b" --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
vasundraas [ ~ ]$ curl --connect-timeout 5 http://$IPADDRESS
curl: (28) Failed to connect to 52.160.99.112 port 80 after 5002 ms: Timeout was reached
vasundraas [ ~ ]$
```

Output:



### III. VIRTUAL MACHINE

The screenshot displays the Microsoft Azure portal interface. At the top, the 'Virtual machines' section is active, showing a list of two VMs. Below the list, a terminal window is open, displaying the Azure Cloud Shell interface.

Name	Subscription	Resource group	Location	Status	Operating system	Size	Public IP address	Disks
vm1	Azure for Students	RG	Central India	Stopped (deallocated)	Linux	Standard_D2s_v3	4.186.27.37	1
vmach	Azure for Students	RG	Central India	Starting	Linux	Standard_D2s_v3	20.197.34.175	1

```
Requesting a Cloud Shell. Succeeded.
Connecting terminal...

Welcome to Azure Cloud Shell

Type "az" to use Azure CLI
Type "help" to learn about Cloud Shell

Your Cloud Shell session will be ephemeral so no files or system changes will persist beyond your current session.
vasundraa [ ~ ]$
```

Output:

The screenshot shows a web browser displaying a portfolio page for Kate Winslet. The page features a large image of Kate Winslet, her name, and her title 'Apps Designer'. There are buttons for 'Download CV' and 'Play Video'.

I'm **Kate Winslet**  
Apps Designer |

[Download CV](#) [Play Video](#)

Github link: <https://github.com/Vasundraa/pine.git>

## IV. CREATING STORAGE ACCOUNT

The screenshot shows the Microsoft Azure portal interface. At the top, there's a navigation bar with the Microsoft Azure logo and a search bar. Below the navigation bar, the user is logged in as 'vasundraa\_1723266888320' and is viewing the 'Overview' page of a deployment. The deployment is titled 'Deployment is in progress'. It shows the deployment name 'vasundraa\_1723266888320', the subscription 'Azure for Students', and the resource group 'RG'. The deployment details table shows a single resource 'vasundraa' of type 'Microsoft.Storage/storageAccounts' with a status of 'Accepted'. The right sidebar contains links to 'Microsoft Defender for Cloud', 'Free Microsoft tutorials', and 'Work with an expert'.

Home > vasundraa\_1723266888320 | Overview

Deployment

Search

Delete Cancel Redeploy Download Refresh

Overview

Inputs

Outputs

Template

\*\*\* Deployment is in progress

Deployment name: vasundraa\_1723266888320  
Subscription: Azure for Students  
Resource group: RG

Start time: 8/10/2024, 10:44:58 AM  
Correlation ID: e0e5847f-5bca-4231-b99f-3d5ead853d8a

Deployment details

Resource	Type	Status	Operation details
vasundraa	Microsoft.Storage/storageAccounts	Accepted	<a href="#">Operation details</a>

Give feedback  
[Tell us about your experience with deployment](#)

Microsoft Defender for Cloud  
Secure your apps and infrastructure  
[Go to Microsoft Defender for Cloud >](#)

Free Microsoft tutorials  
[Start learning today >](#)

Work with an expert  
Azure experts are service provider partners who can help manage your assets on Azure and be your first line of support.  
[Find an Azure expert >](#)

## V. BLOB

The screenshot shows the Microsoft Azure portal interface. At the top, there's a navigation bar with the Microsoft Azure logo and a search bar. Below the navigation bar, the user is logged in as 'vasundraa\_1723266888320' and is viewing the 'Properties' page of a Blob. The Blob is titled 'Red and Blue Colorful Botanical Watercolor Desktop Wallpaper.png'. The properties table shows the URL 'https://vasundraa.blob...', the last modified time '8/10/2024, 10:49:18 AM', the creation time '8/10/2024, 10:49:18 AM', the version ID '-', the type 'Block blob', the size '2.23 MiB', the access tier 'Hot (Inferred)', the access tier last modified 'N/A', the archive status '-', the rehydrate priority '-', the server encrypted status 'true', the ETag '0x8DCB8FBFC5A8F92', the version-level immutability policy 'Disabled', the cache control 'image/png', the content-type 'image/png', the content-md5 'jpdYPeogmVroyjCC39quDA...', the content-encoding, the content-language, the content-disposition, and the lease status 'Unlocked'.

