1. Write a shell program to find if the inputted year is leap or not.(10 Marks)

```
root@NSPL-LAPTOP:/home/Linux_exam# touch leap.sh
root@NSPL-LAPTOP:/home/Linux_exam# vim leap.sh
root@NSPL-LAPTOP:/home/Linux_exam# cat leap.sh
#!/bin/bash
# Question 1
echo "Please enter year: "
read year
if [[ ( $((year % 100)) -eq 0 ) && ( $((year % 400)) -eq 0 ) || ( $((year % 4)) -eq 0 ) ]]
then
        echo "The entered year $year is leap year."
else
        echo "The entered year $year is not a leap year."
fi

root@NSPL-LAPTOP:/home/Linux_exam# bash leap.sh
Please enter year:
2000
The entered year 2000 is leap year.
root@NSPL-LAPTOP:/home/Linux_exam# bash leap.sh
Please enter year:
2022
The entered year 2022 is not a leap year.
```

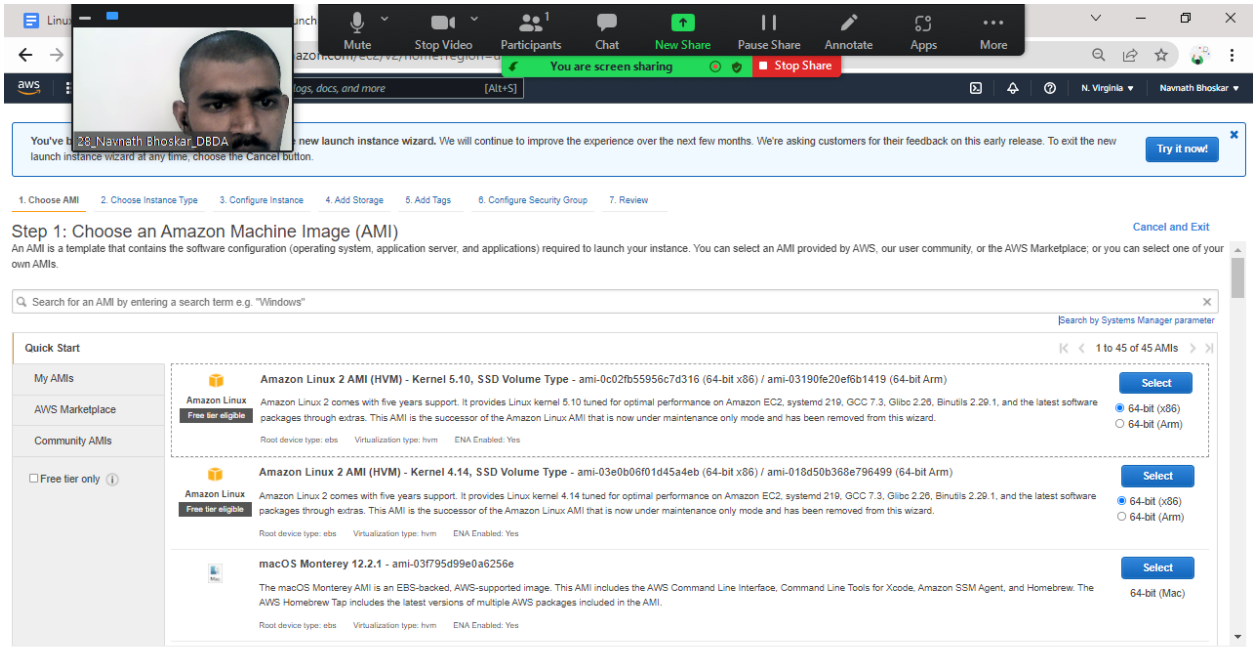
2. Write a shell program to find the greatest number of given 3 numbers.(10 Marks)

```
root@NSPL-LAPTOP:/home/Linux_exam# touch largest_number.sh
root@NSPL-LAPTOP:/home/Linux_exam# vim largest_number.sh
root@NSPL-LAPTOP:/home/Linux_exam# cat largest_number.sh

#!/bin/bash
a=30
b=20
c=10

num1=$a
num2=$b
num3=$c
if [[ $num1 -gt $um2 ]] && [[ $num1 -gt $um3 ]]
then
        echo "The 1st_number $num1 is largest."
elif [[ $num2 -gt $um1 ]] && [[ $num2 -gt $um3 ]]
then
        echo "The 2nd_number $num2 is largest."
else
        echo "The 3rd_number $num3 is largest."
fi
root@NSPL-LAPTOP:/home/Linux_exam# bash largest_number.sh
The 1st_number 30 is largest.

root@NSPL-LAPTOP:/home/Linux_exam# cat largest_number.sh
#!/bin/bash
#Q.2 Write a shell program to find the greatest number of given 3 numbers.(10 Mark)
echo "Enter 1st number: "
read num1
echo "Enter 2nd number: "
read num2
echo "Enter 3rd number: "
read num3
if [[ $num1 -gt $um2 ]] && [[ $num1 -gt $um3 ]]
then
        echo "The 1st_number $num1 is largest."
elif [[ $num2 -gt $um1 ]] && [[ $num2 -gt $um3 ]]
then
        echo "The 2nd_number $num2 is largest."
else
```

```
        echo "The 3rd_number $num3 is largest."
fi

root@NSPL-LAPTOP:/home/Linux_exam# bash largest_number.sh
Enter 1st number:
30
Enter 2nd number:
20
Enter 3rd number:
10
The 1st_number 30 is largest.
