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Class: Msc. Computer Science

Subject: Cloud Computing

Year: 2022-23

INDEX

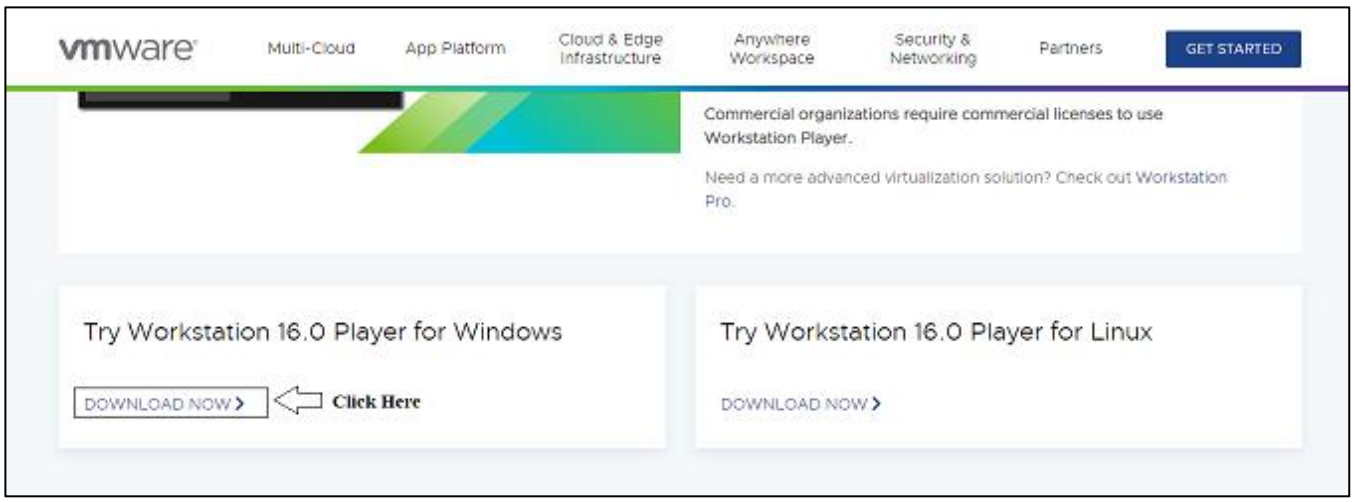
Practical 1

Aim: Implementation of Bare-metal and hosted virtualization

Code:

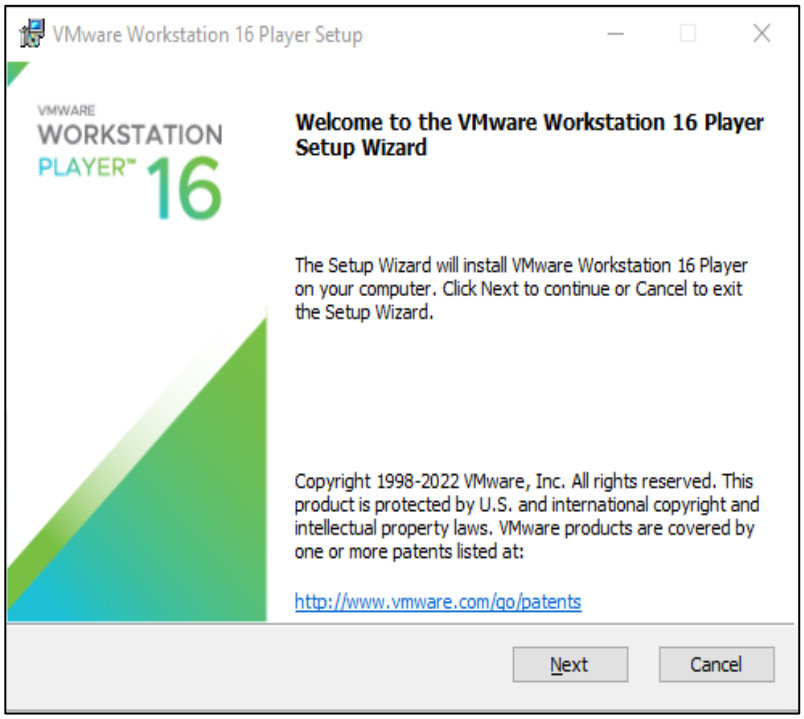
Installation of VMWare WorkStation

Step 1: Click here and download the Work Station

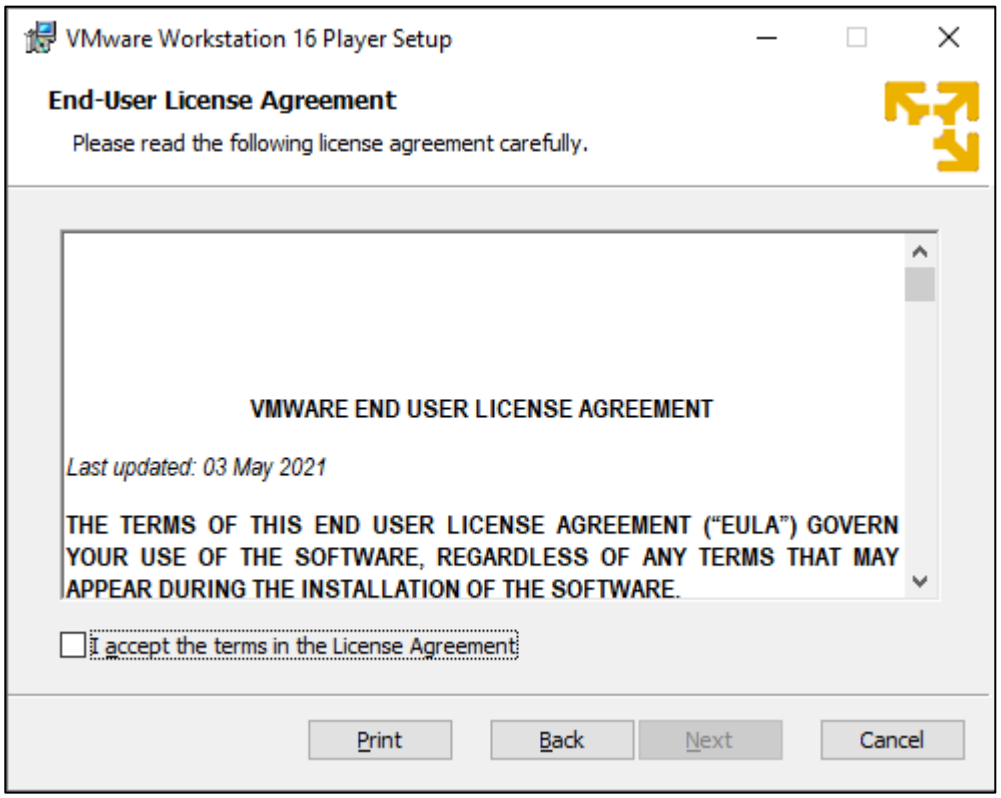


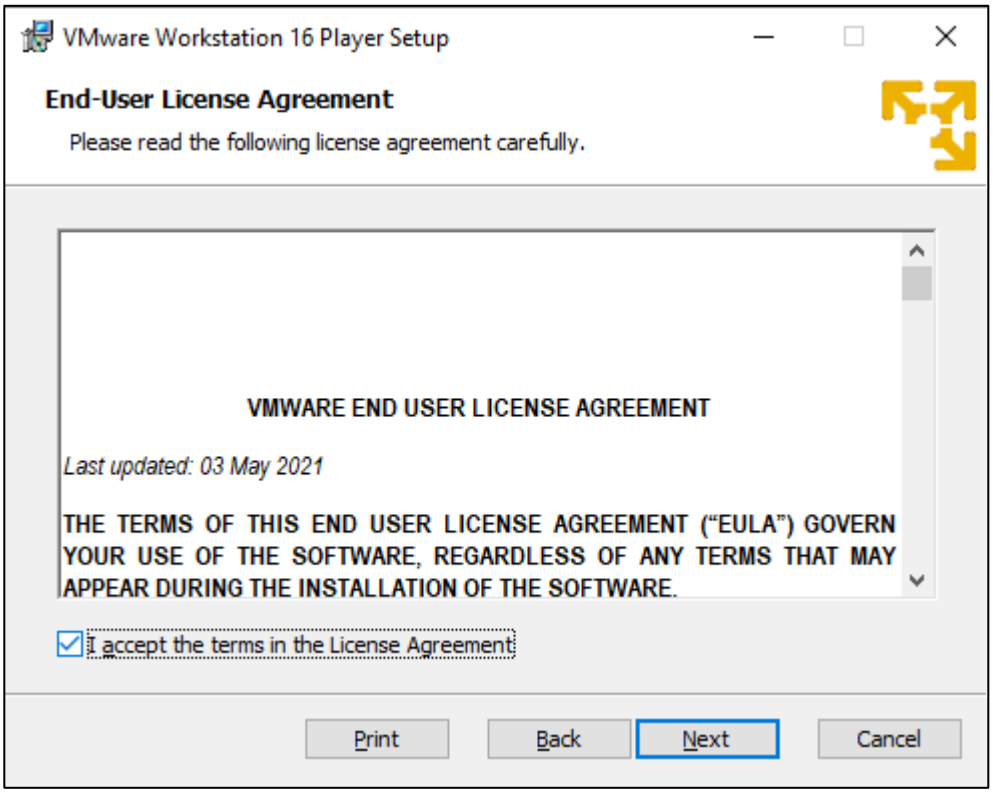
Step 2: Once Downloaded double tap to start the installation

Step 3: Click on Next

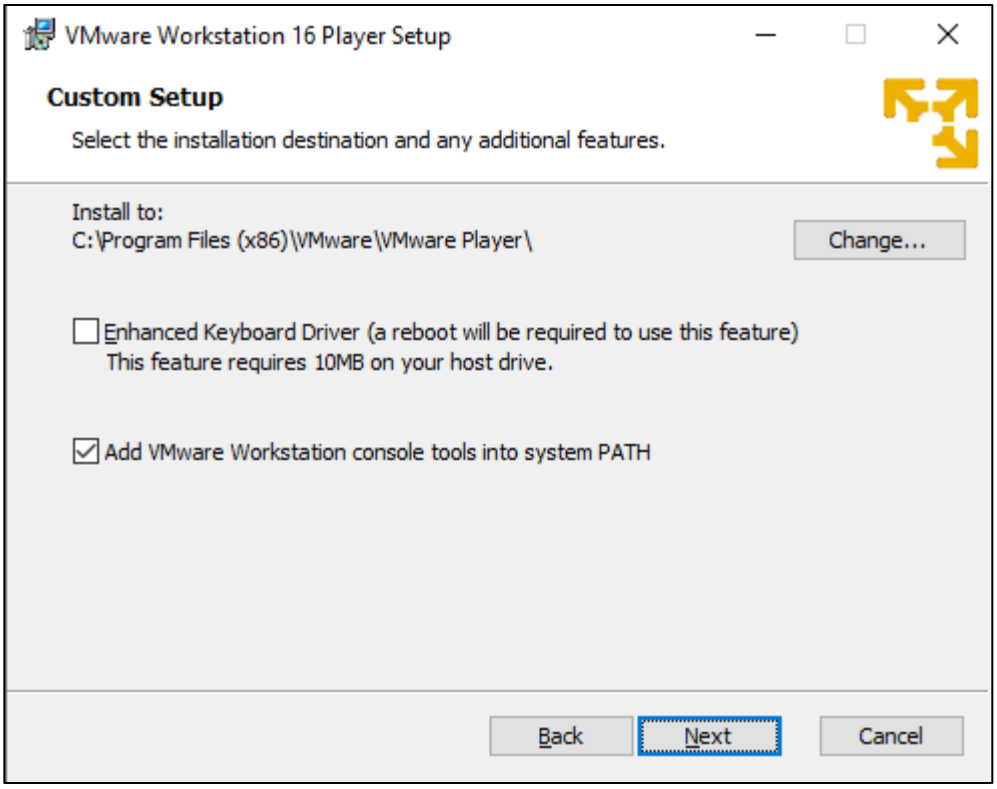


Step 4: Check the terms and conditions and click on NEXT

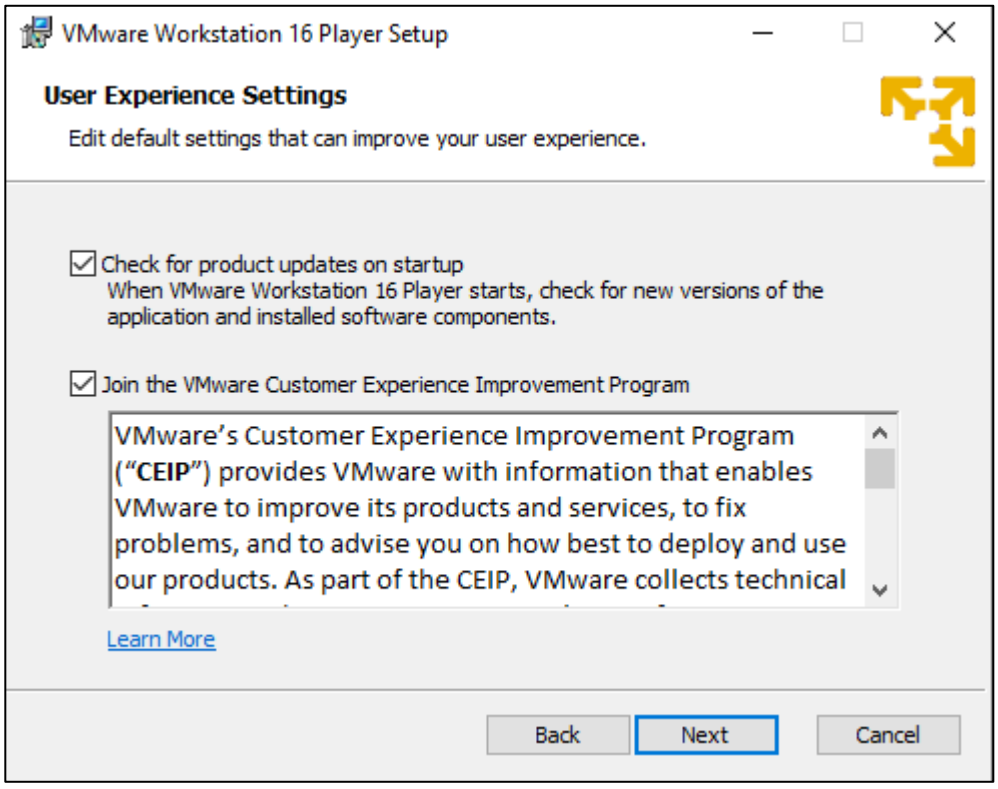




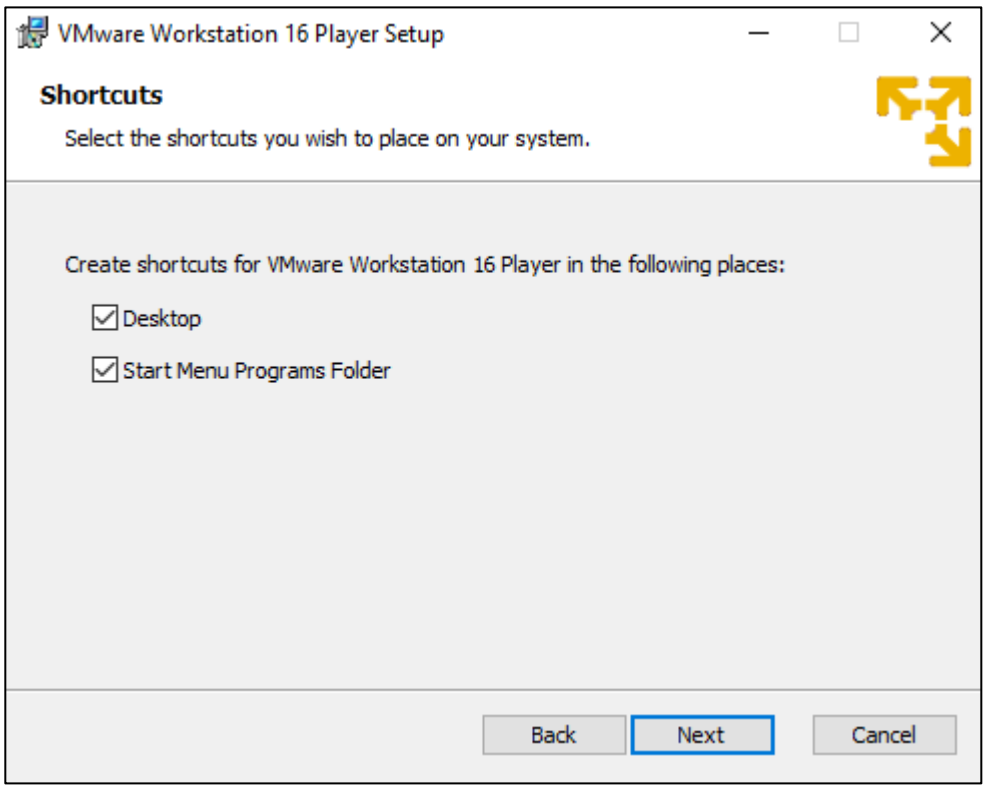
Step 5: Keep the default setup and Click on NEXT



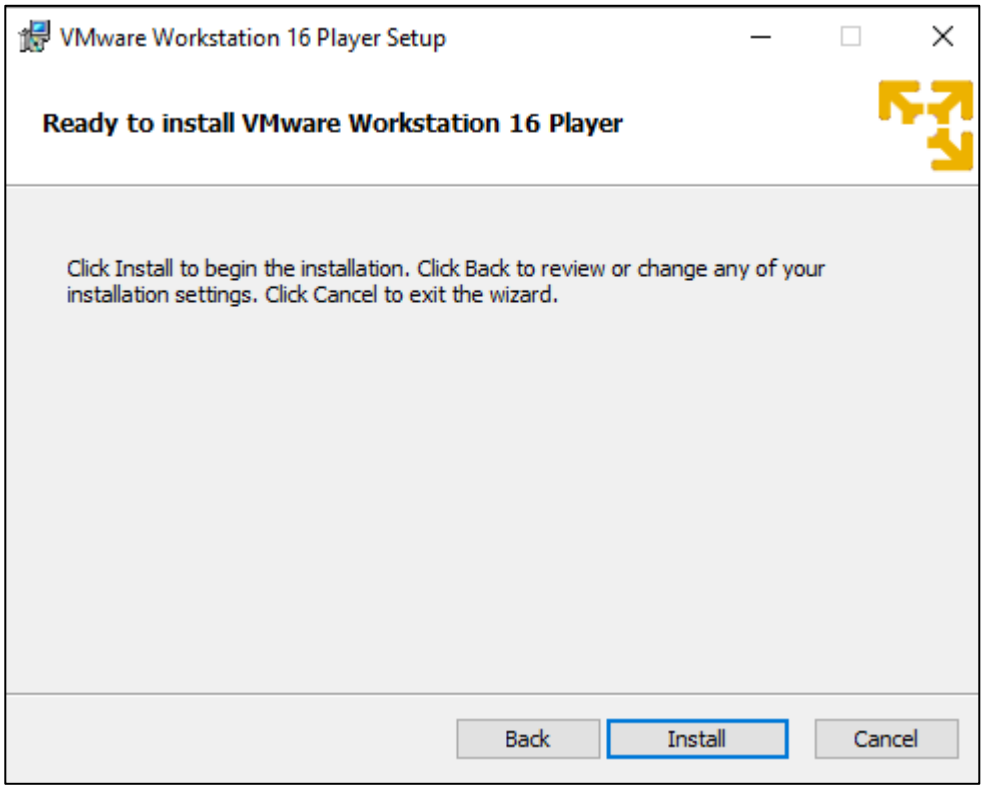
Step 6: Click on NEXT



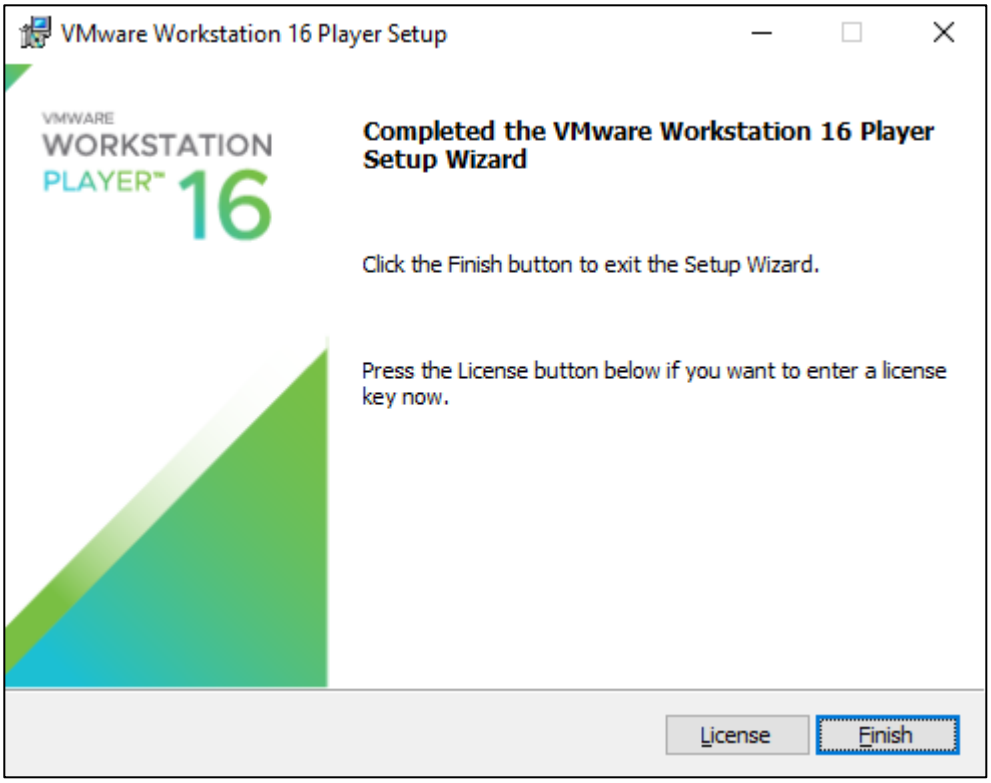
Step 7: Click on NEXT



Step 8: Click on INSTALL

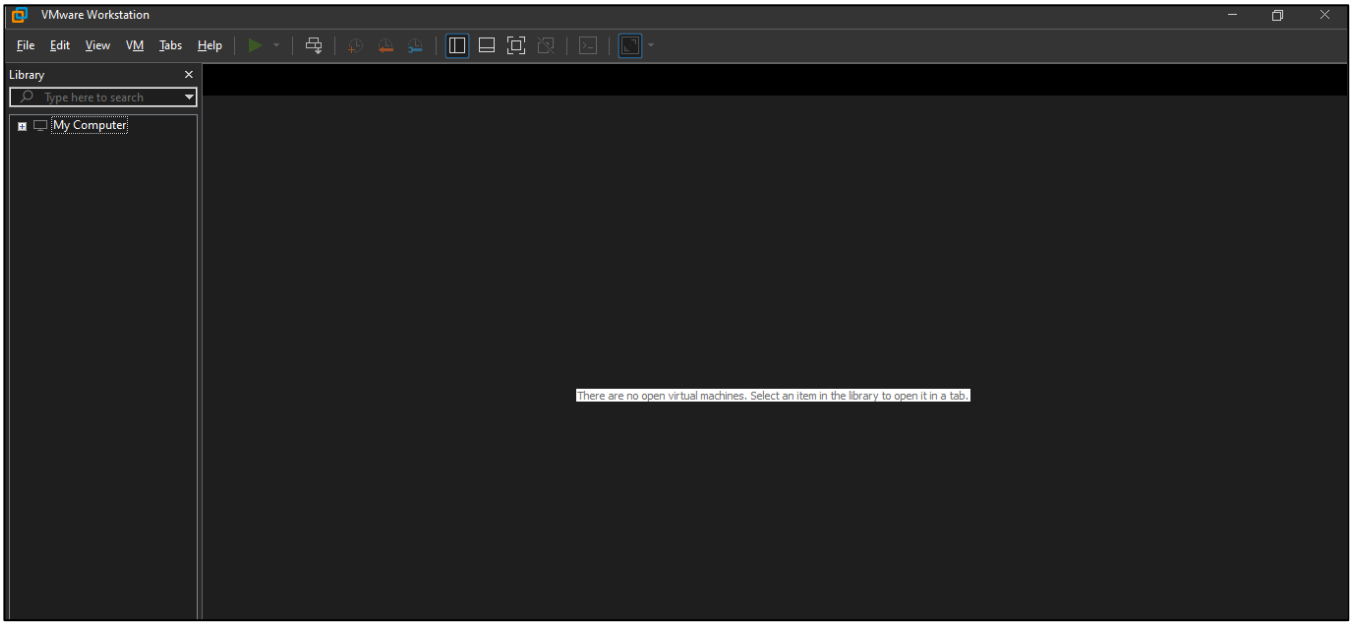


Step 9: Once Finish the installation and you have the License Key then CLICK on the License Button and add the license key else click on FINISH