Home > Red and Blue Colorful Botanical Watercolor Desktop Wallpaper.png

Blob

Save Discard Download Refresh Delete Change tier Acquire lease Break lease Give feedback

Overview Versions Snapshots Edit Generate SAS

Properties

URL  
<https://vasundraa.blob...>

LAST MODIFIED  
8/10/2024, 10:49:18 AM

CREATION TIME  
8/10/2024, 10:49:18 AM

VERSION ID  
-

TYPE  
Block blob

SIZE  
2.23 MiB

ACCESS TIER  
Hot (Inferred)

ACCESS TIER LAST MODIFIED  
N/A

ARCHIVE STATUS  
-

REHYDRATE PRIORITY  
-

SERVER ENCRYPTED  
true

ETAG  
0x8DCB8FBFC5A8F92

VERSION-LEVEL IMMUTABILITY POLICY  
Disabled

CACHE-CONTROL

CONTENT-TYPE

CONTENT-MD5

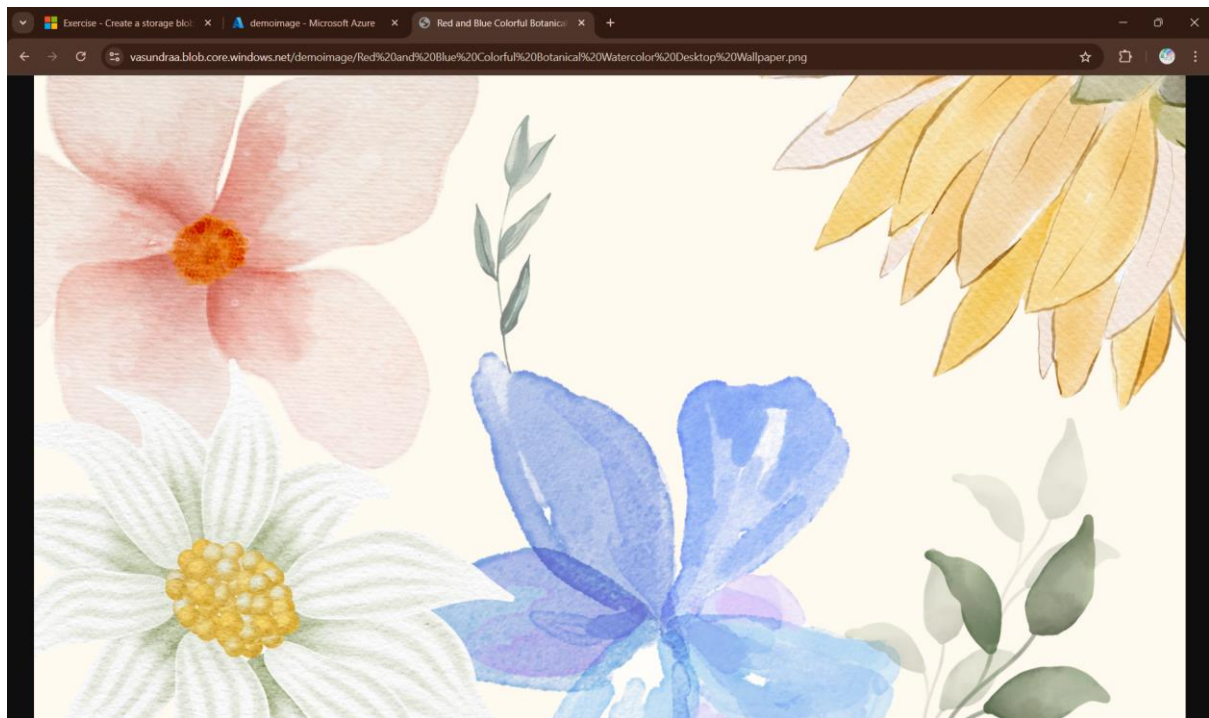
CONTENT-ENCODING

CONTENT-LANGUAGE

CONTENT-DISPOSITION

LEASE STATUS  
Unlocked

Output:



## VI. ESTIMATING WORKLOAD COSTS USING PRICING CALCULATOR

Microsoft Azure Estimate						
Your Estimate						
Service category	Service type	Custom name	Region	Description	Estimated monthly cost	Estimated upfront cost
Compute	Virtual Machines		South India	2 D2 v3 (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 South India to East Asia	\$346.02	\$0.00
Databases	Azure SQL Database		South India	Single Database, vCore, General Purpose, Provisioned, Standard-series (Gen 5), Primary or Geo replica Disaster Recovery, Locally Redundant, 1 - 8 vCore Database(s) x 730 Hours, 32 GB Storage, SQL License (Pay as you go), RA-GRS Backup Storage Redundancy, 0 GB Point-In-Time Restore, 0 x 5 GB Long Term Retention	\$1,665.41	\$0.00
Networking	Application Gateway		East US	Basic tier, Small Instance size: 0 Gateway hours instance(s) x 730 Hours, 0 GB Data processed unit(s), 5 GB Zone unit(s)	\$0.00	\$0.00
Support			Support		\$0.00	\$0.00
			Licensing Program	Microsoft Customer Agreement (MCA)		
			Billing Account			
			Billing Profile			
			Total		\$2,011.43	\$0.00
Disclaimer						
All prices shown are in United States – Dollar (\$) USD. This is a summary estimate, not a quote. For up to date pricing information please visit <a href="https://azure.microsoft.com/pricing/calculator/">https://azure.microsoft.com/pricing/calculator/</a>						
This estimate was created at 8/9/2024 4:11:37 AM UTC.						