```

3. Create a Linux EC2 and access the EC2 through putty on your system using .pem file (20 Marks)

Step 1: Choose an Amazon Machine Image (AMI)


Mute
Stop Video
Participants
Chat
New Share
Pause Share
Annotate
Apps
More
You are screen sharing
Stop Share
28_Navnath Bhoskar_DBDA
Try it now!
1. Choose AMI
2. Choose Instance Type
3. Configure Instance
4. Add Storage
5. Add Tags
6. Configure Security Group
7. Review
Step 1: Choose an Amazon Machine Image (AMI)
Cancel and Exit
An AMI is a template that contains the software configuration (operating system, application server, and applications) required to launch your instance. You can select an AMI provided by AWS, our user community, or the AWS Marketplace; or you can select one of your own AMIs.
Search for an AMI by entering a search term e.g. "Windows"
Search by Systems Manager parameter
Quick Start
1 to 45 of 45 AMIs
My AMIs
AWS Marketplace
Community AMIs
Free tier only
Amazon Linux 2 AMI (HVM) - Kernel 5.10, SSD Volume Type - ami-0c02fb55956c7d316 (64-bit x86) / ami-03190fe20ef6b1419 (64-bit Arm)
Amazon Linux 2 comes with five years support. It provides Linux kernel 5.10 tuned for optimal performance on Amazon EC2, systemd 219, GCC 7.3, Glibc 2.26, Binutils 2.29.1, and the latest software packages through extras. This AMI is the successor of the Amazon Linux AMI that is now under maintenance only mode and has been removed from this wizard.
Root device type: ebs
Virtualization type: hvm
ENA Enabled: Yes
Select
64-bit (x86)
64-bit (Arm)
Amazon Linux 2 AMI (HVM) - Kernel 4.14, SSD Volume Type - ami-03e0b06f01d45a4eb (64-bit x86) / ami-018d50b368e796499 (64-bit Arm)
Amazon Linux 2 comes with five years support. It provides Linux kernel 4.14 tuned for optimal performance on Amazon EC2, systemd 219, GCC 7.3, Glibc 2.26, Binutils 2.29.1, and the latest software packages through extras. This AMI is the successor of the Amazon Linux AMI that is now under maintenance only mode and has been removed from this wizard.
Root device type: ebs
Virtualization type: hvm
ENA Enabled: Yes
Select
64-bit (x86)
64-bit (Arm)
macOS Monterey 12.2.1 - ami-03f795d99e0a6256e
The macOS Monterey AMI is an EBS-backed, AWS-supported image. This AMI includes the AWS Command Line Interface, Command Line Tools for Xcode, Amazon SSM Agent, and Homebrew. The AWS Homebrew Tap includes the latest versions of multiple AWS packages included in the AMI.
Root device type: ebs
Virtualization type: hvm
ENA Enabled: Yes
Select
64-bit (Mac)
Feedback
English (US)
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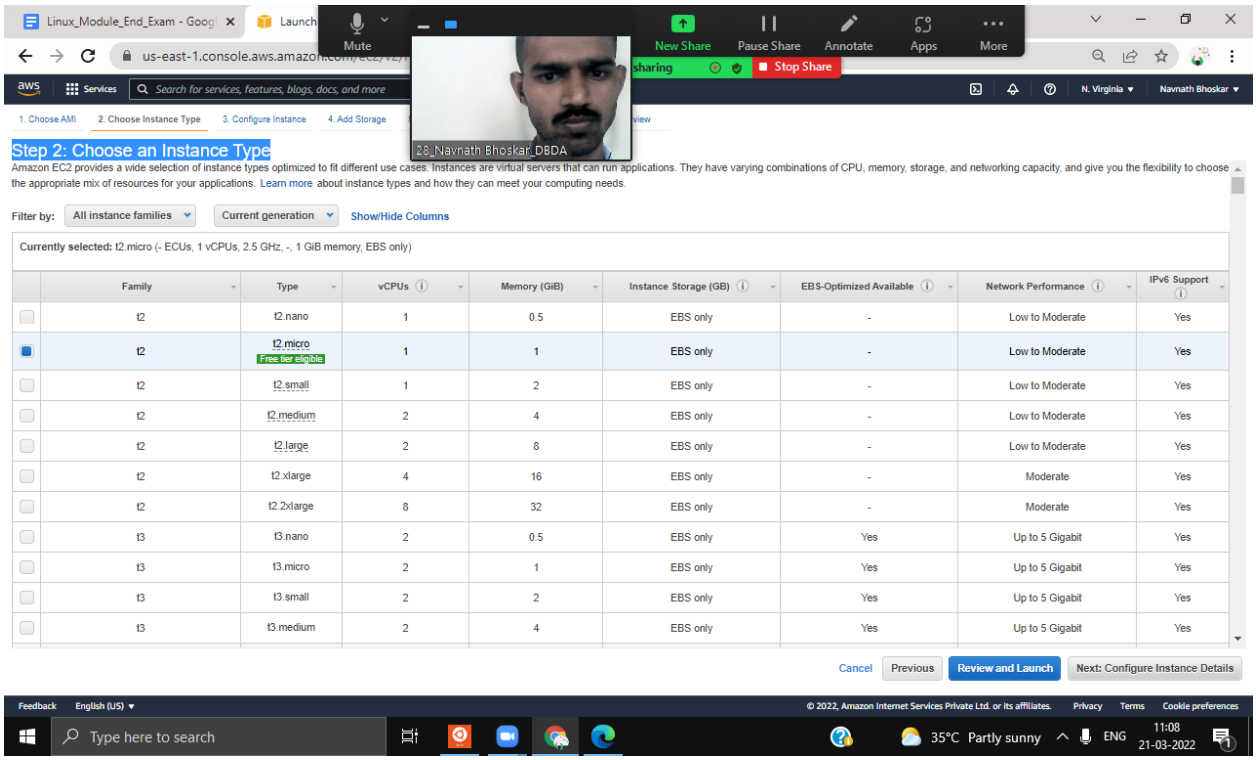
ENG
11:08
21-03-2022


Mute
New Share
Pause Share
Annotate
Apps
More
Stop Share
28_Navnath Bhoskar_DBDA
1. Choose AMI
2. Choose Instance Type
3. Configure Instance
4. Add Storage
Step 2: Choose an Instance Type
Amazon EC2 provides a wide selection of instance types optimized to fit different use cases. Instances are virtual servers that can run applications. They have varying combinations of CPU, memory, storage, and networking capacity, and give you the flexibility to choose the appropriate mix of resources for your applications. Learn more about instance types and how they can meet your computing needs.