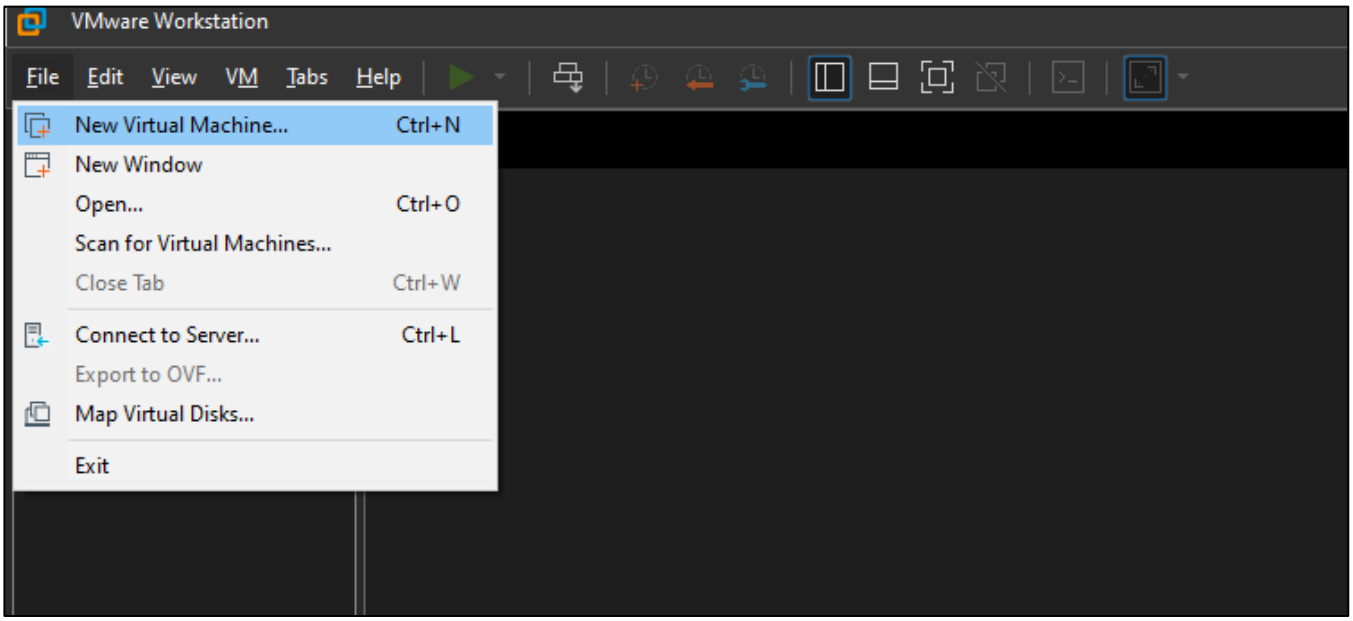


Creation of the Virtual Machine in VMWare Workstation Pro

Step 1: Open VM Ware WorkStation

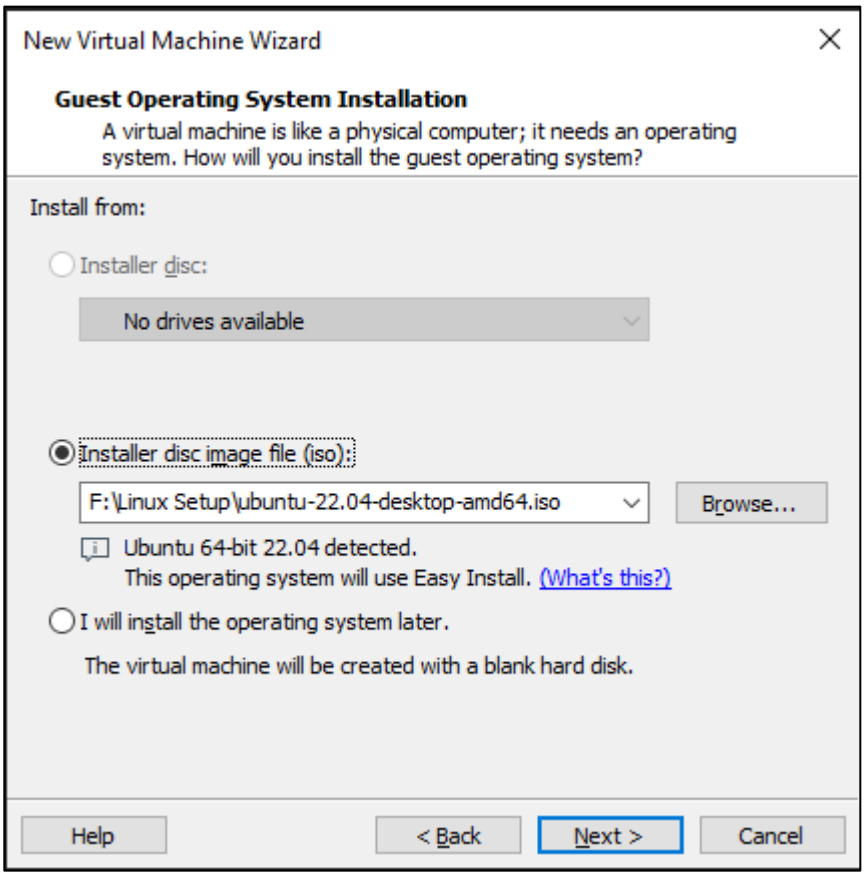


Step 2: Click on File → Create New Virtual Machine

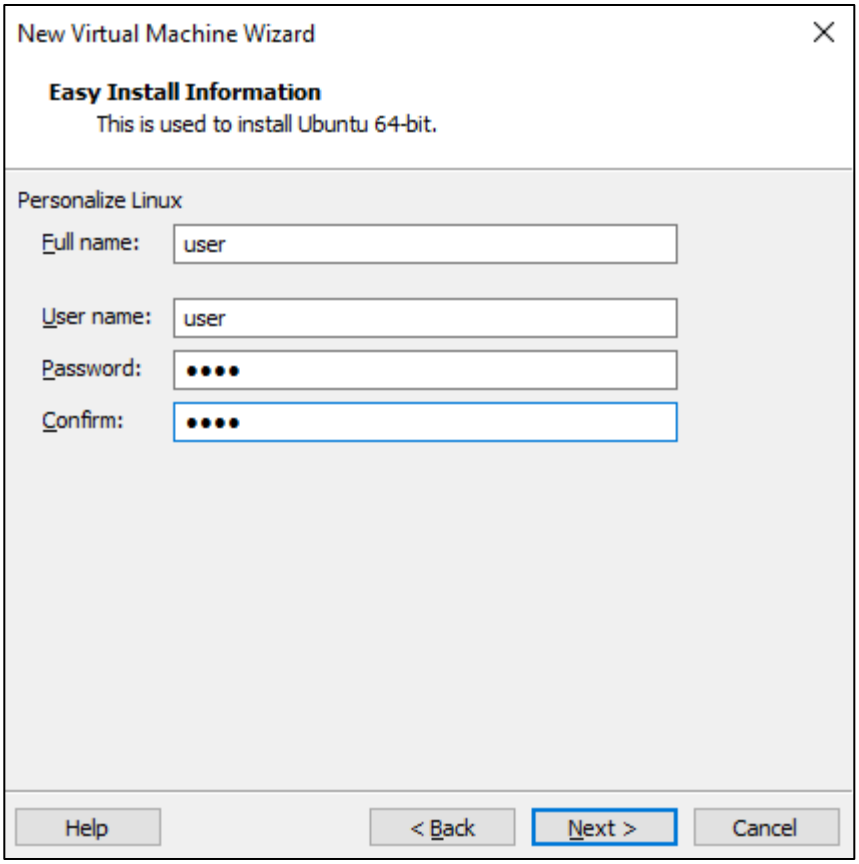


Step 3: Select Typical and click on NEXT

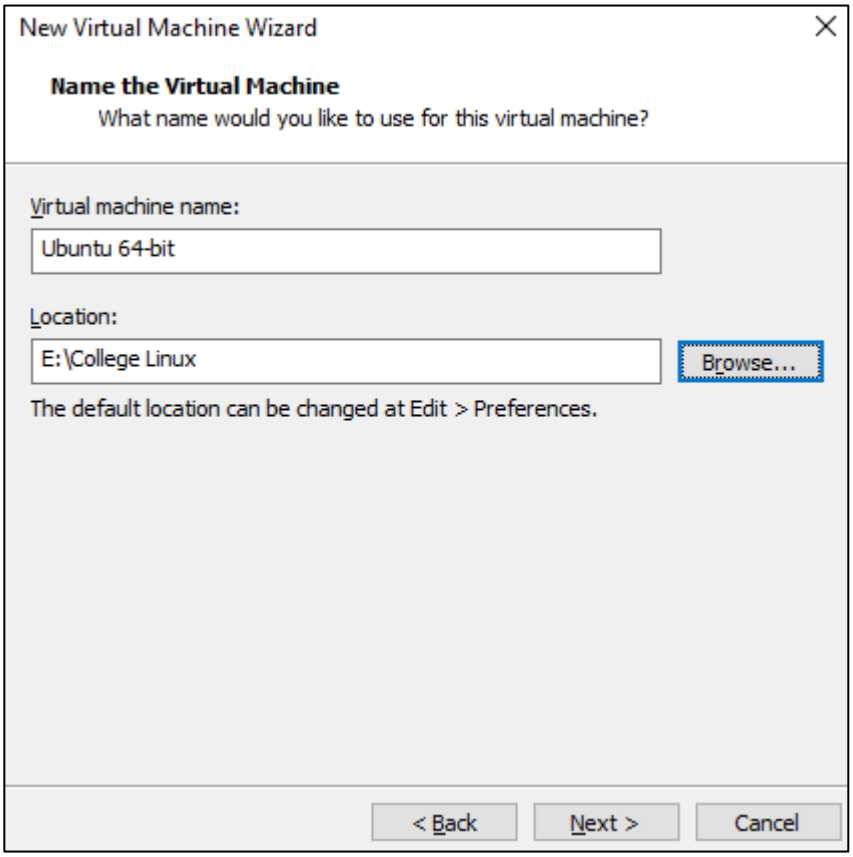
Step 4: Click on Installer Disc_Image file and provide the ISO file path and click on NEXT



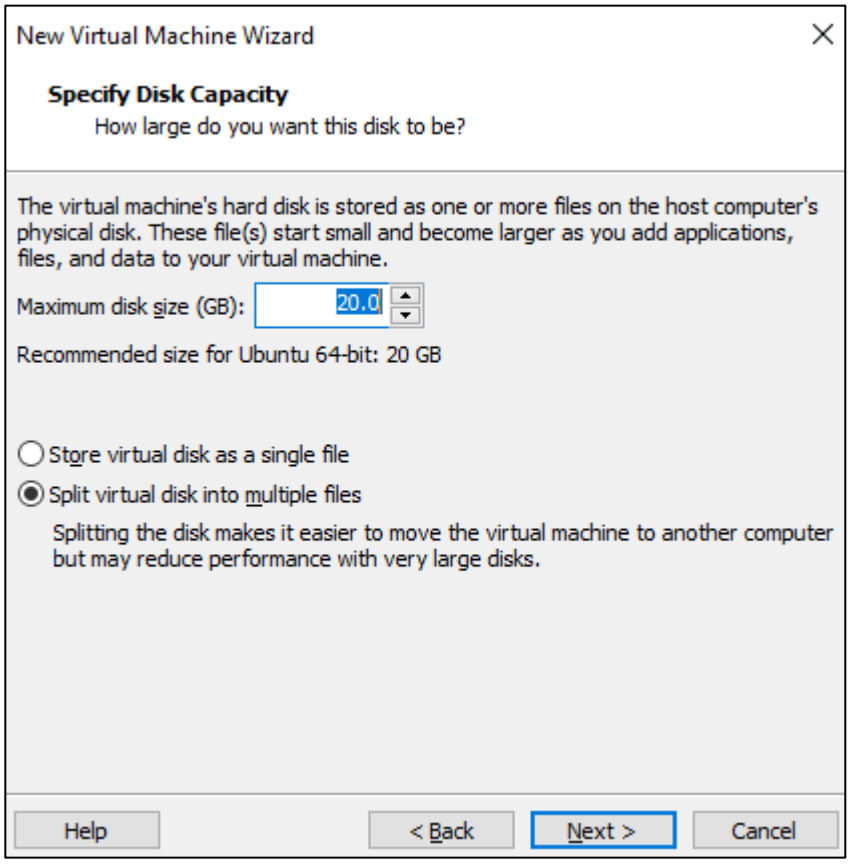
Step 5: Provide the Full Name, Username and password and click on NEXT



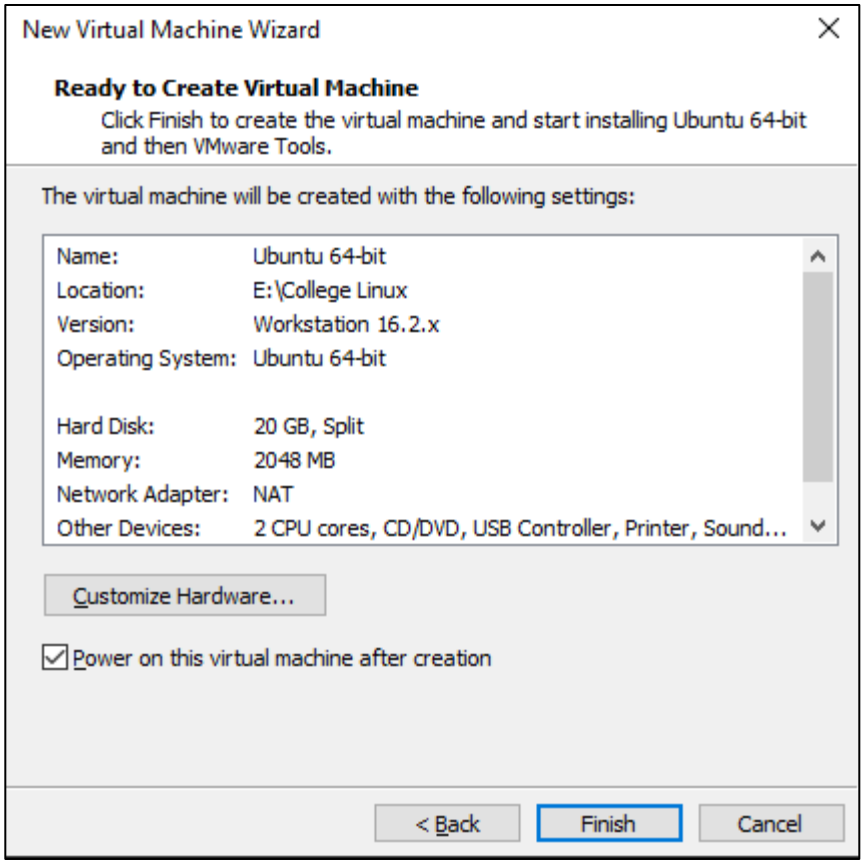
Step 6: Provide the Virtual Machine Name and the path where to save the image