## VII. COMPARING WORKLOAD COSTS USING TCO CALCULATOR

### Total Cost of Ownership (TCO) Calculator

Estimate the cost savings you can realize by migrating your workloads to Azure

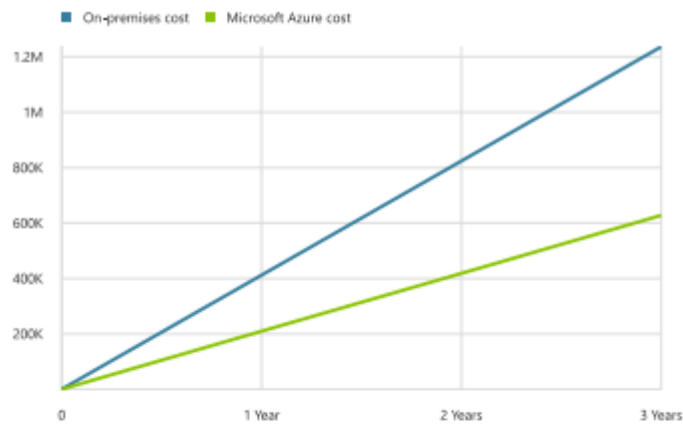
 My saved reports

 Sign In

Over 3 year(s) with Microsoft Azure, your estimated cost savings  
could be as much as **\$608,414**

#### 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.



#### Total on-premises over 3 year(s)

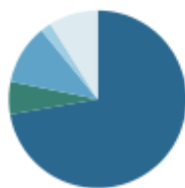
TCO of on-premises environments tends to be driven by compute and data center costs.

#### Total Azure cost over 3 year(s)

In Azure, certain cost categories decrease or go away completely.

**\$1,236,573**  
Total cost

**\$628,159**  
Total cost




**73%** Compute  
**6%** Data center  
**11%** Networking  
**2%** Storage  
**9%** IT Labor






**58%** Compute  
**0%** Data center  
**0%** Networking  
**24%** Storage  
**18%** IT Labor




[Learn](#)

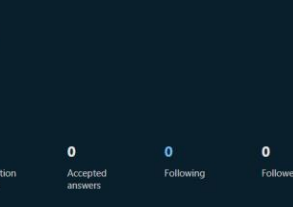
[Discover](#)
[Product documentation](#)
[Development languages](#)
[Topics](#)



VS

Vasundraa S  
vasundraas@gmail.com



39  
Badges

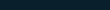
7  
Trophies

0  
Reputation points

0  
Accepted answers

0  
Following

0  
Followers

LEVEL 8  54,875/72,099 XP

Activity

Training

Plans

Challenges

Credentials

Q&A


Achievements

Collections


### Achievements

Have an achievement code? [Redeem your code now.](#)


[Modules](#)
[Learning Paths](#)
[Courses](#)
[Plans](#)
[Other](#)



BADGE  
Describe Azure storage services  
Completed on 8/10/2024



BADGE  
Describe Azure identity, access, and security  
Completed on 8/10/2024



BADGE  
Describe features and tools for managing and deploying Azure resources  
Completed on 8/10/2024