Filter by:
All instance families
Current generation
Show/Hide Columns
Currently selected: t2.micro (- ECUs, 1 vCPUs, 2.5 GHz, -, 1 GiB memory, EBS only)
Family
Type
vCPUs
Memory (GiB)
Instance Storage (GB)
EBS-Optimized Available
Network Performance
IPv6 Support
t2 t2.nano 1 0.5 EBS only - Low to Moderate Yes
t2 t2.micro Free tier eligible 1 1 EBS only - Low to Moderate Yes
t2 t2.small 1 2 EBS only - Low to Moderate Yes
t2 t2.medium 2 4 EBS only - Low to Moderate Yes
t2 t2.large 2 8 EBS only - Low to Moderate Yes
t2 t2.xlarge 4 16 EBS only - Moderate Yes
t2 t2.2xlarge 8 32 EBS only - Moderate Yes
t3 t3.nano 2 0.5 EBS only Yes Up to 5 Gigabit Yes
t3 t3.micro 2 1 EBS only Yes Up to 5 Gigabit Yes
t3 t3.small 2 2 EBS only Yes Up to 5 Gigabit Yes
t3 t3.medium 2 4 EBS only Yes Up to 5 Gigabit Yes
Cancel
Previous
Review and Launch
Next: Configure Instance Details
Feedback
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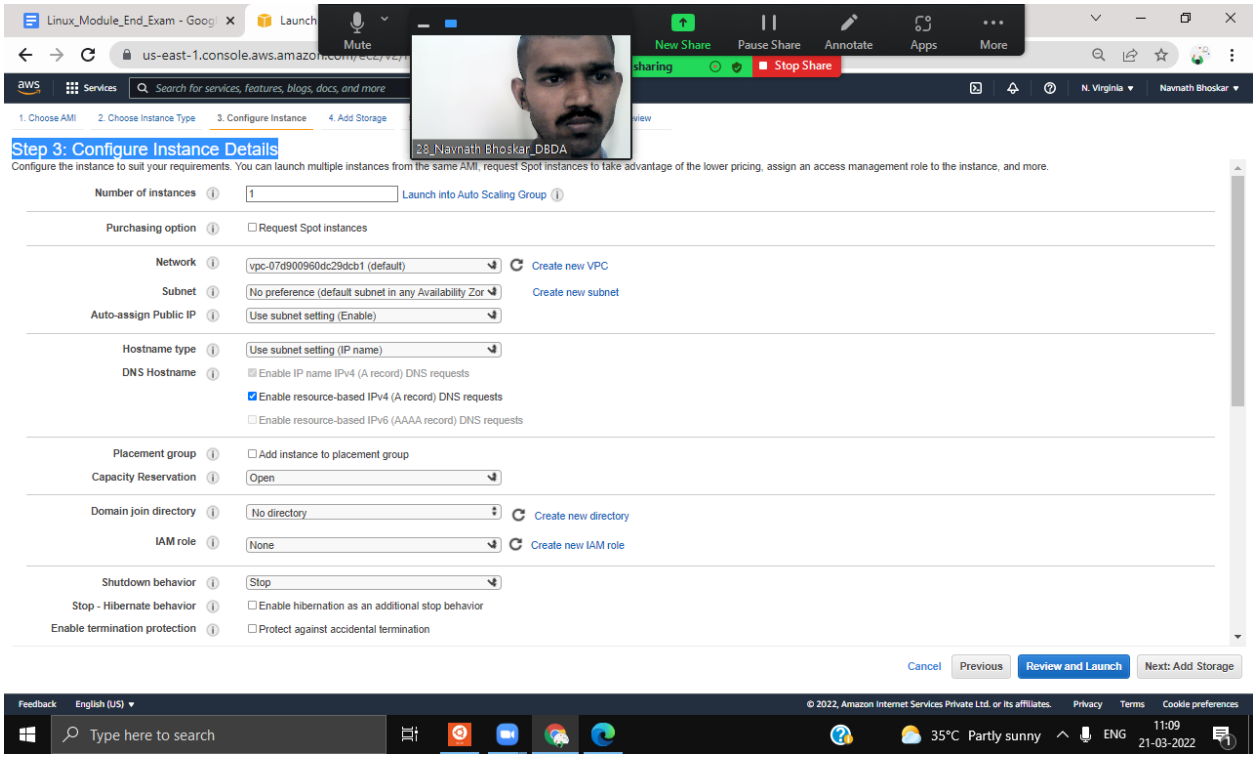
Linux_Module_End_Exam - Goog
Launch
Mute
New Share
Pause Share
Annotate
Apps
More
Stop Share
us-east-1.console.aws.amazon
Services
Search for services, features, blogs, docs, and more
N. Virginia
Navnath Bhoskar
1. Choose AMI
2. Choose Instance Type
3. Configure Instance
4. Add Storage
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Step 3: Configure Instance Details
Configure the instance to suit your requirements. You can launch multiple instances from the same AMI, request Spot instances to take advantage of the lower pricing, assign an access management role to the instance, and more.