Step 7: Provide the disk Size (Recommended 20GB) and click on NEXT



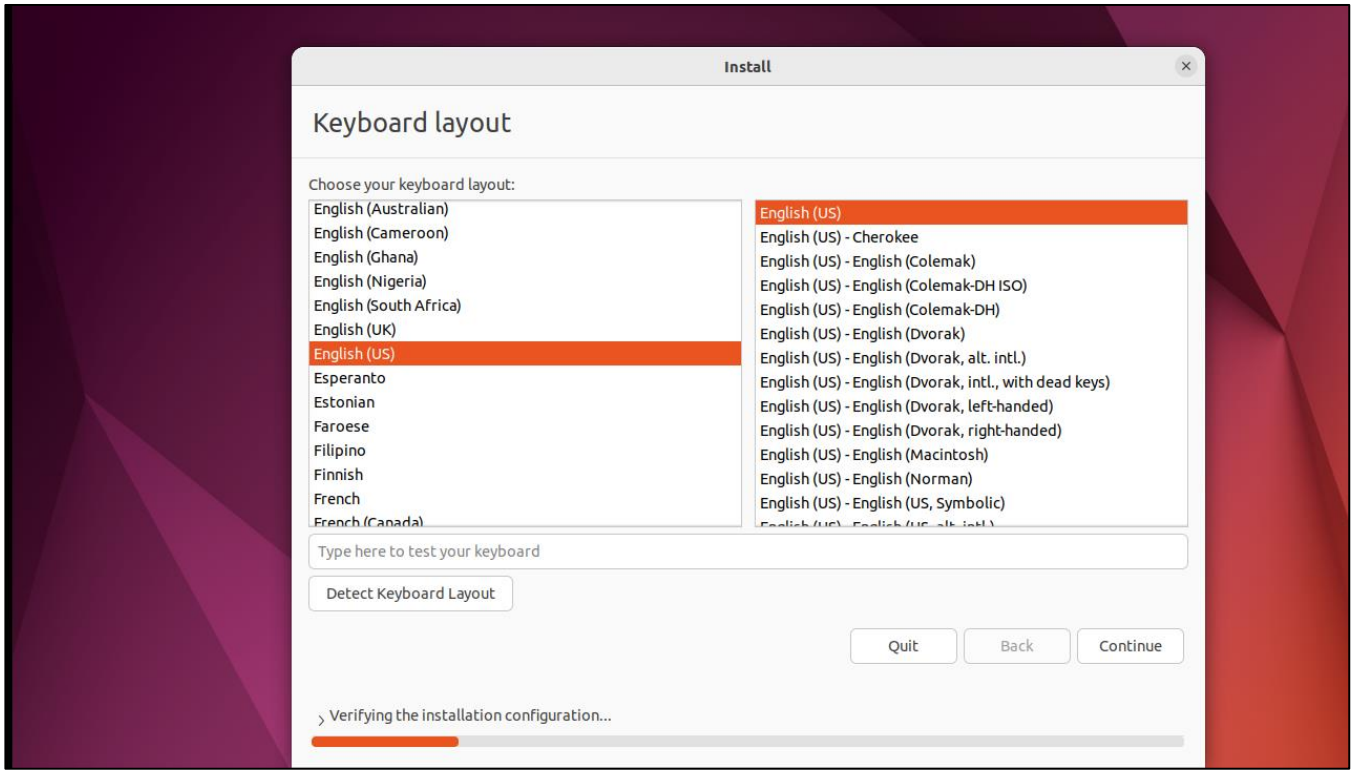
Step 8: Click on FINISH



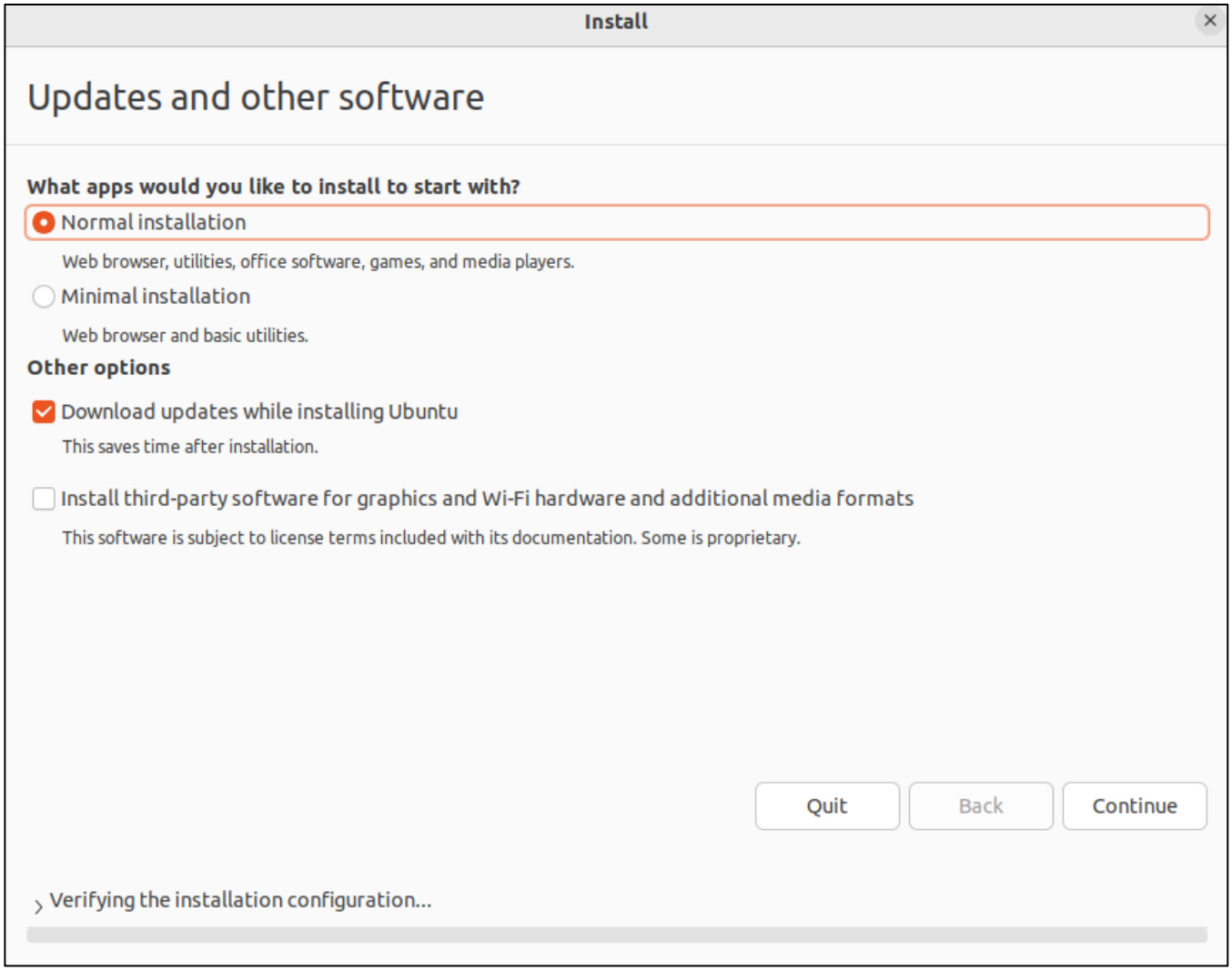
Configuring and Installing Ubuntu

Step 1: Run the Machine

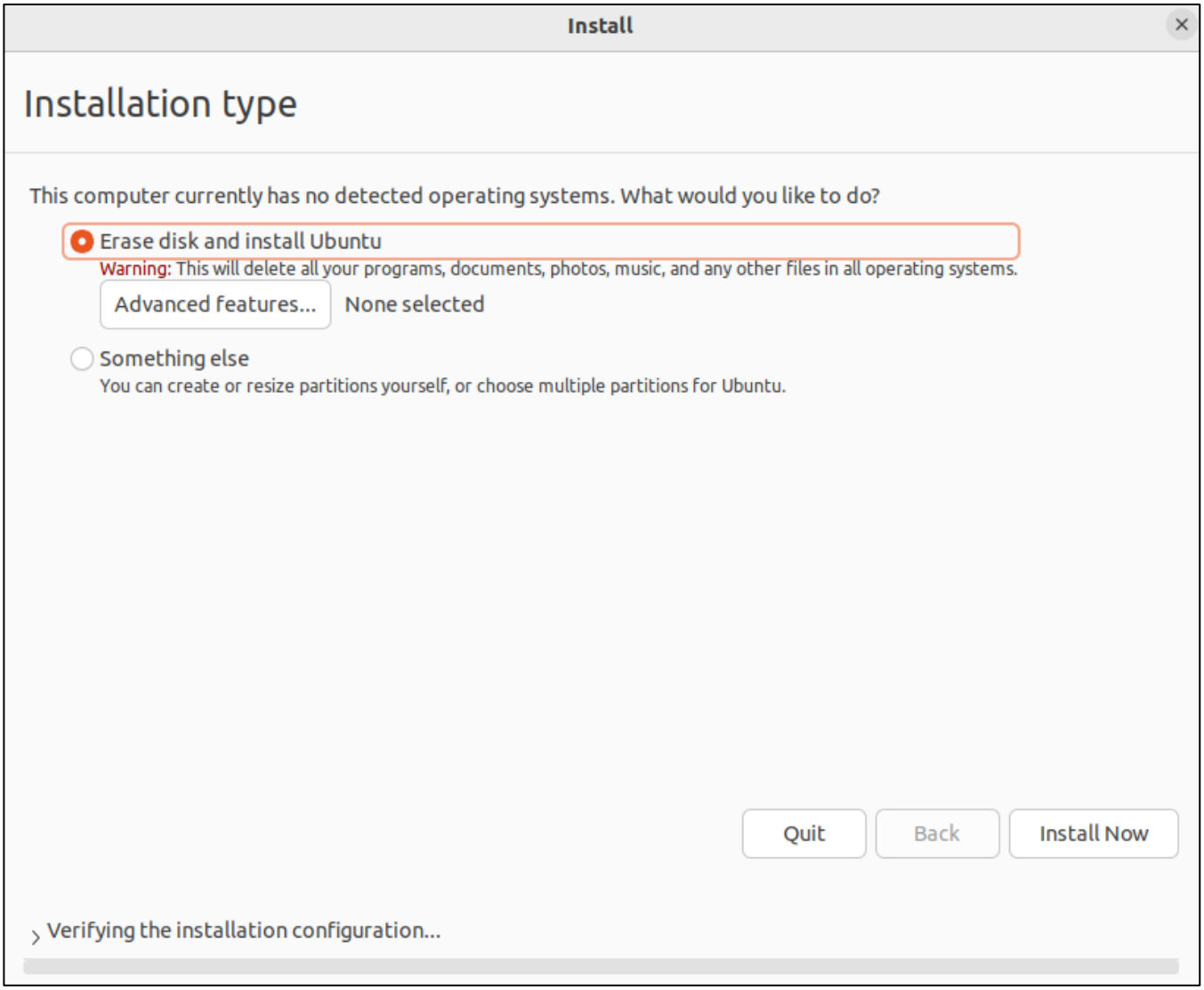
Step 2: Select the language and click on CONTINUE

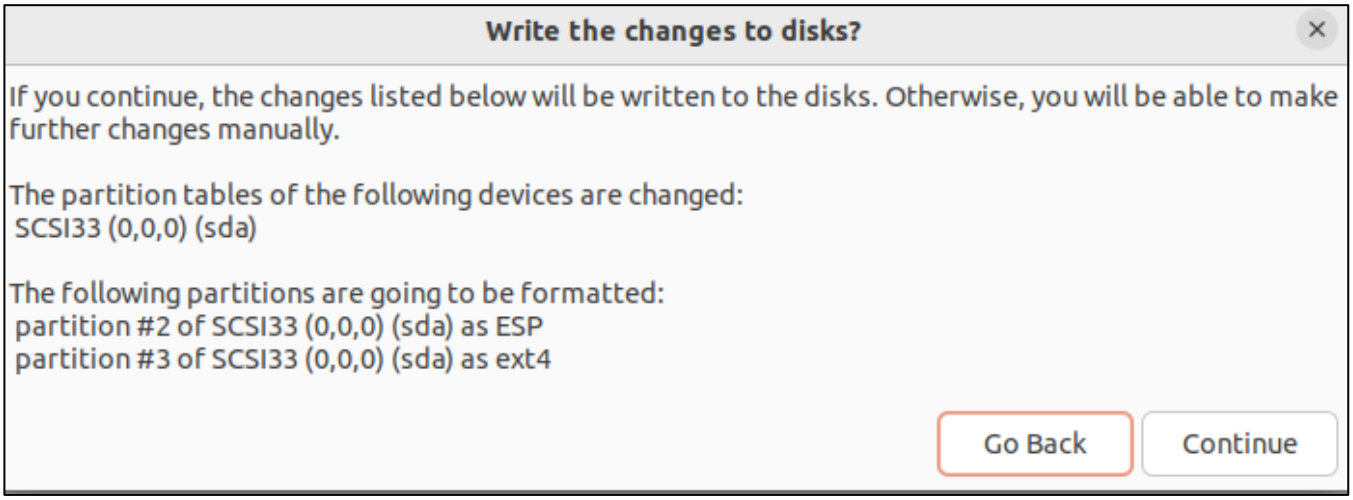


Step 3: Click on CONTINUE

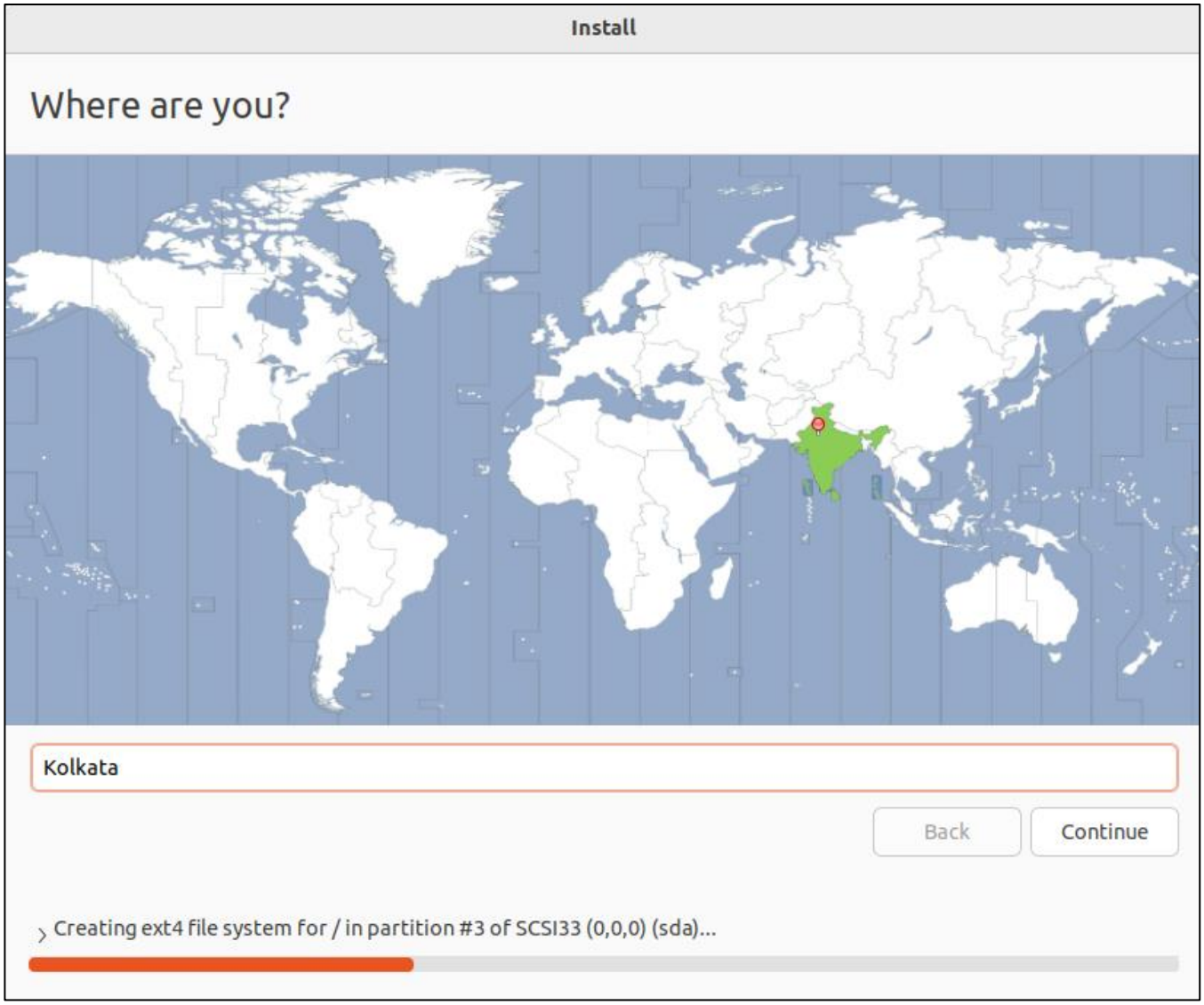


Step 4: Click on Erase Disk and click on INSTALL

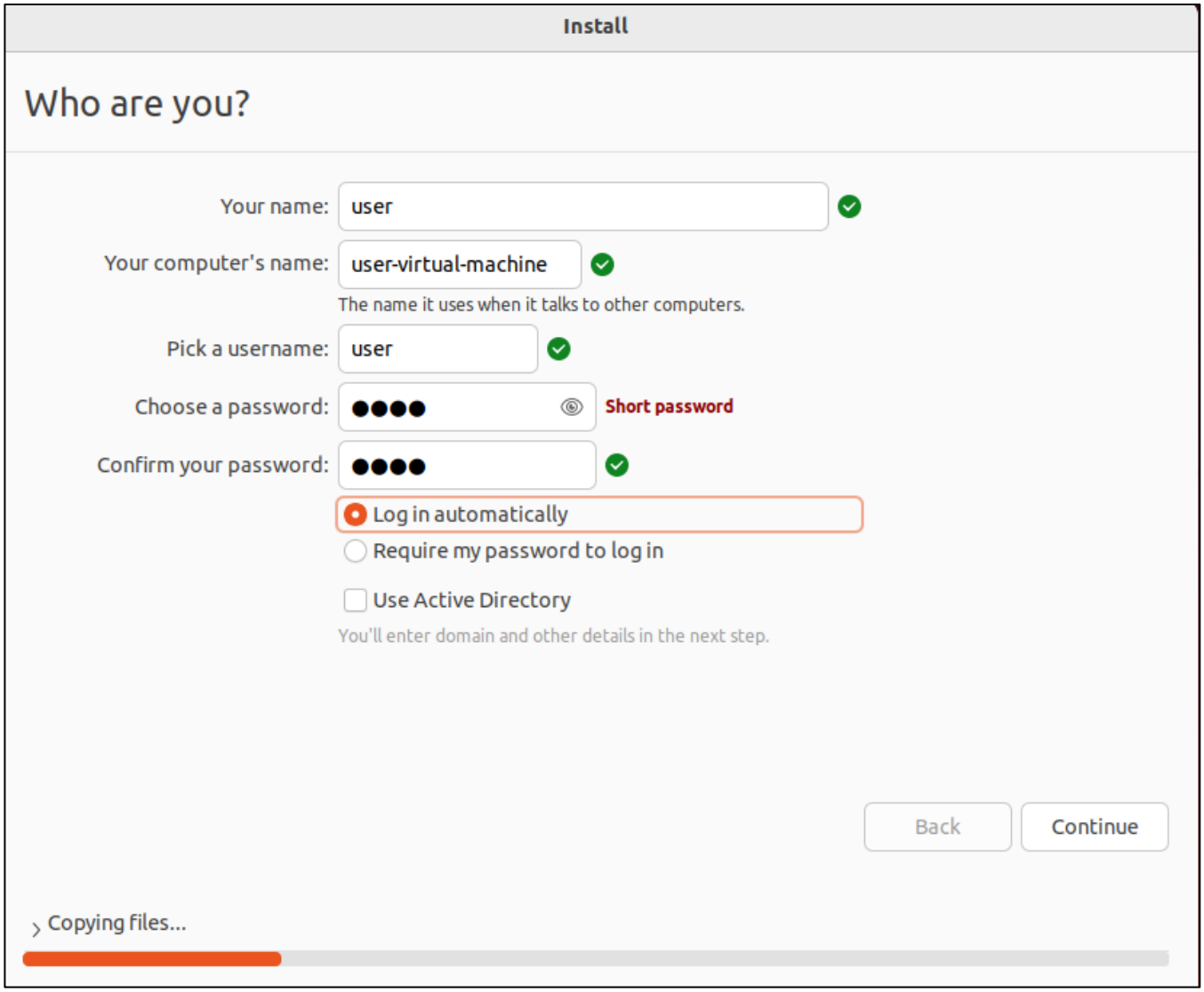


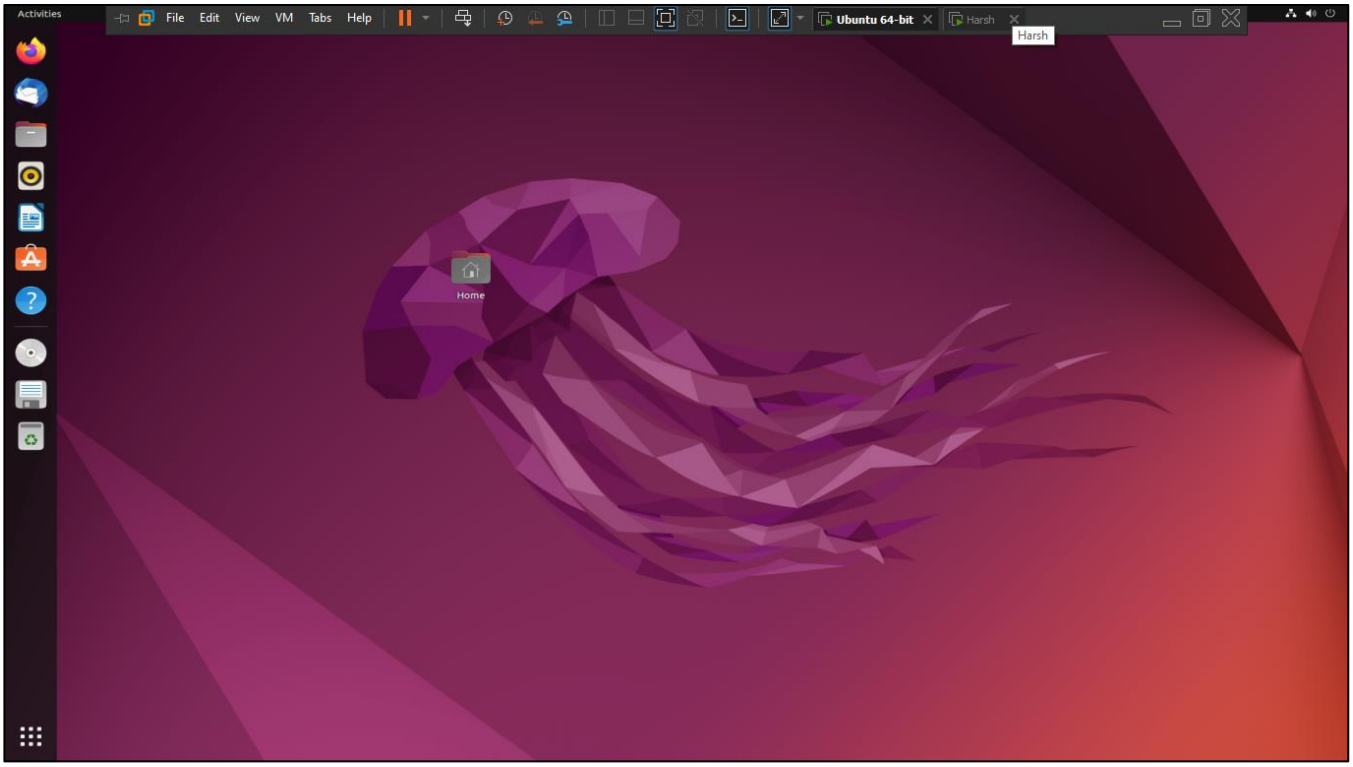


Step 5: Select the Country and click on Continue



Step 6: Provide the Name, Username, and Password and click on Continue


Install
Who are you?
Your name:
user
Your computer's name:
user-virtual-machine
The name it uses when it talks to other computers.
Pick a username:
user
Choose a password:
Short password
Confirm your password:
Log in automatically
Require my password to log in
Use Active Directory
You'll enter domain and other details in the next step.
Back
Continue
Copying files...


Activities
File Edit View VM Tabs Help
Ubuntu 64-bit
Harsh
Harsh
Home

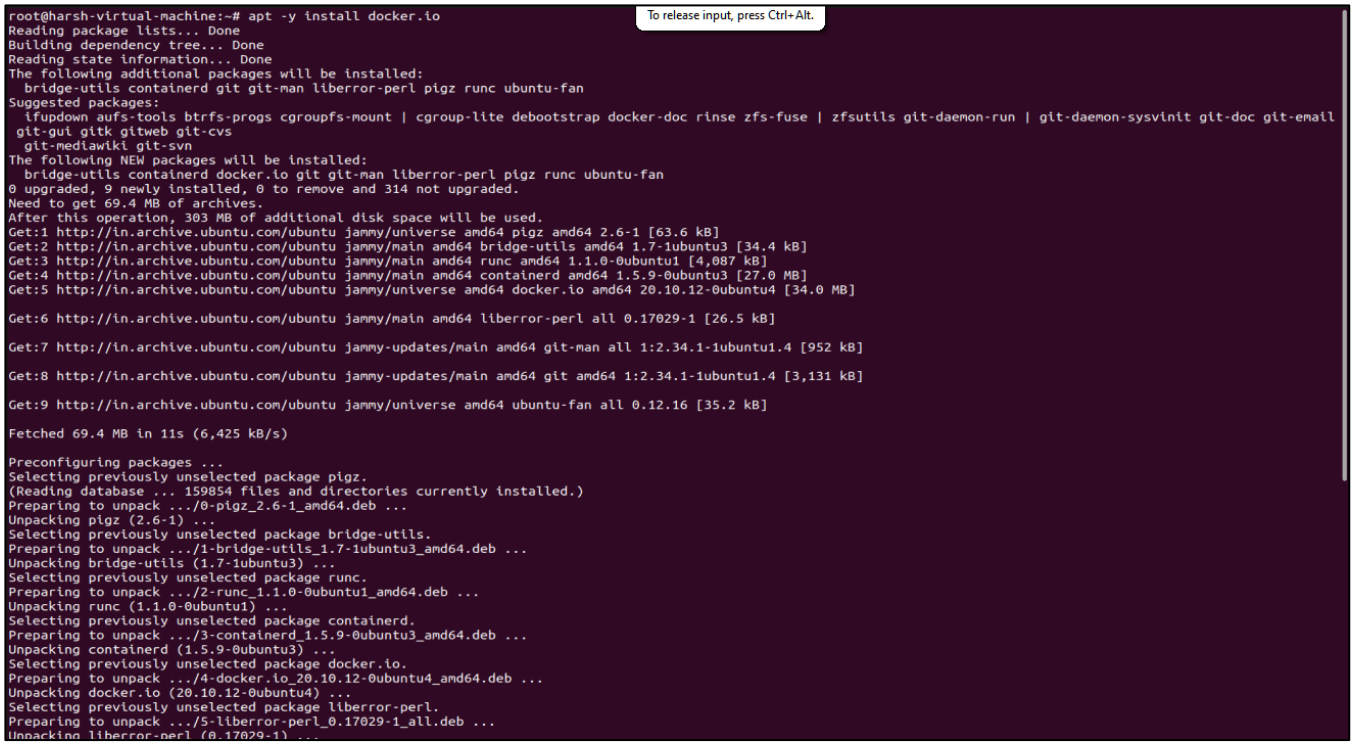
Practical 2

Aim: Implementation of containerization using Docker

Code:

Installation of Docker

```
apt -y install docker.io
```



Docker Version

```
docker version
```

```
root@harsh-virtual-machine:~# docker version
Client:
 Version:           20.10.12
 API version:       1.41
 Go version:        go1.17.3
 Git commit:        20.10.12-0ubuntu4
 Built:             Mon Mar  7 17:10:06 2022
 OS/Arch:           linux/amd64
 Context:           default
 Experimental:      true

Server:
 Engine:
  Version:          20.10.12
  API version:      1.41 (minimum version 1.12)
  Go version:       go1.17.3
  Git commit:       20.10.12-0ubuntu4
  Built:            Mon Mar  7 15:57:50 2022
  OS/Arch:          linux/amd64
  Experimental:     false
 containerd:
  Version:          1.5.9-0ubuntu3
  GitCommit:
 runc:
  Version:          1.1.0-0ubuntu1
  GitCommit:
 docker-init:
  Version:          0.19.0
  GitCommit:
root@harsh-virtual-machine:~#
```

Download an official image and create a container and output the words [Welcome to the Docker World] inside the container

Downloading the official image

```
docker pull ubuntu
```

```
root@harsh-virtual-machine:~# docker pull ubuntu
Using default tag: latest
latest: Pulling from library/ubuntu
2b55860d4c66: Pull complete
Digest: sha256:20fa2d7bb4de7723f542be5923b06c4d704370f0390e4ae9e1c833c8785644c1
Status: Downloaded newer image for ubuntu:latest
docker.io/library/ubuntu:latest
root@harsh-virtual-machine:~#
```

Run echo inside the Container

```
docker run ubuntu /bin/echo "Welcome to the Docker World!"
```

```
root@harsh-virtual-machine:~# docker run ubuntu /bin/echo "Welcome to the Docker World!"
Welcome to the Docker World!
root@harsh-virtual-machine:~#
```

Connect to the interactive session of a Container with [i] and [t] option like follows. If exit from the Container session, the process of a Container finishes.

```
docker run -it ubuntu /bin/bash

uname -a

exit
```

```
root@harsh-virtual-machine:~# docker run -it ubuntu /bin/bash
root@657d7215c3dc:/# uname -a
Linux 657d7215c3dc 5.15.0-25-generic #25-Ubuntu SMP Wed Mar 30 15:54:22 UTC 2022 x86_64 x86_64 x86_64 GNU/Linux
root@657d7215c3dc:/# exit
exit
root@harsh-virtual-machine:~#
```

If exit from the Container session with keeping container's process, push [Ctrl+p] and [Ctrl+q] key.

```
docker run -it ubuntu /bin/bash
```

```
root@harsh-virtual-machine:~# docker run -it ubuntu /bin/bash
root@6f6b3bb2cbce:/#
root@6f6b3bb2cbce:/# root@harsh-virtual-machine:~#
```

CTRL + p , CTRL +q

Show docker processes

```
docker ps
```

```
root@harsh-virtual-machine:~# docker ps
CONTAINER ID   IMAGE     COMMAND       CREATED          STATUS          PORTS     NAMES
6f6b3bb2cbce   ubuntu    "/bin/bash"   3 minutes ago    Up 3 minutes              serene_hodgkin
5db3fece30ce   ubuntu    "/bin/bash"   3 minutes ago    Up 3 minutes              dazzling_hamilton
root@harsh-virtual-machine:~#
```

Connect to container's Session

```
docker attach 6f6b3bb2cbce
```

```
root@harsh-virtual-machine:~# docker ps
CONTAINER ID   IMAGE     COMMAND       CREATED          STATUS          PORTS     NAMES
6f6b3bb2cbce   ubuntu    "/bin/bash"   3 minutes ago    Up 3 minutes              serene_hodgkin
5db3fece30ce   ubuntu    "/bin/bash"   3 minutes ago    Up 3 minutes              dazzling_hamilton
root@harsh-virtual-machine:~# docker attach 6f6b3bb2cbce
root@6f6b3bb2cbce:/#
```


```
root@harsh-virtual-machine:~# docker ps
CONTAINER ID   IMAGE     COMMAND       CREATED          STATUS          PORTS     NAMES
6f6b3bb2cbce   ubuntu    "/bin/bash"   3 minutes ago    Up 3 minutes              serene_hodgkin
5db3fece30ce   ubuntu    "/bin/bash"   3 minutes ago    Up 3 minutes              dazzling_hamilton
root@harsh-virtual-machine:~# docker attach 6f6b3bb2cbce
root@6f6b3bb2cbce:/#
```


Shutdown container's process from Host's console

```
docker kill 6f6b3bb2cbce
```

```
root@harsh-virtual-machine:~# docker ps
CONTAINER ID   IMAGE     COMMAND       CREATED          STATUS          PORTS     NAMES
6f6b3bb2cbce   ubuntu    "/bin/bash"   3 minutes ago    Up 3 minutes              serene_hodgkin
5db3fece30ce   ubuntu    "/bin/bash"   3 minutes ago    Up 3 minutes              dazzling_hamilton
root@harsh-virtual-machine:~# docker attach 6f6b3bb2cbce
root@6f6b3bb2cbce:/# read escape sequence
root@harsh-virtual-machine:~# docker kill  6f6b3bb2cbce
6f6b3bb2cbce
root@harsh-virtual-machine:~# docker ps
CONTAINER ID   IMAGE     COMMAND       CREATED          STATUS          PORTS     NAMES
5db3fece30ce   ubuntu    "/bin/bash"   7 minutes ago    Up 7 minutes              dazzling_hamilton
root@harsh-virtual-machine:~#
```

Add Container images you created.

For example, update official image with installing Nginx and add it as a new image for container. The container is generated every time for executing docker run command, so add the latest executed container like follows.

Show images

```
docker images
```

```
root@harsh-virtual-machine:~# docker images
REPOSITORY    TAG       IMAGE ID       CREATED        SIZE
ubuntu        latest    2dc39ba059dc   2 weeks ago    77.8MB
root@harsh-virtual-machine:~#
```

Start a container and install nginx

```
docker run ubuntu /bin/bash -c "apt-get update; apt-get -y install nginx"
```

```
root@harsh-virtual-machine:~# docker run ubuntu /bin/bash -c "apt-get update; apt-get -y install nginx"
Get:1 http://security.ubuntu.com/ubuntu jammy-security InRelease [110 kB]
Get:2 http://archive.ubuntu.com/ubuntu jammy InRelease [270 kB]
Get:3 http://archive.ubuntu.com/ubuntu jammy-updates InRelease [114 kB]
Get:4 http://archive.ubuntu.com/ubuntu jammy-backports InRelease [99.8 kB]
Get:5 http://security.ubuntu.com/ubuntu jammy-security/main amd64 Packages [402 kB]
Get:6 http://archive.ubuntu.com/ubuntu jammy/restricted amd64 Packages [164 kB]
Get:7 http://archive.ubuntu.com/ubuntu jammy/main amd64 Packages [1792 kB]
Get:8 http://security.ubuntu.com/ubuntu jammy-security/restricted amd64 Packages [357 kB]
Get:9 http://security.ubuntu.com/ubuntu jammy-security/universe amd64 Packages [349 kB]
Get:10 http://security.ubuntu.com/ubuntu jammy-security/multiverse amd64 Packages [4644 B]
Get:11 http://archive.ubuntu.com/ubuntu jammy/universe amd64 Packages [17.5 MB]
Get:12 http://archive.ubuntu.com/ubuntu jammy/multiverse amd64 Packages [266 kB]
Get:13 http://archive.ubuntu.com/ubuntu jammy-updates/universe amd64 Packages [525 kB]
Get:14 http://archive.ubuntu.com/ubuntu jammy-updates/multiverse amd64 Packages [8088 B]
Get:15 http://archive.ubuntu.com/ubuntu jammy-updates/restricted amd64 Packages [398 kB]
Get:16 http://archive.ubuntu.com/ubuntu jammy-updates/main amd64 Packages [724 kB]
Get:17 http://archive.ubuntu.com/ubuntu jammy-backports/main amd64 Packages [3175 B]
Get:18 http://archive.ubuntu.com/ubuntu jammy-backports/universe amd64 Packages [7276 B]
Fetched 23.1 MB in 58s (394 kB/s)
Reading package lists...
Reading package lists...
Building dependency tree...
Reading state information...
The following additional packages will be installed:
  fontconfig-config fonts-dejavu-core iproute2 libatm1 libbpf0 libbrotli1
  libbsd0 libcap2-bin libdeflate0 libelf1 libexpat1 libfontconfig1
  libfreetype6 libgd3 libicu70 libjbig0 libjpeg-turbo8 libjpeg8 libmaxminddb0
  libmd0 libmnl0 libnginx-mod-http-geoip2 libnginx-mod-http-image-filter
  libnginx-mod-http-xslt-filter libnginx-mod-mail libnginx-mod-stream
  libnginx-mod-stream-geoip2 libpam-cap libpng16-16 libtiff5 libwebp7 libx11-6
  libx11-data libxau6 libxcb1 libxdmcp6 libxml2 libxpm4 libxslt1.1
  libxtables12 nginx-common nginx-core ucf
Suggested packages:
  iproute2-doc libgd-tools mmdb-bin fcgiwrap nginx-doc ssl-cert
The following NEW packages will be installed:
  fontconfig-config fonts-dejavu-core iproute2 libatm1 libbpf0 libbrotli1
  libbsd0 libcap2-bin libdeflate0 libelf1 libexpat1 libfontconfig1
  libfreetype6 libgd3 libicu70 libjbig0 libjpeg-turbo8 libjpeg8 libmaxminddb0
  libmd0 libmnl0 libnginx-mod-http-geoip2 libnginx-mod-http-image-filter
  libnginx-mod-http-xslt-filter libnginx-mod-mail libnginx-mod-stream
  libnginx-mod-stream-geoip2 libpam-cap libpng16-16 libtiff5 libwebp7 libx11-6
  libx11-data libxau6 libxcb1 libxdmcp6 libxml2 libxpm4 libxslt1.1
  libxtables12 nginx nginx-common nginx-core ucf
0 upgraded, 44 newly installed, 0 to remove and 4 not upgraded.
Need to get 17.5 MB of archives.
After this operation, 56.4 MB of additional disk space will be used.
Get:1 http://archive.ubuntu.com/ubuntu jammy/main amd64 libelf1 amd64 0.186-1build1 [51.0 kB]
Get:2 http://archive.ubuntu.com/ubuntu jammy/main amd64 libbpf0 amd64 1:0.5.0-1 [140 kB]
Get:3 http://archive.ubuntu.com/ubuntu jammy/main amd64 libmd0 amd64 1.0.4-1build1 [23.0 kB]
```

```
docker ps -a | head -2
```

```
root@harsh-virtual-machine:~# docker ps -a | head -2
CONTAINER ID   IMAGE     COMMAND                  CREATED          STATUS                      PORTS     NAMES
2ea735ff2f51   ubuntu    "/bin/bash -c 'apt-g…"   2 minutes ago    Exited (0) 35 seconds ago             objective_cori
root@harsh-virtual-machine:~#
```

Add the image

```
docker commit 2ea735ff2f51 srv.world/ubuntu-nginx
```

```
root@harsh-virtual-machine:~# docker ps -a | head -2
CONTAINER ID   IMAGE     COMMAND                  CREATED          STATUS                      PORTS     NAMES
2ea735ff2f51   ubuntu    "/bin/bash -c 'apt-g…"   2 minutes ago    Exited (0) 35 seconds ago             objective_cori
root@harsh-virtual-machine:~# docker commit 2ea735ff2f51 srv.world/ubuntu-nginx
sha256:3efa7fe549f6d2d2ead74c6ea072aa77671f207e4f93ff29622ca0616802bd35
root@harsh-virtual-machine:~#
```

```
docker images
```

```
root@harsh-virtual-machine:~# docker images
REPOSITORY                  TAG       IMAGE ID       CREATED              SIZE
srv.world/ubuntu-nginx      latest    3efa7fe549f6   44 seconds ago       170MB
ubuntu                      latest    2dc39ba059dc   2 weeks ago          77.8MB
root@harsh-virtual-machine:~#
```

Generate a container from the new image and execute [which] to make sure nginx exists

```
docker run srv.world/ubuntu-nginx /usr/bin/which nginx
```

```
root@harsh-virtual-machine:~# docker run srv.world/ubuntu-nginx /usr/bin/which nginx
/usr/sbin/nginx
root@harsh-virtual-machine:~#
```

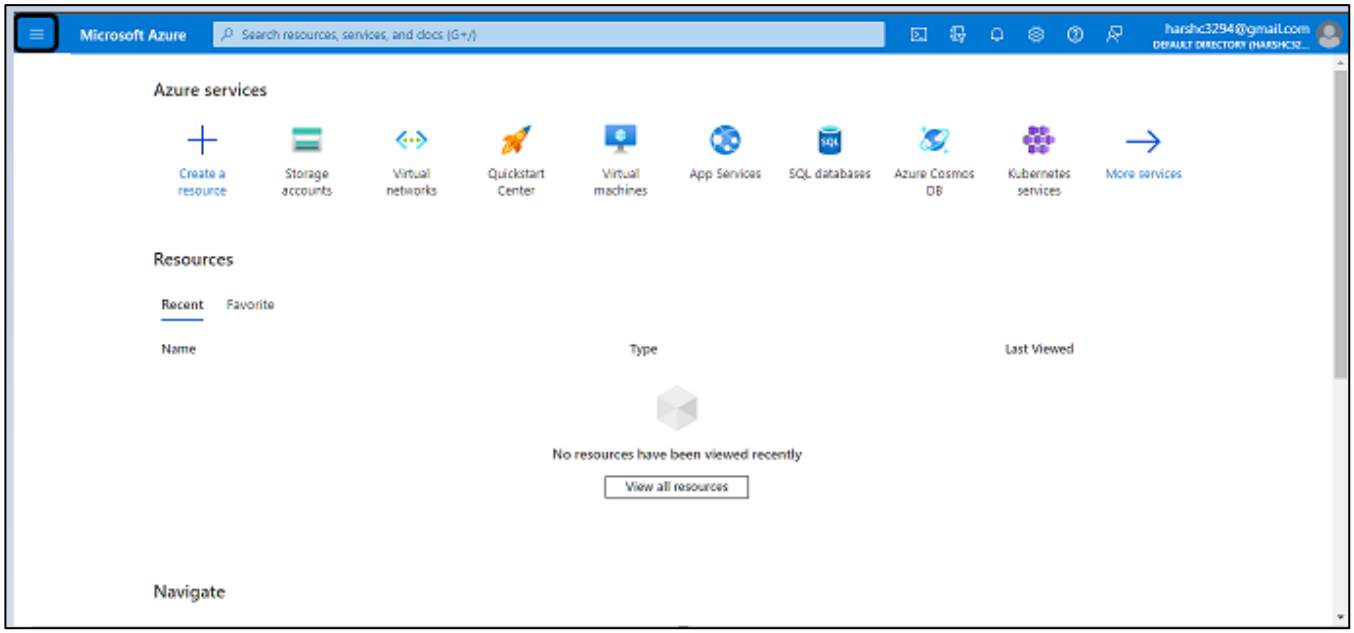
Practical 3

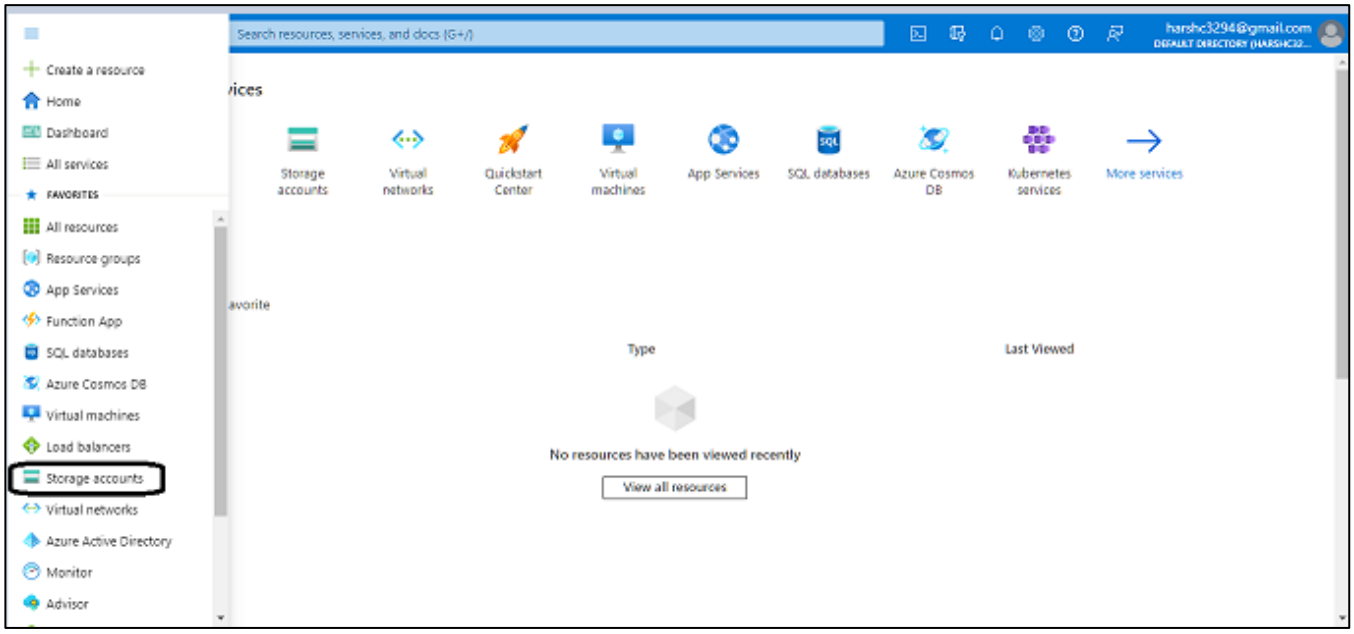
Aim: Demonstration of IaaS cloud

Code:

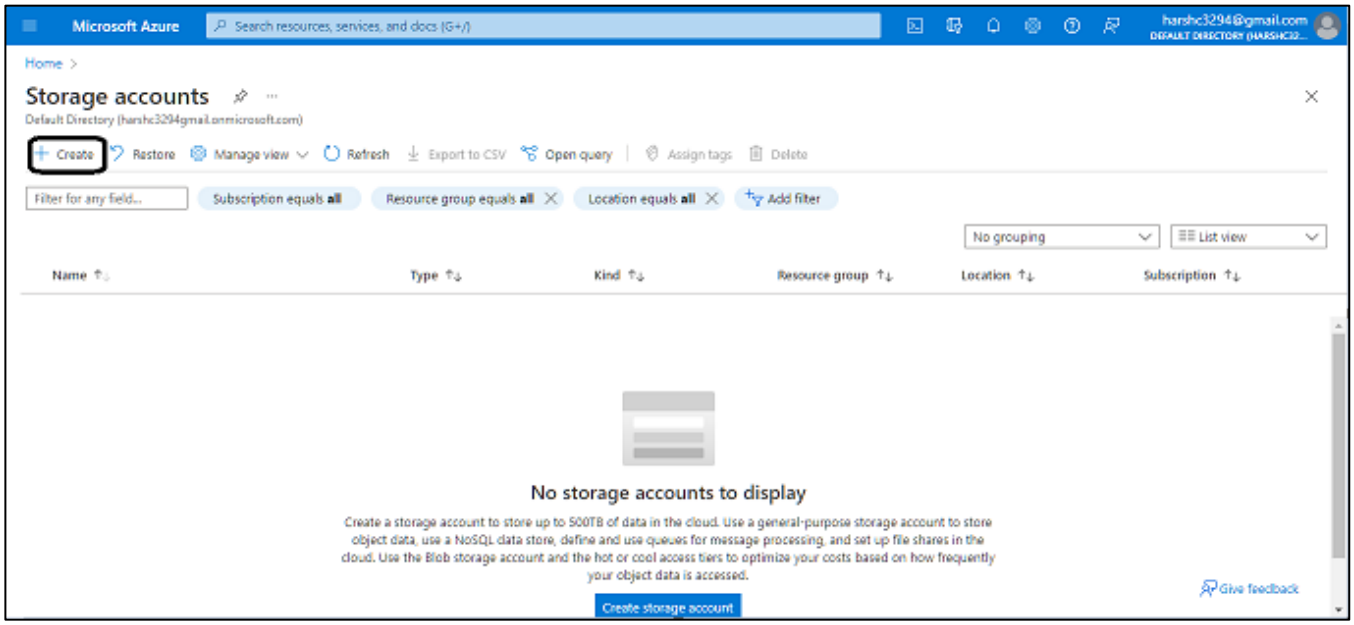
To create an Azure storage account with the Azure portal, follow these steps

1. From the left portal menu, select Storage accounts to display a list of your storage accounts. If the portal menu isn't visible, click the menu button to toggle it on.