Number of instances
1
Launch into Auto Scaling Group
Purchasing option
Request Spot instances
Network
vpc-07d900960dc29dcb1 (default)
Create new VPC
Subnet
No preference (default subnet in any Availability Zor
Create new subnet
Auto-assign Public IP
Use subnet setting (Enable)
Hostname type
Use subnet setting (IP name)
DNS Hostname
Enable IP name IPv4 (A record) DNS requests
Enable resource-based IPv4 (A record) DNS requests
Enable resource-based IPv6 (AAAA record) DNS requests
Placement group
Add instance to placement group
Capacity Reservation
Open
Domain join directory
No directory
Create new directory
IAM role
None
Create new IAM role
Shutdown behavior
Stop
Stop - Hibernate behavior
Enable hibernation as an additional stop behavior
Enable termination protection
Protect against accidental termination
Cancel
Previous
Review and Launch
Next: Add Storage
Feedback
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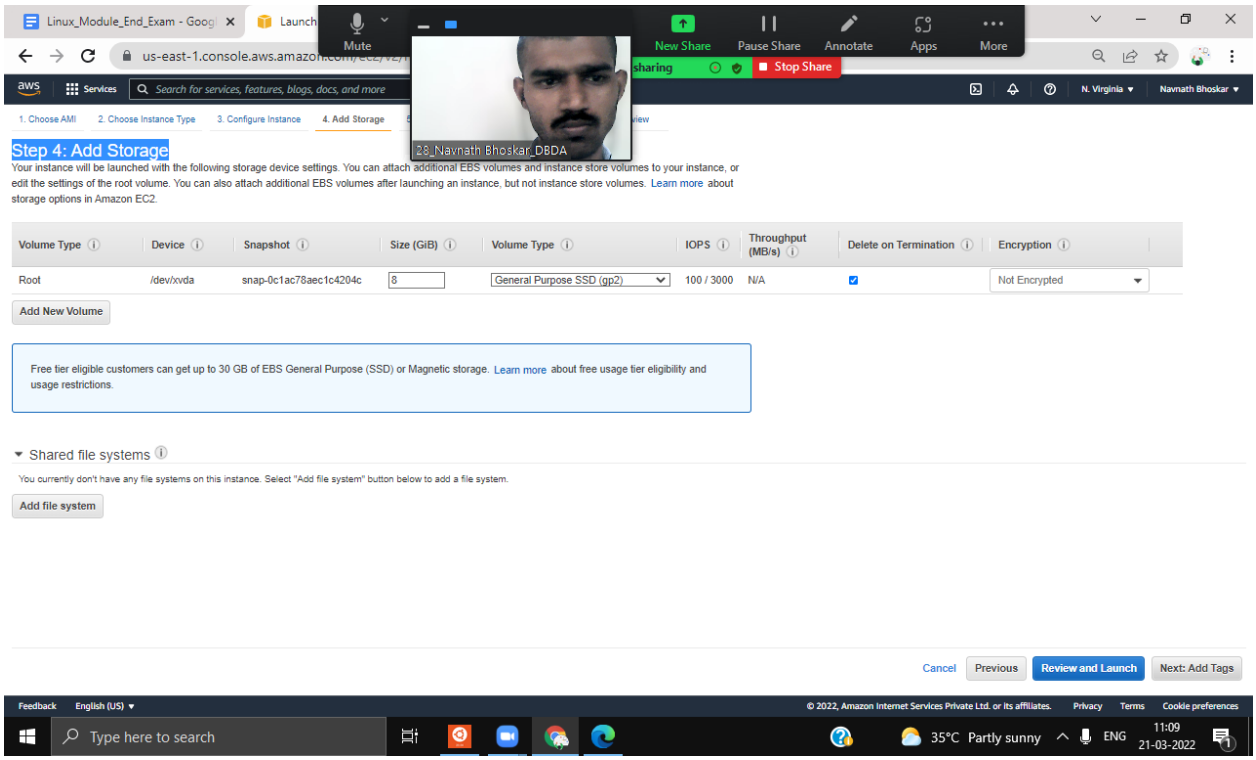
21-03-2022


Linux_Module_End_Exam - Goog
Launch
Mute
New Share
Pause Share
Annotate
Apps
More
Stop Share
us-east-1.console.aws.amazon
Services
Search for services, features, blogs, docs, and more
N. Virginia
Navnath Bhoskar
1. Choose AMI
2. Choose Instance Type
3. Configure Instance
4. Add Storage
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Step 4: Add Storage
Your instance will be launched with the following storage device settings. You can attach additional EBS volumes and instance store volumes to your instance, or edit the settings of the root volume. You can also attach additional EBS volumes after launching an instance, but not instance store volumes. Learn more about storage options in Amazon EC2.