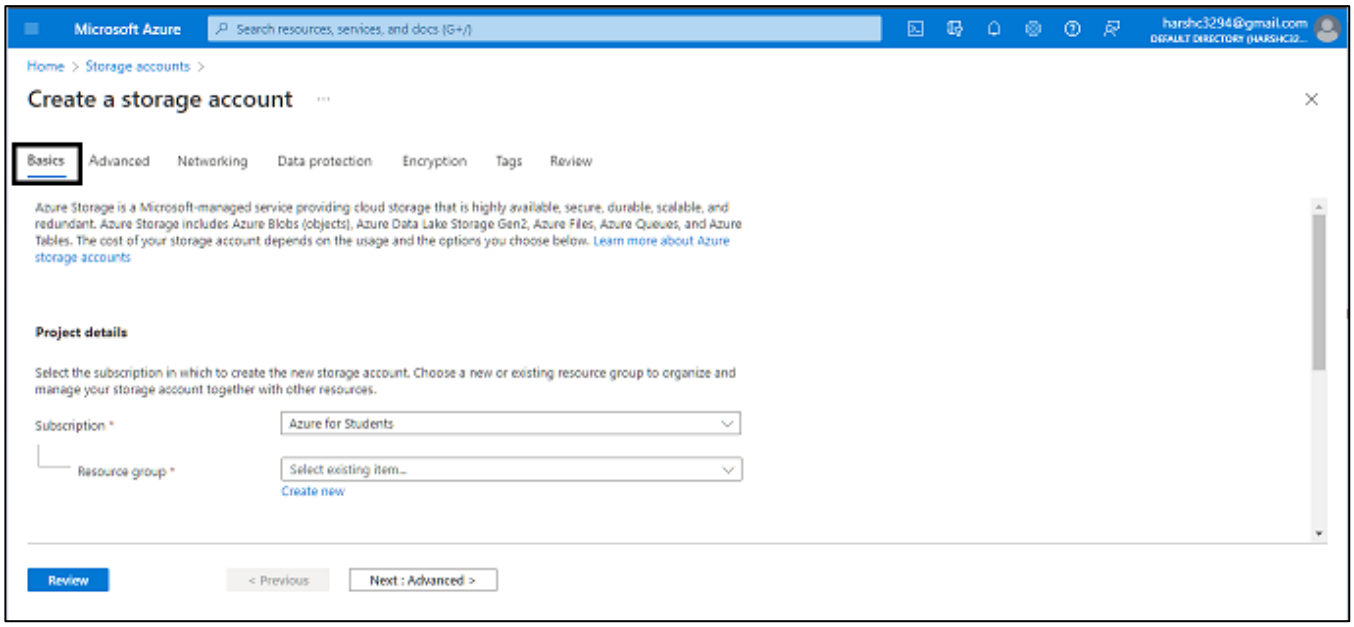


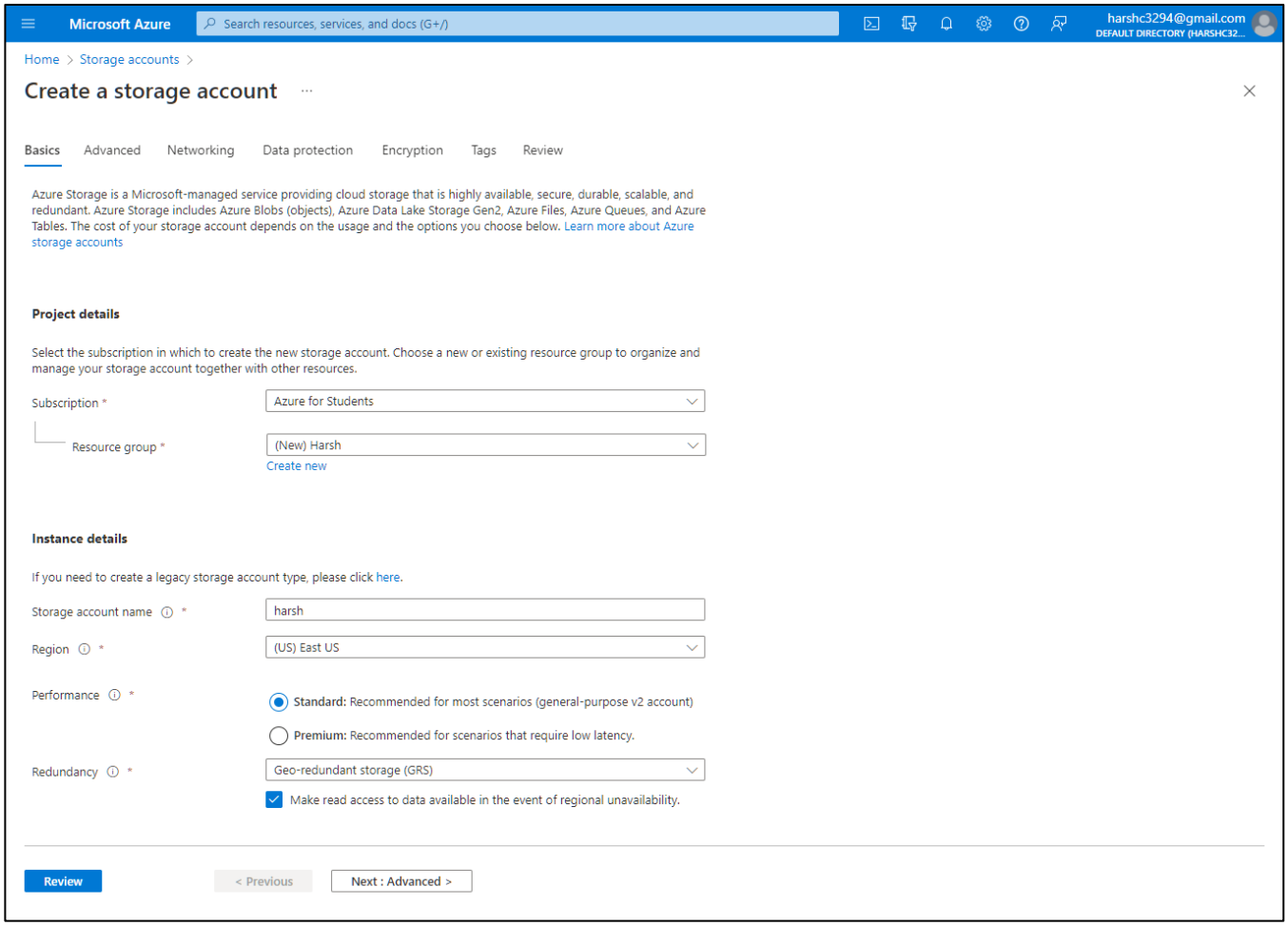


2. On the **Storage accounts** page, select **Create**

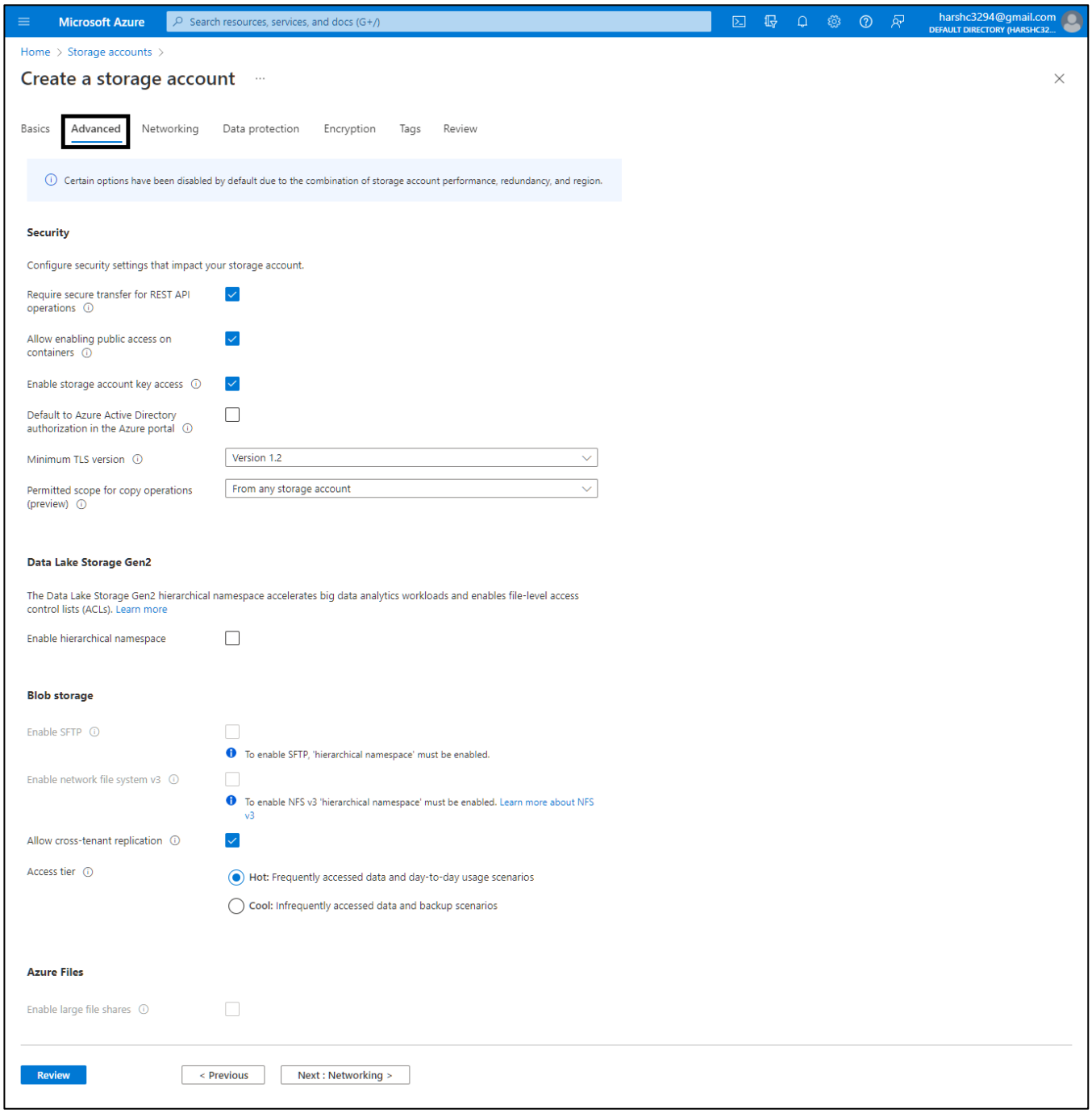


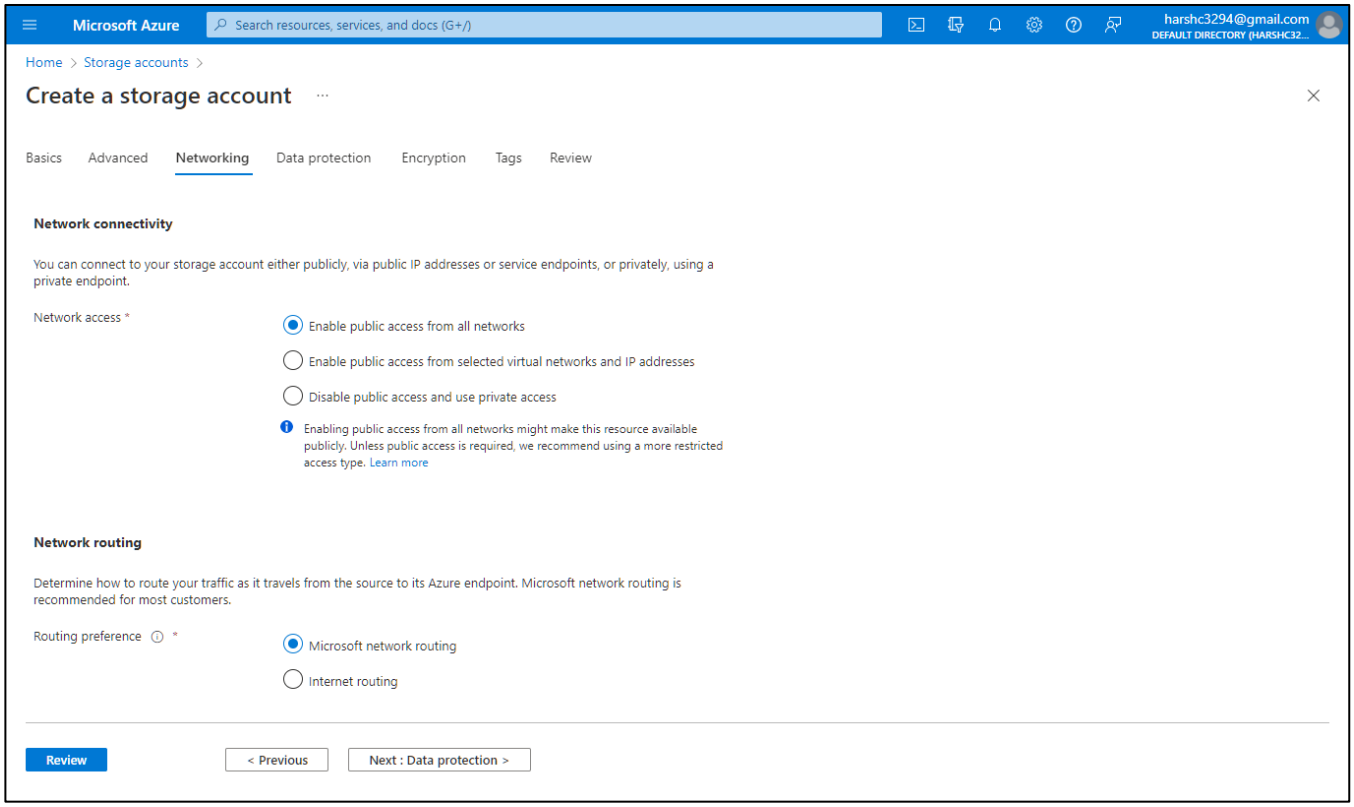
3. The following image shows a standard configuration of the basic properties for a new storage account.




Microsoft Azure
Search resources, services, and docs (G+/)
harshc3294@gmail.com
DEFAULT DIRECTORY (HARSHC32...
Home > Storage accounts >
Create a storage account
Basics Advanced Networking Data protection Encryption Tags Review
Azure Storage is a Microsoft-managed service providing cloud storage that is highly available, secure, durable, scalable, and redundant. Azure Storage includes Azure Blobs (objects), Azure Data Lake Storage Gen2, Azure Files, Azure Queues, and Azure Tables. The cost of your storage account depends on the usage and the options you choose below. Learn more about Azure storage accounts
Project details
Select the subscription in which to create the new storage account. Choose a new or existing resource group to organize and manage your storage account together with other resources.
Subscription *
Azure for Students
Resource group *
(New) Harsh
Create new
Instance details
If you need to create a legacy storage account type, please click here.
Storage account name *
harsh
Region *
(US) East US
Performance *
Standard: Recommended for most scenarios (general-purpose v2 account)
Premium: Recommended for scenarios that require low latency.
Redundancy *
Geo-redundant storage (GRS)
Make read access to data available in the event of regional unavailability.
Review
< Previous
Next : Advanced >

4. The following image shows a standard configuration of the advanced properties for a new storage account.

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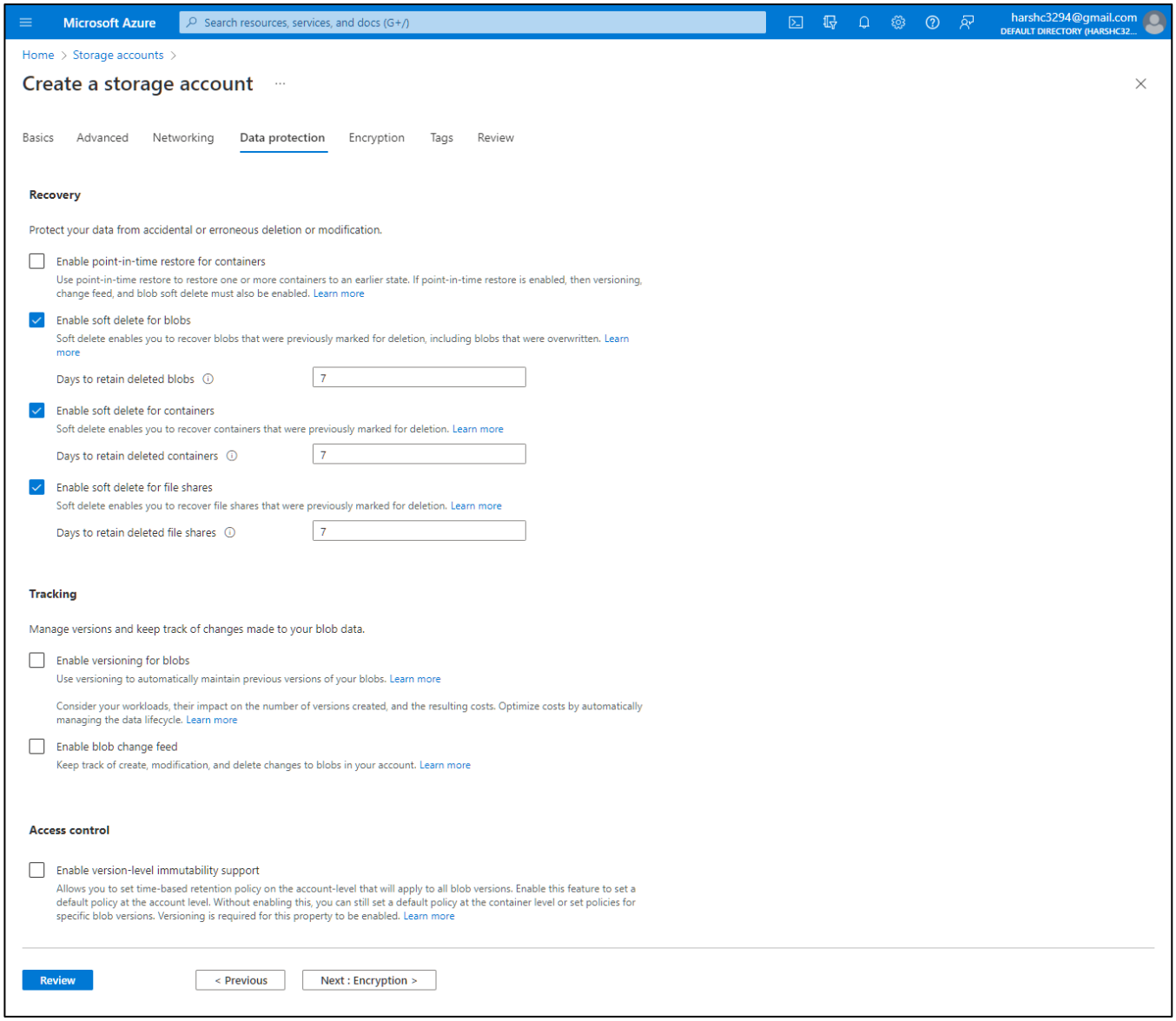
Home > Storage accounts >
Create a storage account
Basics Advanced Networking Data protection Encryption Tags Review
Network connectivity
You can connect to your storage account either publicly, via public IP addresses or service endpoints, or privately, using a private endpoint.
Network access *
Enable public access from all networks
Enable public access from selected virtual networks and IP addresses
Disable public access and use private access
Enabling public access from all networks might make this resource available publicly. Unless public access is required, we recommend using a more restricted access type. Learn more
Network routing
Determine how to route your traffic as it travels from the source to its Azure endpoint. Microsoft network routing is recommended for most customers.
Routing preference *
Microsoft network routing
Internet routing
Review
< Previous
Next : Data protection >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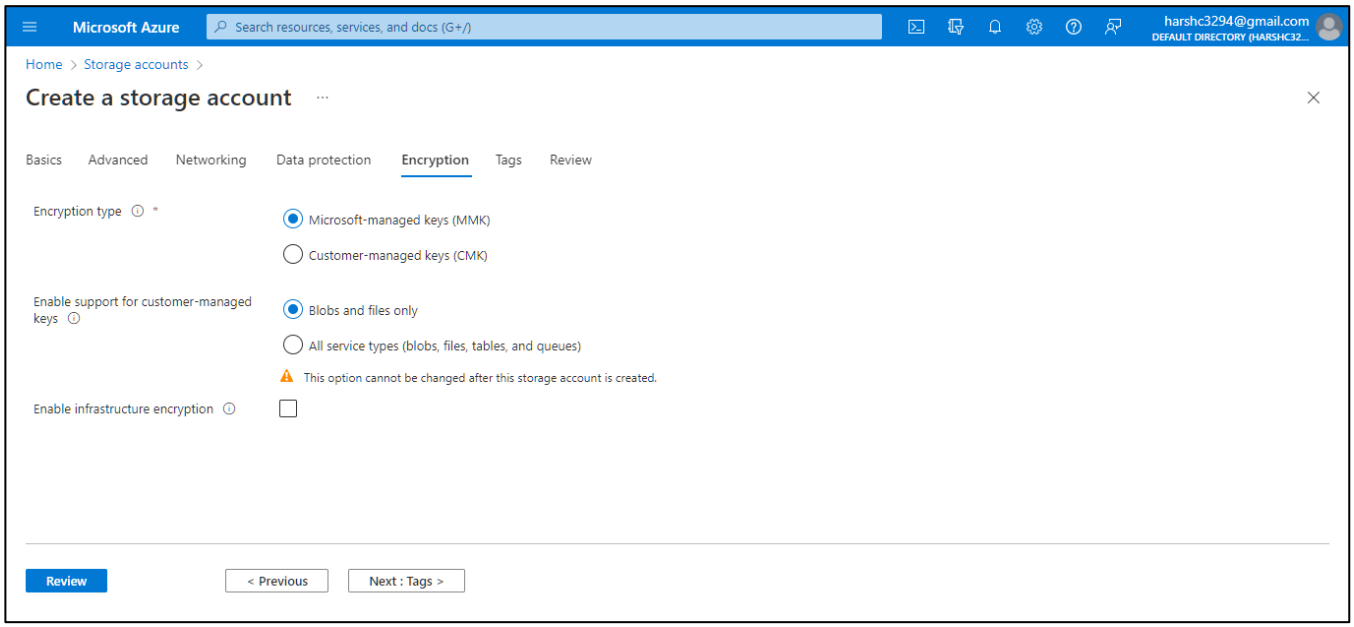
Home > Storage accounts >
Create a storage account
Basics Advanced Networking Data protection Encryption Tags Review
Recovery
Protect your data from accidental or erroneous deletion or modification.
Enable point-in-time restore for containers
Use point-in-time restore to restore one or more containers to an earlier state. If point-in-time restore is enabled, then versioning, change feed, and blob soft delete must also be enabled. Learn more
Enable soft delete for blobs
Soft delete enables you to recover blobs that were previously marked for deletion, including blobs that were overwritten. Learn more
Days to retain deleted blobs 7
Enable soft delete for containers
Soft delete enables you to recover containers that were previously marked for deletion. Learn more
Days to retain deleted containers 7
Enable soft delete for file shares
Soft delete enables you to recover file shares that were previously marked for deletion. Learn more
Days to retain deleted file shares 7
Tracking
Manage versions and keep track of changes made to your blob data.
Enable versioning for blobs
Use versioning to automatically maintain previous versions of your blobs. Learn more
Consider your workloads, their impact on the number of versions created, and the resulting costs. Optimize costs by automatically managing the data lifecycle. Learn more
Enable blob change feed
Keep track of create, modification, and delete changes to blobs in your account. Learn more
Access control
Enable version-level immutability support
Allows you to set time-based retention policy on the account-level that will apply to all blob versions. Enable this feature to set a default policy at the account level. Without enabling this, you can still set a default policy at the container level or set policies for specific blob versions. Versioning is required for this property to be enabled. Learn more
Review
< Previous
Next : Encryption >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harshc3294@gmail.com
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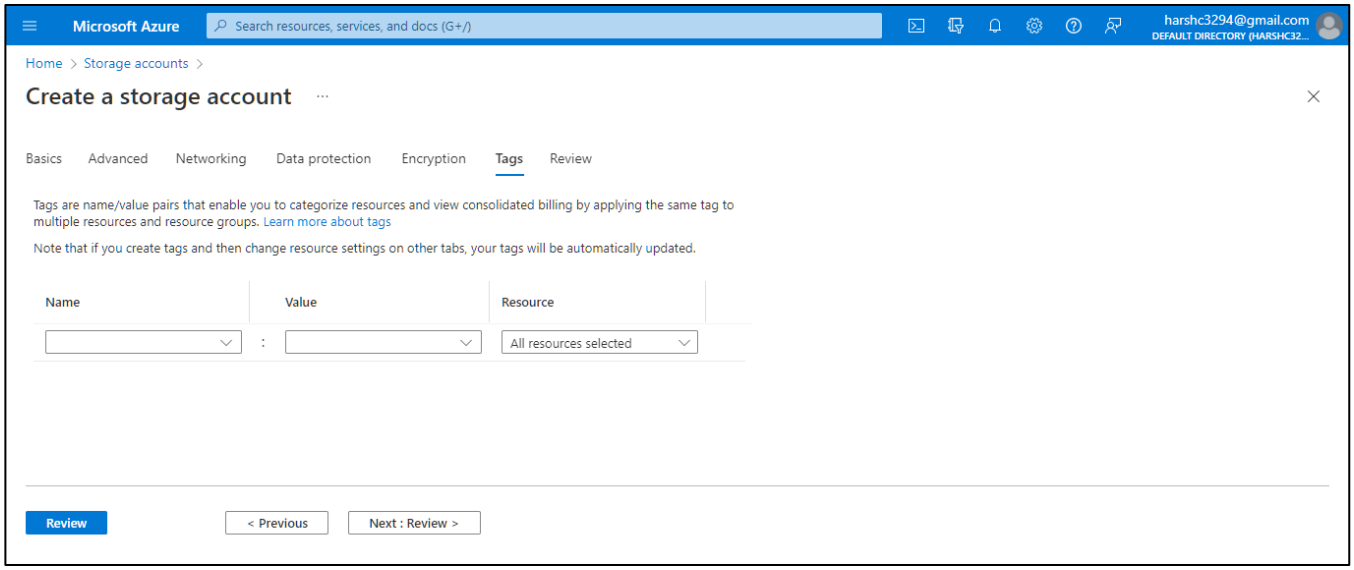
Home > Storage accounts >
Create a storage account
Basics Advanced Networking Data protection Encryption Tags Review
Encryption type *
Microsoft-managed keys (MMK)
Customer-managed keys (CMK)
Enable support for customer-managed keys
Blobs and files only
All service types (blobs, files, tables, and queues)
This option cannot be changed after this storage account is created.
Enable infrastructure encryption
Review
< Previous
Next : Tags >