Volume Type
Device
Snapshot
Size (GiB)
Volume Type
IOPS
Throughput (MB/s)
Delete on Termination
Encryption
Root
/dev/xvda
snap-0c1ac78aec1c4204c
8
General Purpose SSD (gp2)
100 / 3000
N/A
Not Encrypted
Add New Volume
Free tier eligible customers can get up to 30 GB of EBS General Purpose (SSD) or Magnetic storage. Learn more about free usage tier eligibility and usage restrictions.
Shared file systems
You currently don't have any file systems on this instance. Select "Add file system" button below to add a file system.
Add file system
Cancel
Previous
Review and Launch
Next: Add Tags
Feedback
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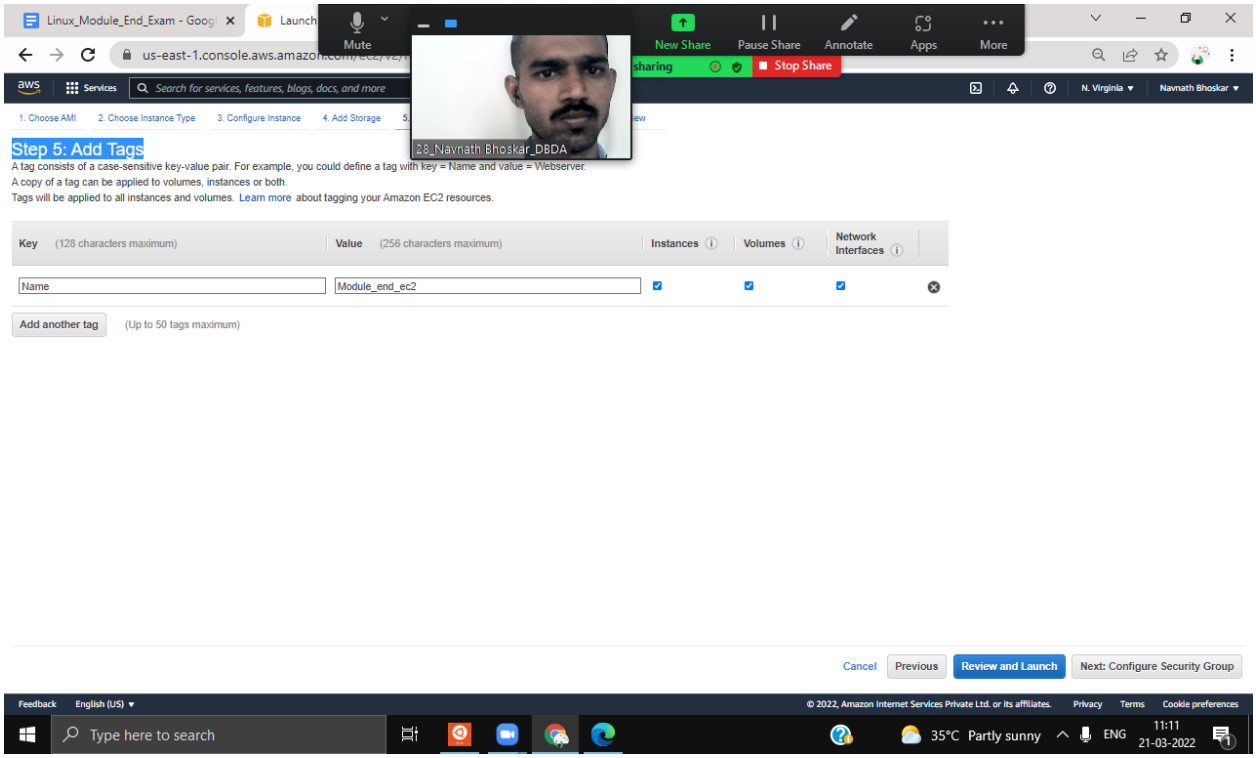
11:09
21-03-2022


Mute
New Share
Pause Share
Annotate
Apps
More
Stop Share
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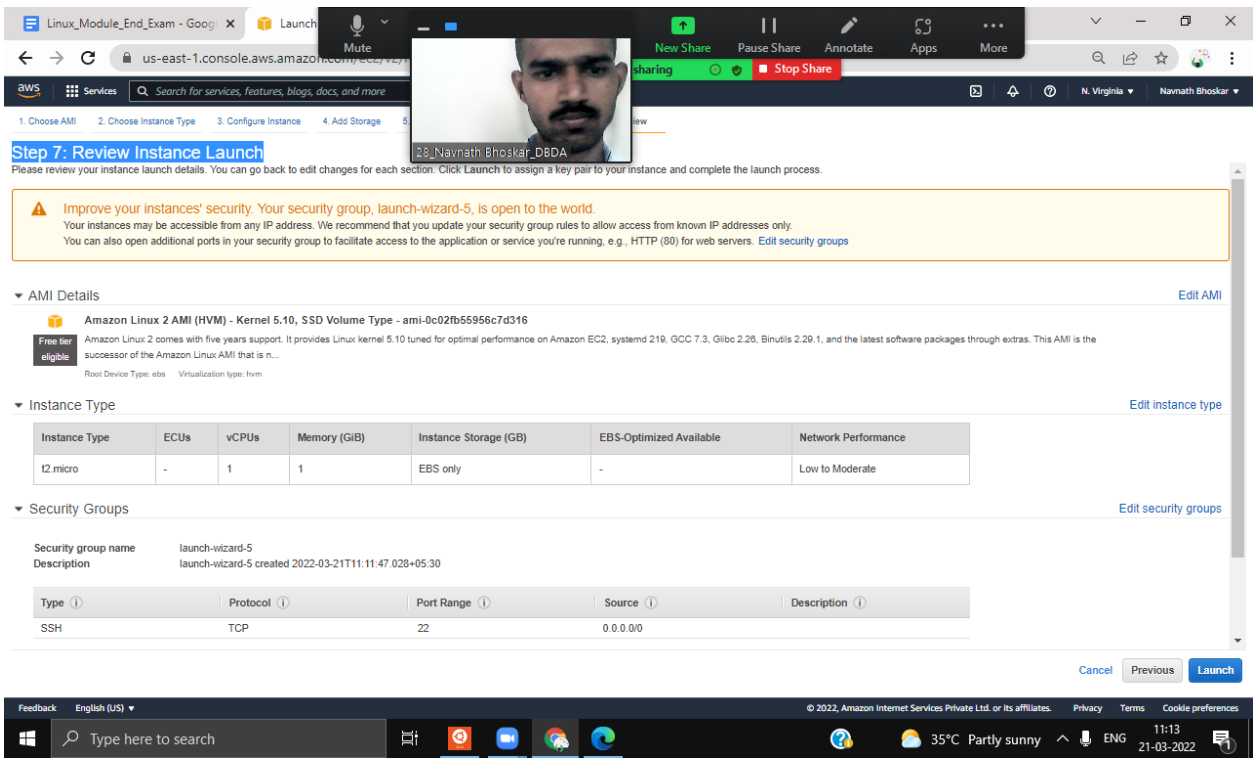
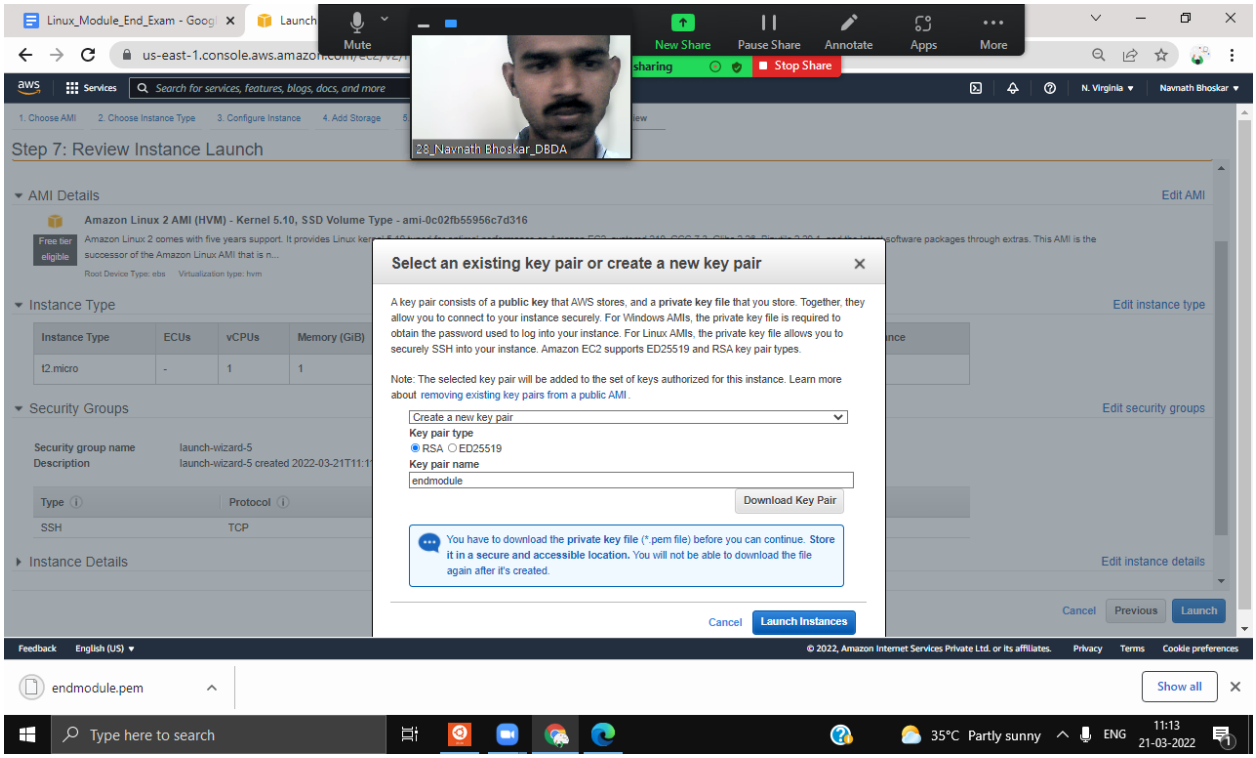
Step 5: Add Tags
A tag consists of a case-sensitive key-value pair. For example, you could define a tag with key = Name and value = Webserver.
A copy of a tag can be applied to volumes, instances or both.
Tags will be applied to all instances and volumes. Learn more about tagging your Amazon EC2 resources.