Microsoft Azure
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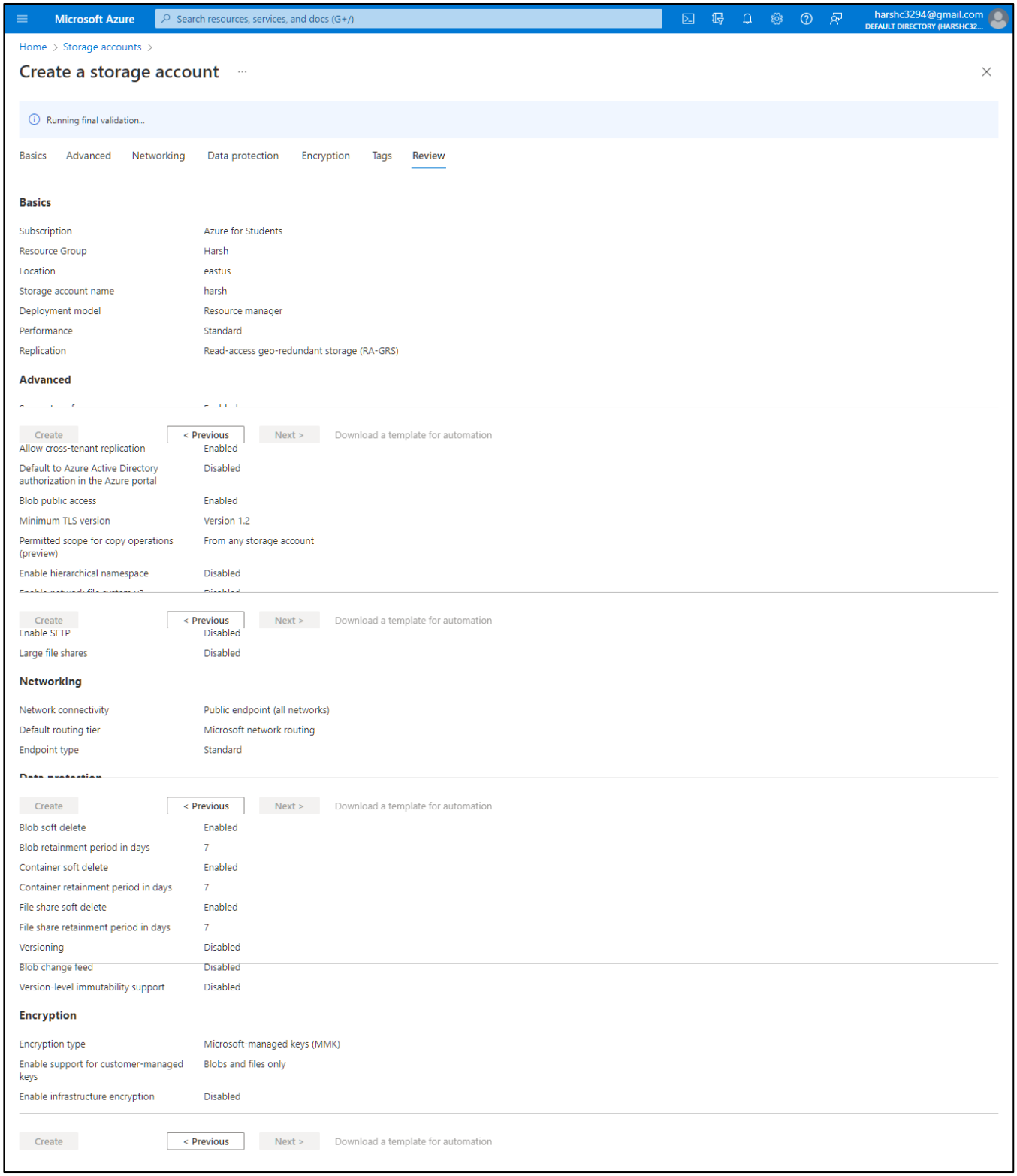
harshc3294@gmail.com
DEFAULT DIRECTORY (HARSHC32...
Home > Storage accounts >
Create a storage account
Basics Advanced Networking Data protection Encryption Tags Review
Tags are name/value pairs that enable you to categorize resources and view consolidated billing by applying the same tag to multiple resources and resource groups. Learn more about tags
Note that if you create tags and then change resource settings on other tabs, your tags will be automatically updated.
Name
Value
Resource
All resources selected
Review
< Previous
Next : Review >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DEFAULT DIRECTORY (HARSHC32...
Home > Storage accounts >
Create a storage account
Running final validation...
Basics Advanced Networking Data protection Encryption Tags Review
Basics
Subscription Azure for Students
Resource Group Harsh
Location eastus
Storage account name harsh
Deployment model Resource manager
Performance Standard
Replication Read-access geo-redundant storage (RA-GRS)
Advanced
Create < Previous Next > Download a template for automation
Allow cross-tenant replication Enabled
Default to Azure Active Directory authorization in the Azure portal Disabled
Blob public access Enabled
Minimum TLS version Version 1.2
Permitted scope for copy operations (preview) From any storage account
Enable hierarchical namespace Disabled
Create < Previous Next > Download a template for automation
Enable SFTP Disabled
Large file shares Disabled
Networking
Network connectivity Public endpoint (all networks)
Default routing tier Microsoft network routing
Endpoint type Standard
Create < Previous Next > Download a template for automation
Blob soft delete Enabled
Blob retainment period in days 7
Container soft delete Enabled
Container retainment period in days 7
File share soft delete Enabled
File share retainment period in days 7
Versioning Disabled
Blob change feed Disabled
Version-level immutability support Disabled
Encryption
Encryption type Microsoft-managed keys (MMK)
Enable support for customer-managed keys Blobs and files only
Enable infrastructure encryption Disabled
Create < Previous Next > Download a template for automation

Practical 4

Aim: Demonstration of PaaS cloud

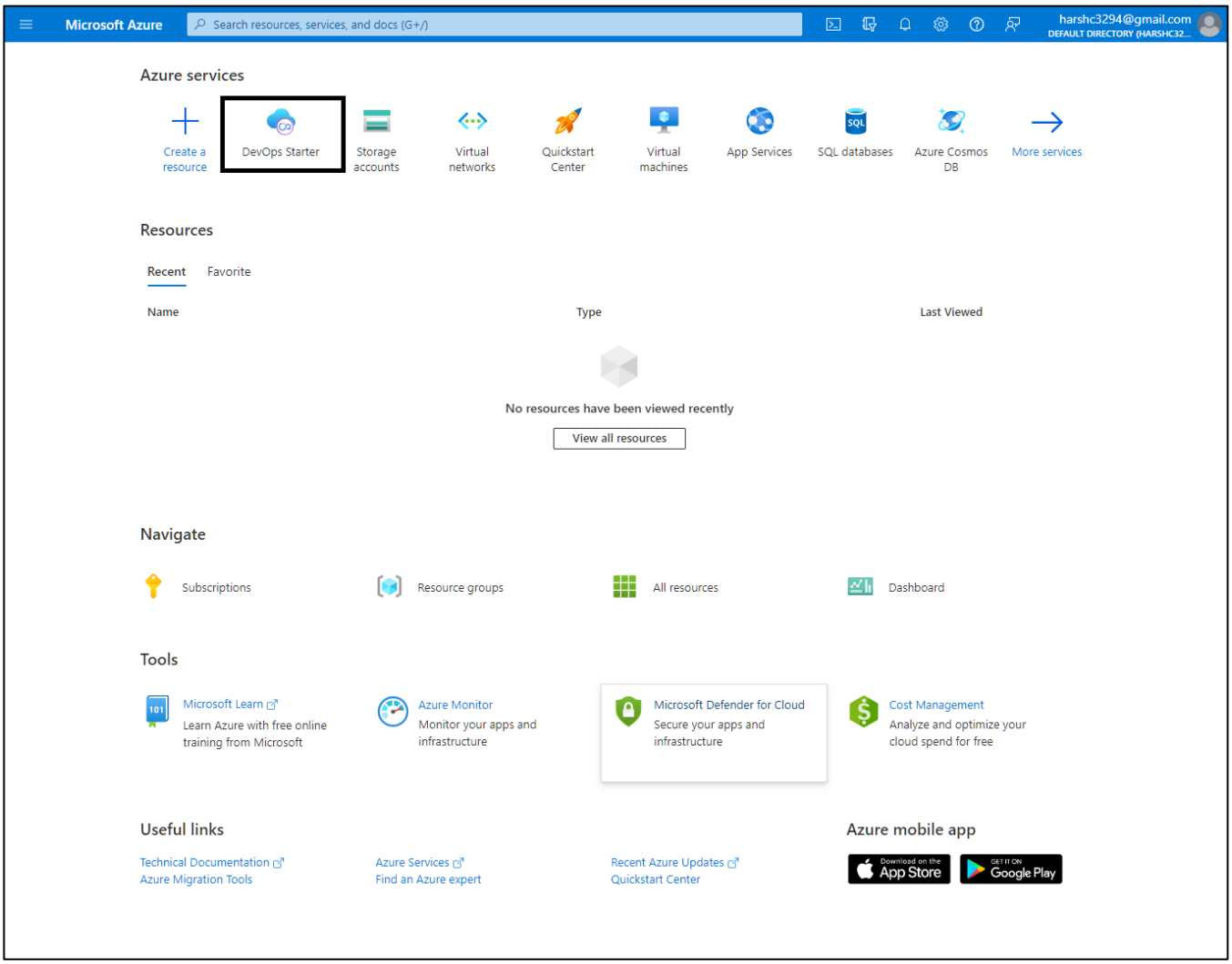
Code:

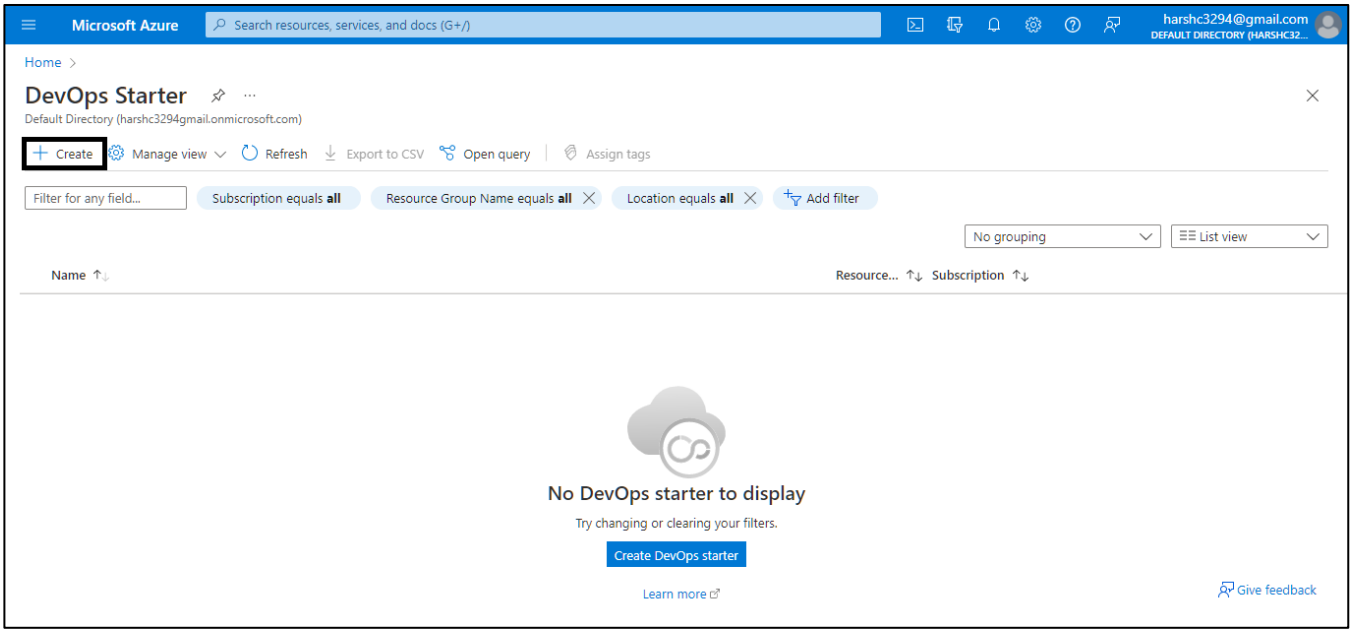
Deploy Node.js app to Azure Web App using DevOps Starter for GitHub Actions

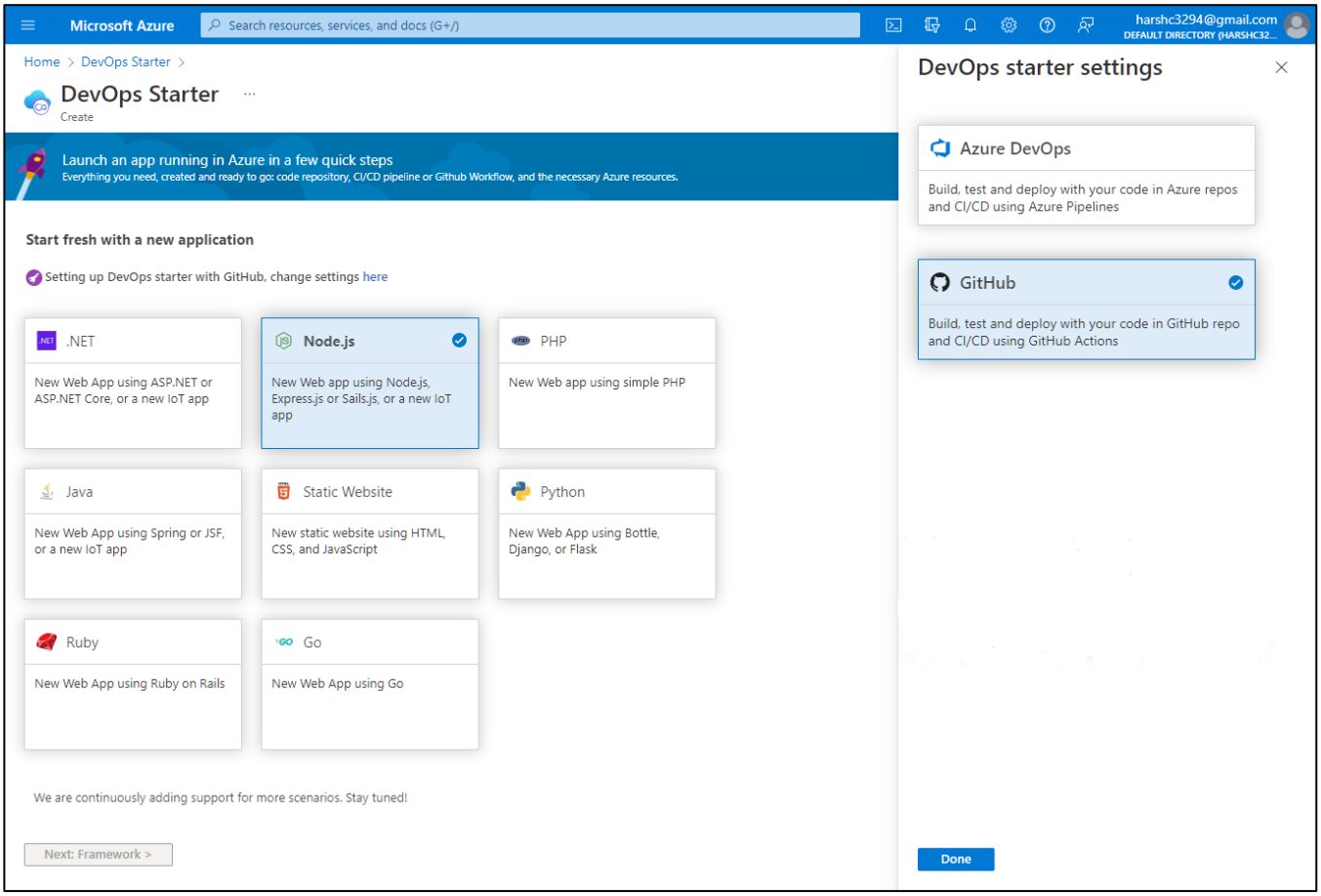
Use DevOps Starter to deploy a Node.js app

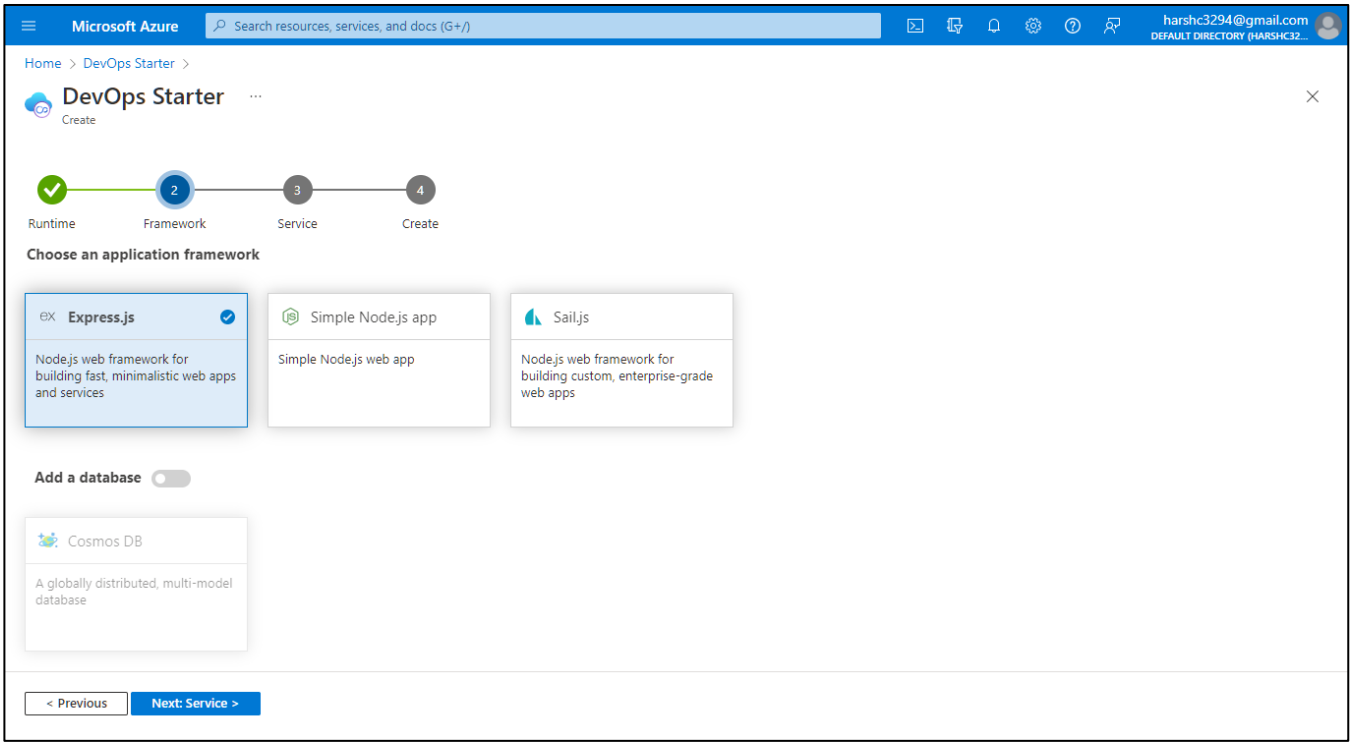
DevOps Starter creates a workflow in GitHub. You can use an existing GitHub organization. DevOps Starter also creates Azure resources such as Web App in the Azure subscription of your choice.