Key (128 characters maximum)
Value (256 characters maximum)
Instances
Volumes
Network Interfaces
Name
Module_end_ec2
Add another tag
(Up to 50 tags maximum)
Cancel
Previous
Review and Launch
Next: Configure Security Group


Mute
New Share
Pause Share
Annotate
Apps
More
Stop Share
28_Navnath Bhoskar_DBDA
Step 7: Review Instance Launch
Please review your instance launch details. You can go back to edit changes for each section. Click Launch to assign a key pair to your instance and complete the launch process.
Improve your instances' security. Your security group, launch-wizard-5, is open to the world.
Your instances may be accessible from any IP address. We recommend that you update your security group rules to allow access from known IP addresses only.
You can also open additional ports in your security group to facilitate access to the application or service you're running, e.g., HTTP (80) for web servers. Edit security groups
AMI Details
Edit AMI
Amazon Linux 2 AMI (HVM) - Kernel 5.10, SSD Volume Type - ami-0c02fb55956c7d316
Free tier eligible
Amazon Linux 2 comes with five years support. It provides Linux kernel 5.10 tuned for optimal performance on Amazon EC2, systemd 219, GCC 7.3, Glibc 2.26, Binutils 2.29.1, and the latest software packages through extras. This AMI is the successor of the Amazon Linux AMI that is n...
Root Device Type: ebs
Virtualization type: hvm
Instance Type
Edit instance type
Instance Type
ECUs
vCPUs
Memory (GiB)
Instance Storage (GB)
EBS-Optimized Available
Network Performance
t2.micro
-
1
1
EBS only
-
Low to Moderate
Security Groups
Edit security groups
Security group name
launch-wizard-5
Description
launch-wizard-5 created 2022-03-21T11:11:47.028+05:30
Type
Protocol
Port Range
Source
Description
SSH
TCP
22
0.0.0.0/0
Cancel
Previous
Launch


Mute
New Share
Pause Share
Annotate
Apps
More
Stop Share
28_Navnath Bhoskar_DBDA
Step 7: Review Instance Launch
AMI Details
Edit AMI
Amazon Linux 2 AMI (HVM) - Kernel 5.10, SSD Volume Type - ami-0c02fb55956c7d316
Instance Type
Edit instance type
Security Groups
Edit security groups
Instance Details
Edit instance details
Select an existing key pair or create a new key pair
A key pair consists of a public key that AWS stores, and a private key file that you store. Together, they allow you to connect to your instance securely. For Windows AMIs, the private key file is required to obtain the password used to log into your instance. For Linux AMIs, the private key file allows you to securely SSH into your instance. Amazon EC2 supports ED25519 and RSA key pair types.
Note: The selected key pair will be added to the set of keys authorized for this instance. Learn more about removing existing key pairs from a public AMI.
Create a new key pair
Key pair type
RSA
ED25519
Key pair name
endmodule
Download Key Pair
You have to download the private key file (*.pem file) before you can continue. Store it in a secure and accessible location. You will not be able to download the file again after it's created.
Cancel
Launch Instances
Cancel
Previous
Launch
Feedback
English (US)
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endmodule.pem
Show all
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11:13
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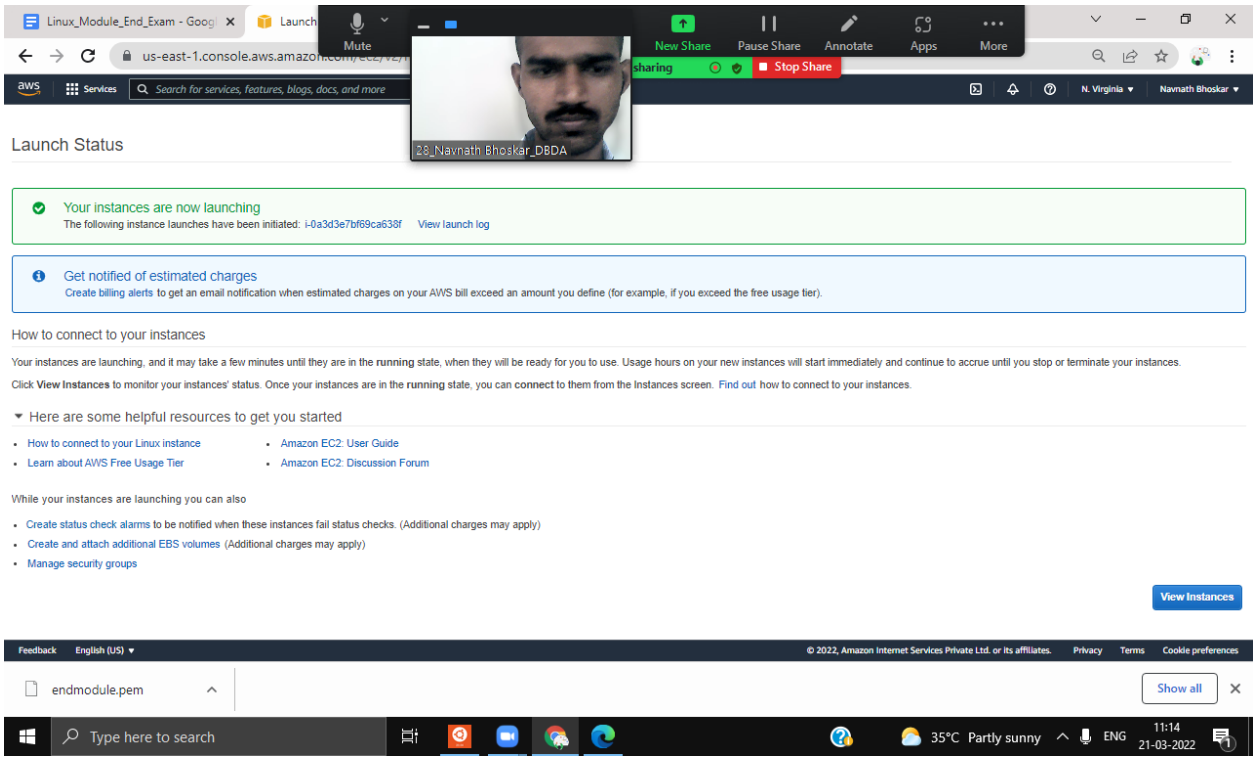
Mute
New Share
Pause Share
Annotate
Apps
More
Stop Share
28_Navnath Bhoskar_DBDA
Launch Status
Your instances are now launching
The following instance launches have been initiated: i-0a3d3e7bf69ca638f
View launch log
Get notified of estimated charges
Create billing alerts to get an email notification when estimated charges on your AWS bill exceed an amount you define (for example, if you exceed the free usage tier).