1. **Sign in to the Azure portal.**
2. **In the search box, type DevOps Starter, and then select. Click on Add to create a new one.**




Microsoft Azure
Search resources, services, and docs (G+/)
harshc3294@gmail.com
DEFAULT DIRECTORY (HARSHC32...
Home
DevOps Starter
Default Directory (harshc3294gmail.onmicrosoft.com)
Create
Manage view
Refresh
Export to CSV
Open query
Assign tags
Filter for any field...
Subscription equals all
Resource Group Name equals all
Location equals all
Add filter
No grouping
List view
Name
Resource...
Subscription
No DevOps starter to display
Try changing or clearing your filters.
Create DevOps starter
Learn more
Give feedback


Microsoft Azure
Search resources, services, and docs (G+/)
harshc3294@gmail.com
DEFAULT DIRECTORY (HARSHC32...
Home
DevOps Starter
DevOps Starter
Create
Launch an app running in Azure in a few quick steps
Everything you need, created and ready to go: code repository, CI/CD pipeline or Github Workflow, and the necessary Azure resources.
Start fresh with a new application
Setting up DevOps starter with GitHub, change settings here
.NET
New Web App using ASP.NET or ASP.NET Core, or a new IoT app
Node.js
New Web app using Node.js, Express.js or Sails.js, or a new IoT app
PHP
New Web app using simple PHP
Java
New Web App using Spring or JSF, or a new IoT app
Static Website
New static website using HTML, CSS, and JavaScript
Python
New Web App using Bottle, Django, or Flask
Ruby
New Web App using Ruby on Rails
Go
New Web App using Go
We are continuously adding support for more scenarios. Stay tuned!
Next: Framework >
DevOps starter settings
Azure DevOps
Build, test and deploy with your code in Azure repos and CI/CD using Azure Pipelines
GitHub
Build, test and deploy with your code in GitHub repo and CI/CD using GitHub Actions
Done


Microsoft Azure
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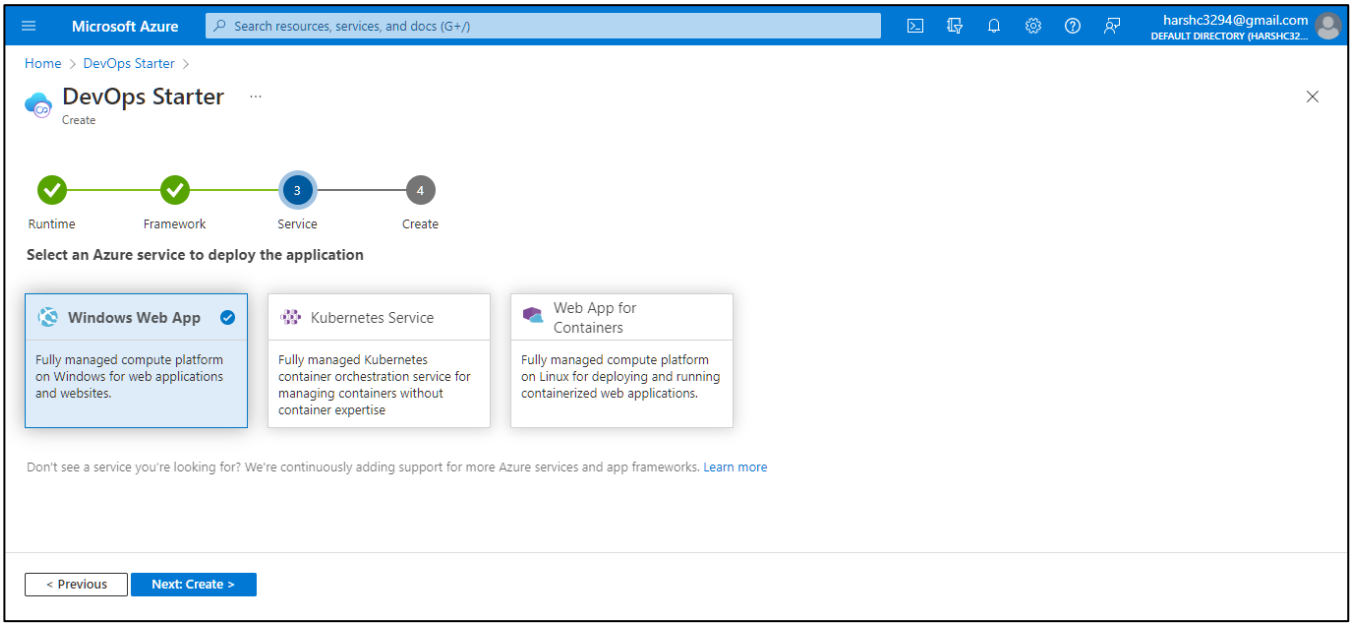
DEFAULT DIRECTORY (HARSHC32...
Home > DevOps Starter >
DevOps Starter
Create
Runtime
Framework
Service
Create
Choose an application framework
Express.js
Node.js web framework for building fast, minimalistic web apps and services
Simple Node.js app
Simple Node.js web app
Sail.js
Node.js web framework for building custom, enterprise-grade web apps
Add a database
Cosmos DB
A globally distributed, multi-model database
< Previous
Next: Service >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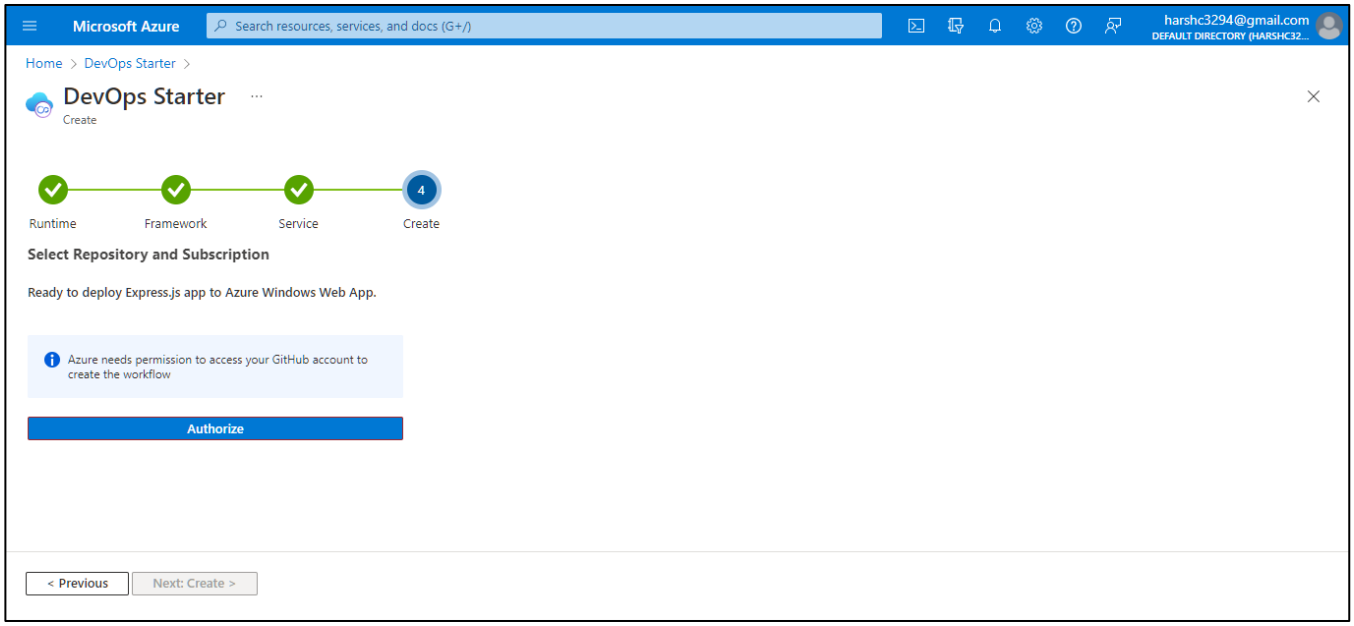
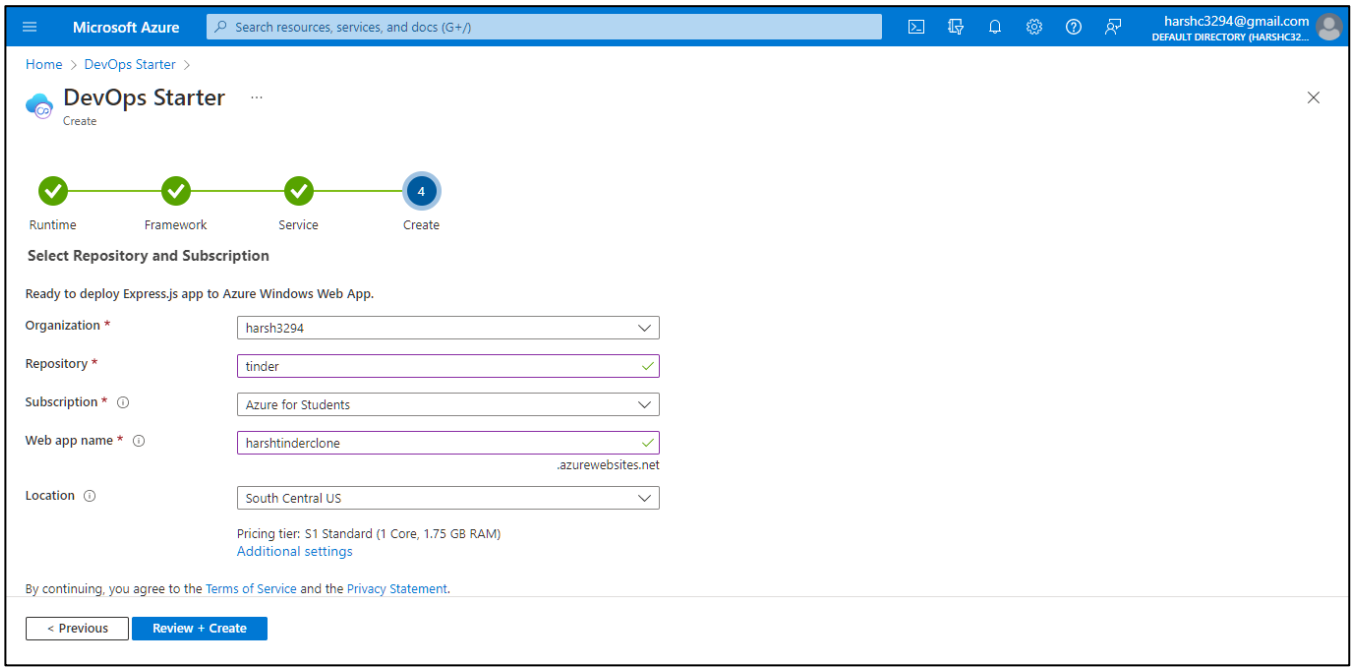
DEFAULT DIRECTORY (HARSHC32...
Home > DevOps Starter >
DevOps Starter
Create
Runtime
Framework
Service
Create
Select an Azure service to deploy the application
Windows Web App
Fully managed compute platform on Windows for web applications and websites.
Kubernetes Service
Fully managed Kubernetes container orchestration service for managing containers without container expertise
Web App for Containers
Fully managed compute platform on Linux for deploying and running containerized web applications.
Don't see a service you're looking for? We're continuously adding support for more Azure services and app frameworks. Learn more
< Previous
Next: Create >


Microsoft Azure
Search resources, services, and docs (G+/)
harshc3294@gmail.com
DEFAULT DIRECTORY (HARSHC32...
Home > DevOps Starter >
DevOps Starter
Create
Runtime
Framework
Service
4
Create
Select Repository and Subscription
Ready to deploy Express.js app to Azure Windows Web App.
Azure needs permission to access your GitHub account to create the workflow
Authorize
< Previous
Next: Create >


Microsoft Azure
Search resources, services, and docs (G+/)
harshc3294@gmail.com
DEFAULT DIRECTORY (HARSHC32...
Home > DevOps Starter >
DevOps Starter
Create
Runtime
Framework
Service
4
Create
Select Repository and Subscription
Ready to deploy Express.js app to Azure Windows Web App.
Organization *
harsh3294
Repository *
tinder
Subscription *
Azure for Students
Web app name *
harshtinderclone
.azurewebsites.net
Location
South Central US
Pricing tier: S1 Standard (1 Core, 1.75 GB RAM)
Additional settings
By continuing, you agree to the Terms of Service and the Privacy Statement.
< Previous
Review + Create

Practical 5

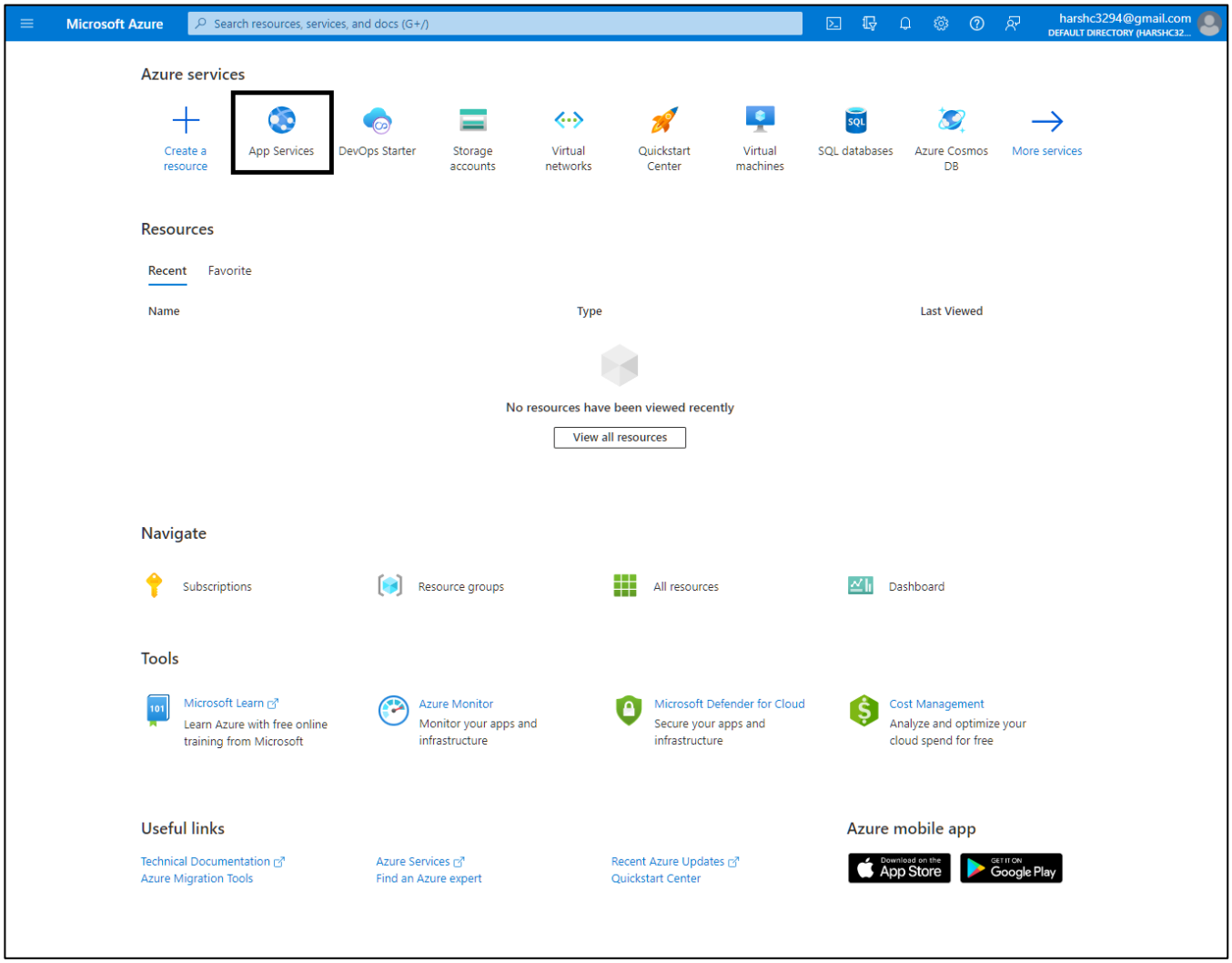
Aim: Demonstration of SaaS cloud

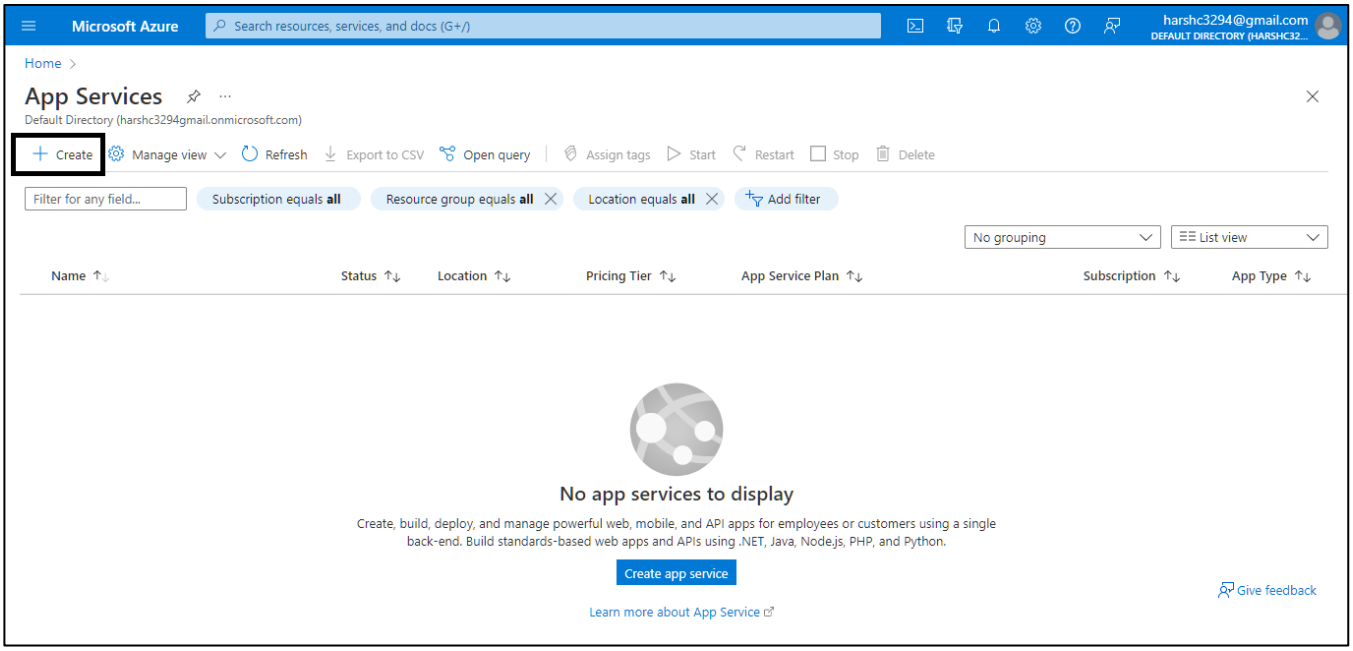
Code:

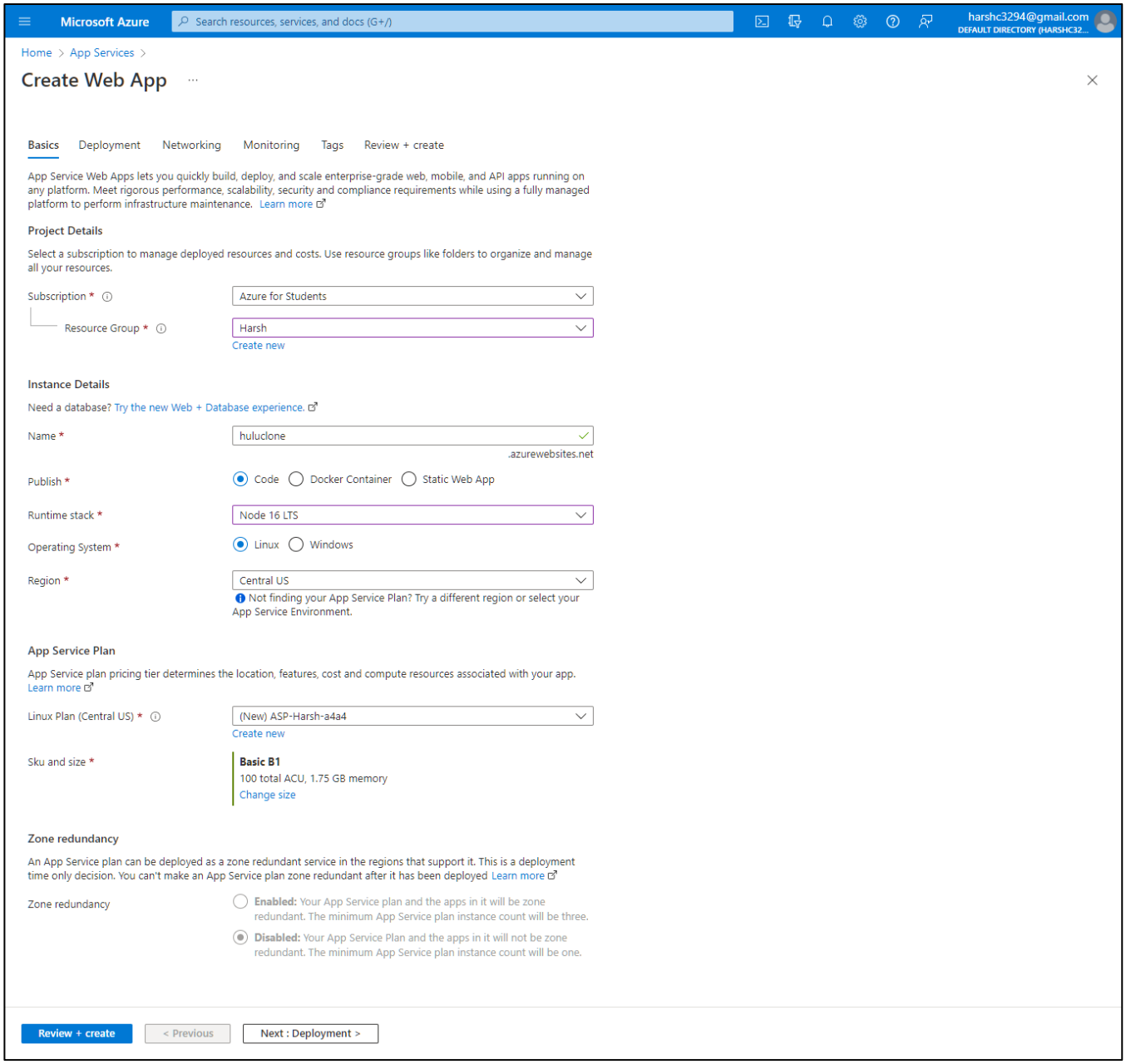
Manage the Azure app

To manage your web app, go to the Azure portal, and search for and select App Services.

On the **App Services** page, select the name of your web app.




Microsoft Azure
Search resources, services, and docs (G+/)
harshc3294@gmail.com
DEFAULT DIRECTORY (HARSHC32...
Home
App Services
Default Directory (harshc3294gmail.onmicrosoft.com)
Create
Manage view
Refresh
Export to CSV
Open query
Assign tags
Start
Restart
Stop
Delete
Filter for any field...
Subscription equals all
Resource group equals all
Location equals all
Add filter
No grouping
List view
Name
Status
Location
Pricing Tier
App Service Plan
Subscription
App Type
No app services to display
Create, build, deploy, and manage powerful web, mobile, and API apps for employees or customers using a single back-end. Build standards-based web apps and APIs using .NET, Java, Node.js, PHP, and Python.
Create app service
Learn more about App Service
Give feedback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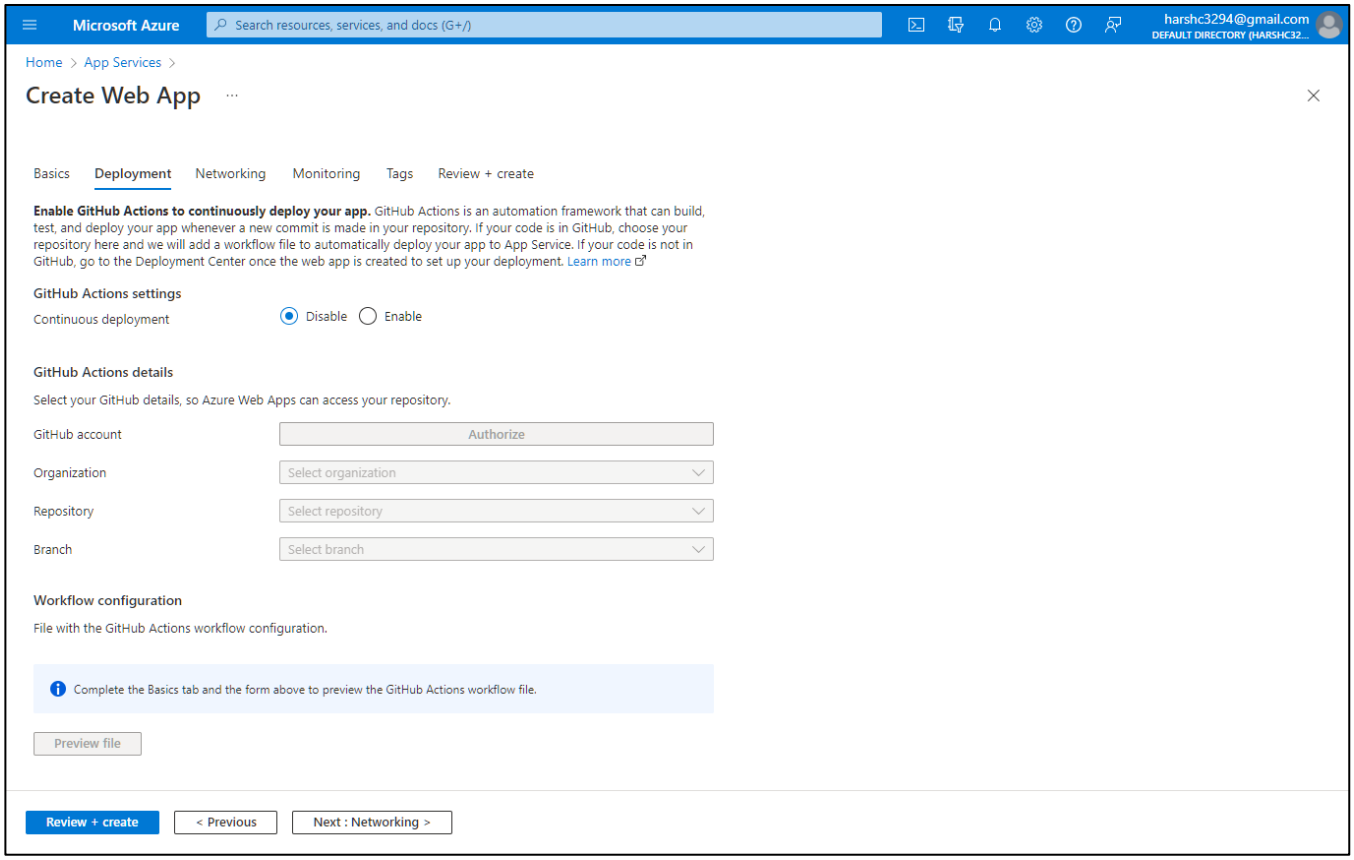
Home > App Services >
Create Web App
Basics Deployment Networking Monitoring Tags Review + create
App Service Web Apps lets you quickly build, deploy, and scale enterprise-grade web, mobile, and API apps running on any platform. Meet rigorous performance, scalability, security and compliance requirements while using a fully managed platform to perform infrastructure maintenance. Learn more
Project Details
Select a subscription to manage deployed resources and costs. Use resource groups like folders to organize and manage all your resources.
Subscription * Azure for Students
Resource Group * Harsh
Create new
Instance Details
Need a database? Try the new Web + Database experience.
Name * huluclone
.azurewebsites.net
Publish * Code Docker Container Static Web App
Runtime stack * Node 16 LTS
Operating System * Linux Windows
Region * Central US
Not finding your App Service Plan? Try a different region or select your App Service Environment.
App Service Plan
App Service plan pricing tier determines the location, features, cost and compute resources associated with your app.
Learn more
Linux Plan (Central US) * (New) ASP-Harsh-a4a4
Create new
Sku and size * Basic B1
100 total ACU, 1.75 GB memory
Change size
Zone redundancy
An App Service plan can be deployed as a zone redundant service in the regions that support it. This is a deployment time only decision. You can't make an App Service plan zone redundant after it has been deployed Learn more
Zone redundancy
Enabled: Your App Service plan and the apps in it will be zone redundant. The minimum App Service plan instance count will be three.
Disabled: Your App Service Plan and the apps in it will not be zone redundant. The minimum App Service plan instance count will be one.
Review + create
< Previous
Next : Deployment >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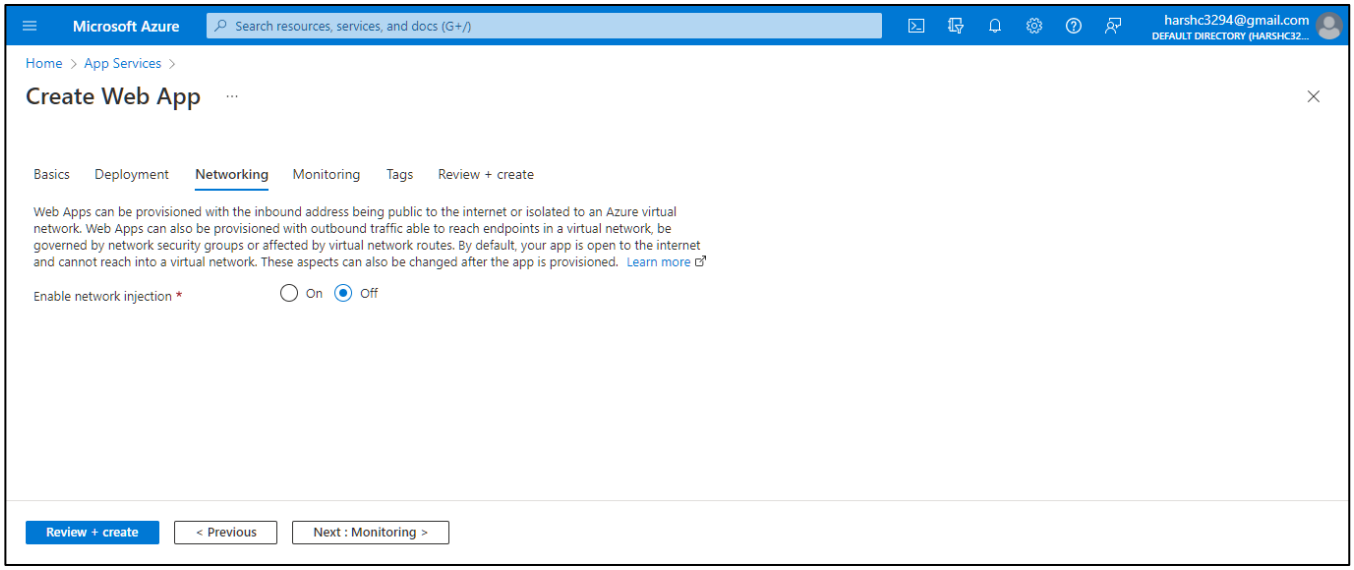
Home > App Services >
Create Web App
Basics Deployment Networking Monitoring Tags Review + create
Enable GitHub Actions to continuously deploy your app. GitHub Actions is an automation framework that can build, test, and deploy your app whenever a new commit is made in your repository. If your code is in GitHub, choose your repository here and we will add a workflow file to automatically deploy your app to App Service. If your code is not in GitHub, go to the Deployment Center once the web app is created to set up your deployment. Learn more
GitHub Actions settings
Continuous deployment
Disable
Enable
GitHub Actions details
Select your GitHub details, so Azure Web Apps can access your repository.
GitHub account
Authorize
Organization
Select organization
Repository
Select repository
Branch
Select branch
Workflow configuration
File with the GitHub Actions workflow configuration.
Complete the Basics tab and the form above to preview the GitHub Actions workflow file.
Preview file
Review + create
< Previous
Next : Networking >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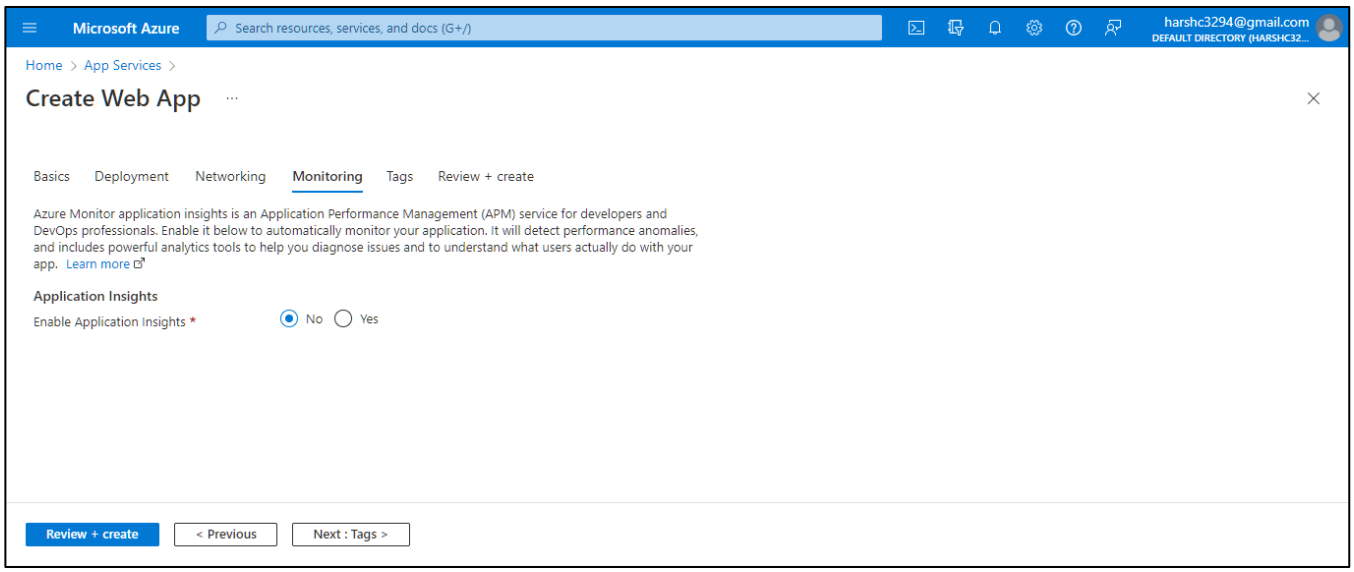
Home > App Services >
Create Web App
Basics Deployment Networking Monitoring Tags Review + create
Web Apps can be provisioned with the inbound address being public to the internet or isolated to an Azure virtual network. Web Apps can also be provisioned with outbound traffic able to reach endpoints in a virtual network, be governed by network security groups or affected by virtual network routes. By default, your app is open to the internet and cannot reach into a virtual network. These aspects can also be changed after the app is provisioned. Learn more
Enable network injection *
On
Off
Review + create
< Previous
Next : Monitoring >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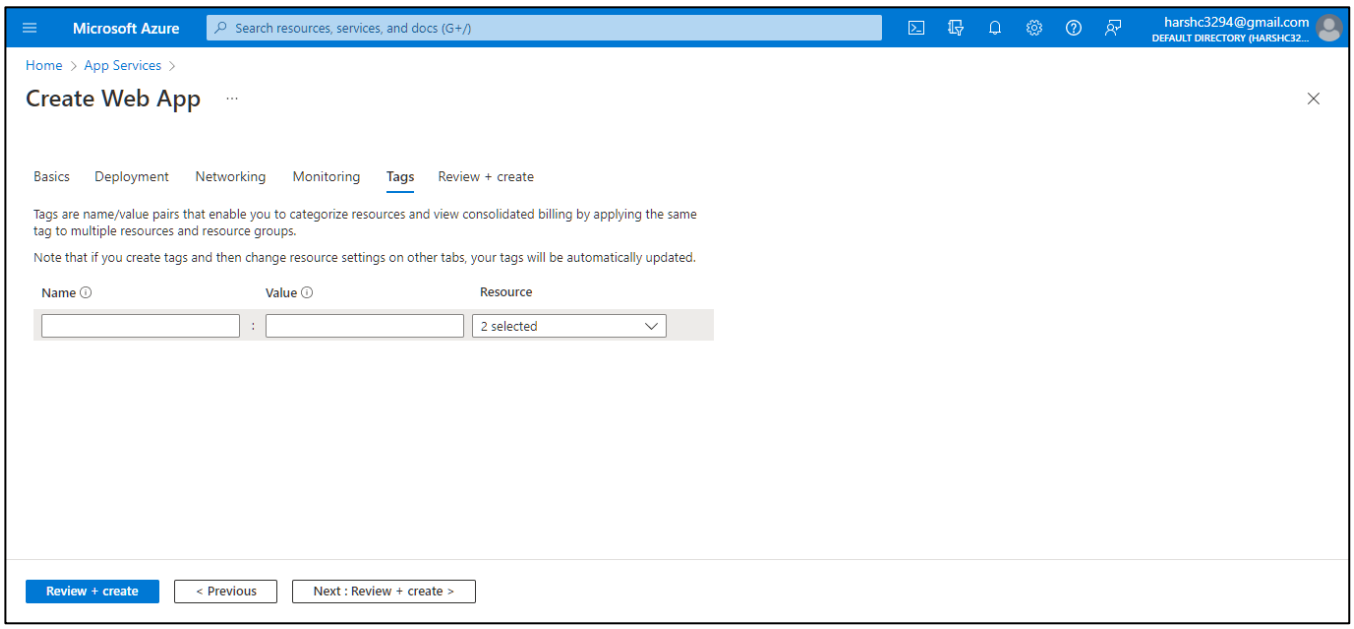
Home > App Services >
Create Web App
Basics Deployment Networking Monitoring Tags Review + create
Azure Monitor application insights is an Application Performance Management (APM) service for developers and DevOps professionals. Enable it below to automatically monitor your application. It will detect performance anomalies, and includes powerful analytics tools to help you diagnose issues and to understand what users actually do with your app. Learn more
Application Insights
Enable Application Insights *
No
Yes
Review + create
< Previous
Next : Tags >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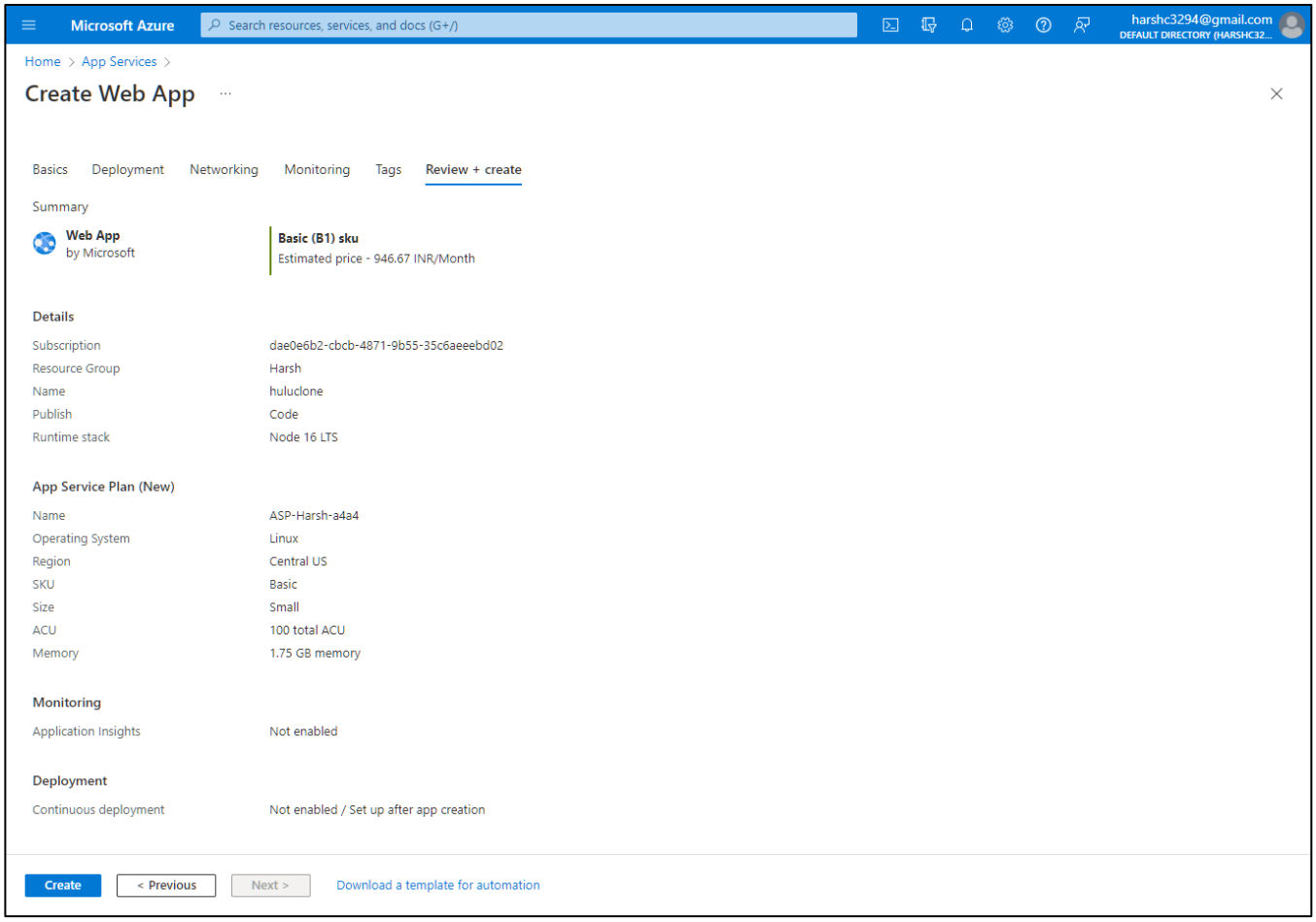
DEFAULT DIRECTORY (HARSHC32...
Home > App Services >
Create Web App
Basics Deployment Networking Monitoring Tags Review + create
Tags are name/value pairs that enable you to categorize resources and view consolidated billing by applying the same tag to multiple resources and resource groups.
Note that if you create tags and then change resource settings on other tabs, your tags will be automatically updated.
Name
Value
Resource
2 selected
Review + create
< Previous
Next : Review + create >


Microsoft Azure
Search resources, services, and docs (G+/)
harshc3294@gmail.com
DEFAULT DIRECTORY (HARSHC32...
Home > App Services >
Create Web App
Basics Deployment Networking Monitoring Tags Review + create
Summary
Web App
by Microsoft
Basic (B1) sku
Estimated price - 946.67 INR/Month
Details
Subscription dae0e6b2-cbcb-4871-9b55-35c6aeeebd02
Resource Group Harsh
Name huluclone
Publish Code
Runtime stack Node 16 LTS
App Service Plan (New)
Name ASP-Harsh-a4a4
Operating System Linux
Region Central US
SKU Basic
Size Small
ACU 100 total ACU
Memory 1.75 GB memory
Monitoring
Application Insights Not enabled
Deployment
Continuous deployment Not enabled / Set up after app creation
Create
< Previous
Next >
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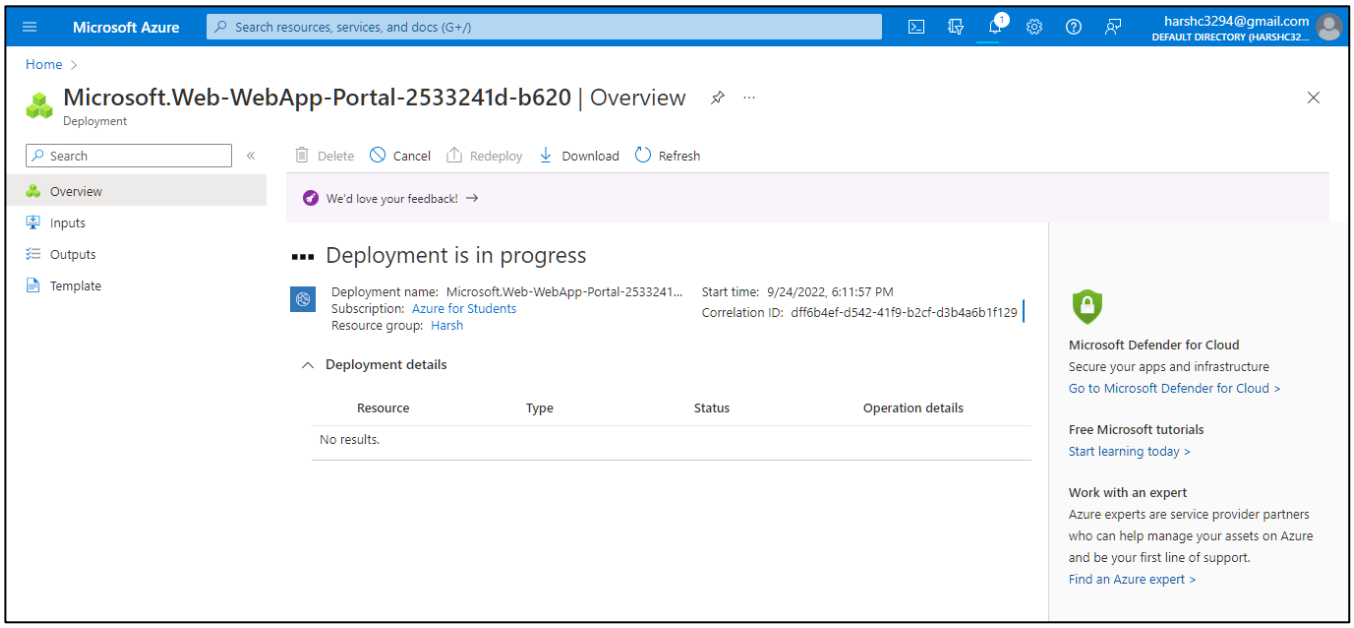
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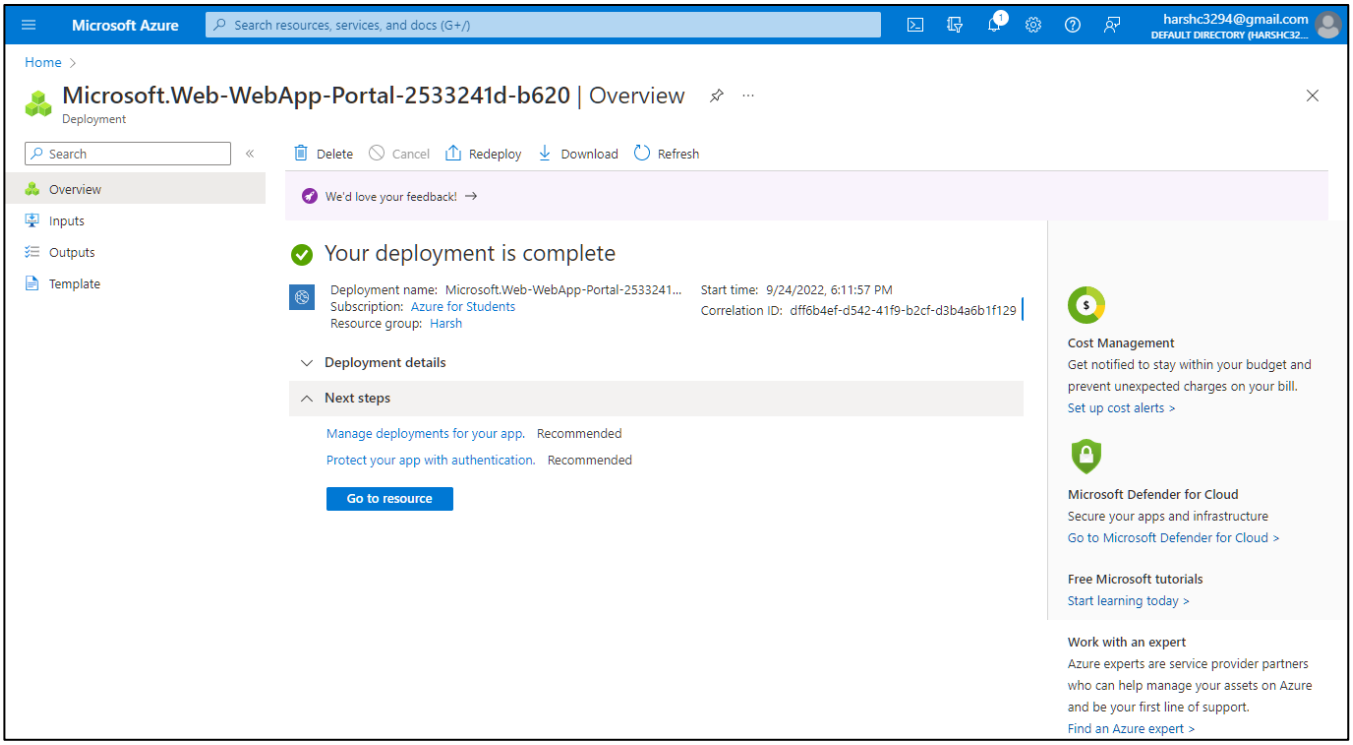
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