How to connect to your instances
Your instances are launching, and it may take a few minutes until they are in the running state, when they will be ready for you to use. Usage hours on your new instances will start immediately and continue to accrue until you stop or terminate your instances.
Click View Instances to monitor your instances' status. Once your instances are in the running state, you can connect to them from the Instances screen. Find out how to connect to your instances.
Here are some helpful resources to get you started
How to connect to your Linux instance
Learn about AWS Free Usage Tier
Amazon EC2: User Guide
Amazon EC2: Discussion Forum
While your instances are launching you can also
Create status check alarms to be notified when these instances fail status checks. (Additional charges may apply)
Create and attach additional EBS volumes (Additional charges may apply)
Manage security groups
View Instances
Feedback
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endmodule.pem
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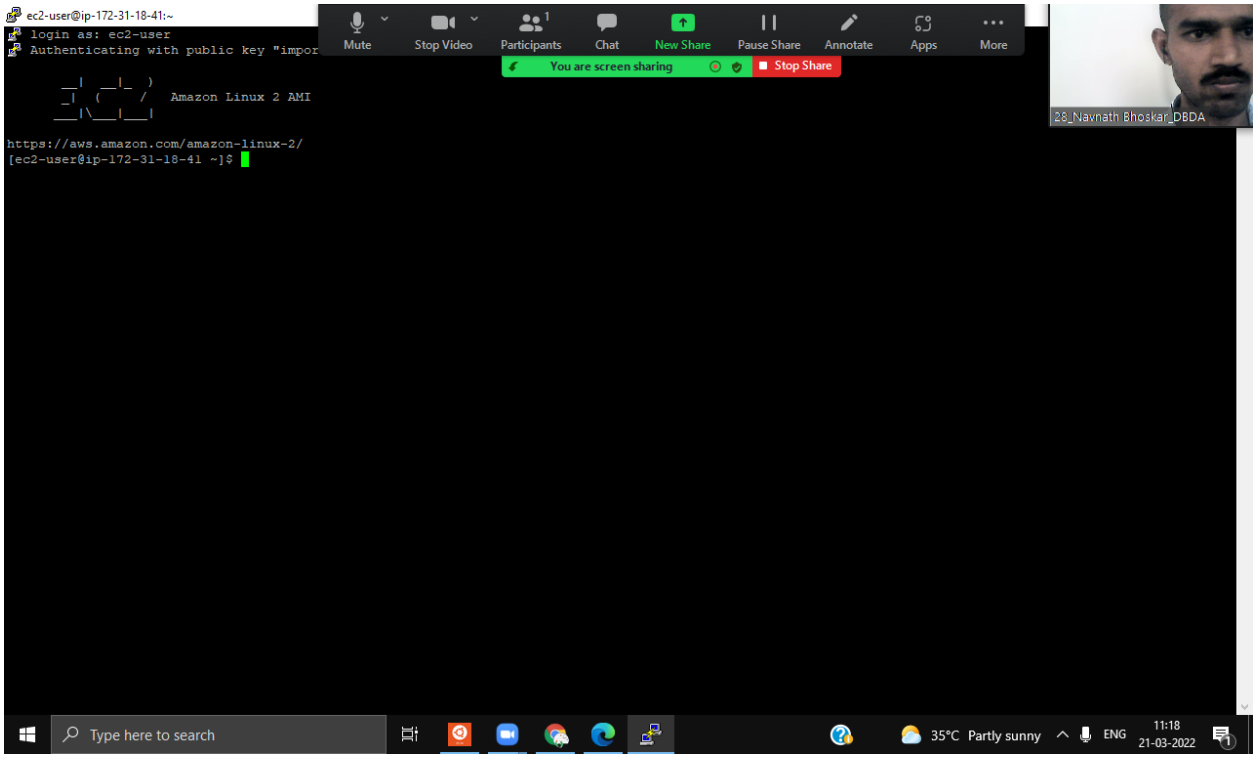
ec2-user@ip-172-31-18-41:~
login as: ec2-user
Authenticating with public key "impor
Amazon Linux 2 AMI
https://aws.amazon.com/amazon-linux-2/
[ec2-user@ip-172-31-18-41 ~]$
Mute
Stop Video
Participants
Chat
New Share
Pause Share
Annotate
Apps
More
You are screen sharing
Stop Share
28_Navnath Bhoskar_DBDA
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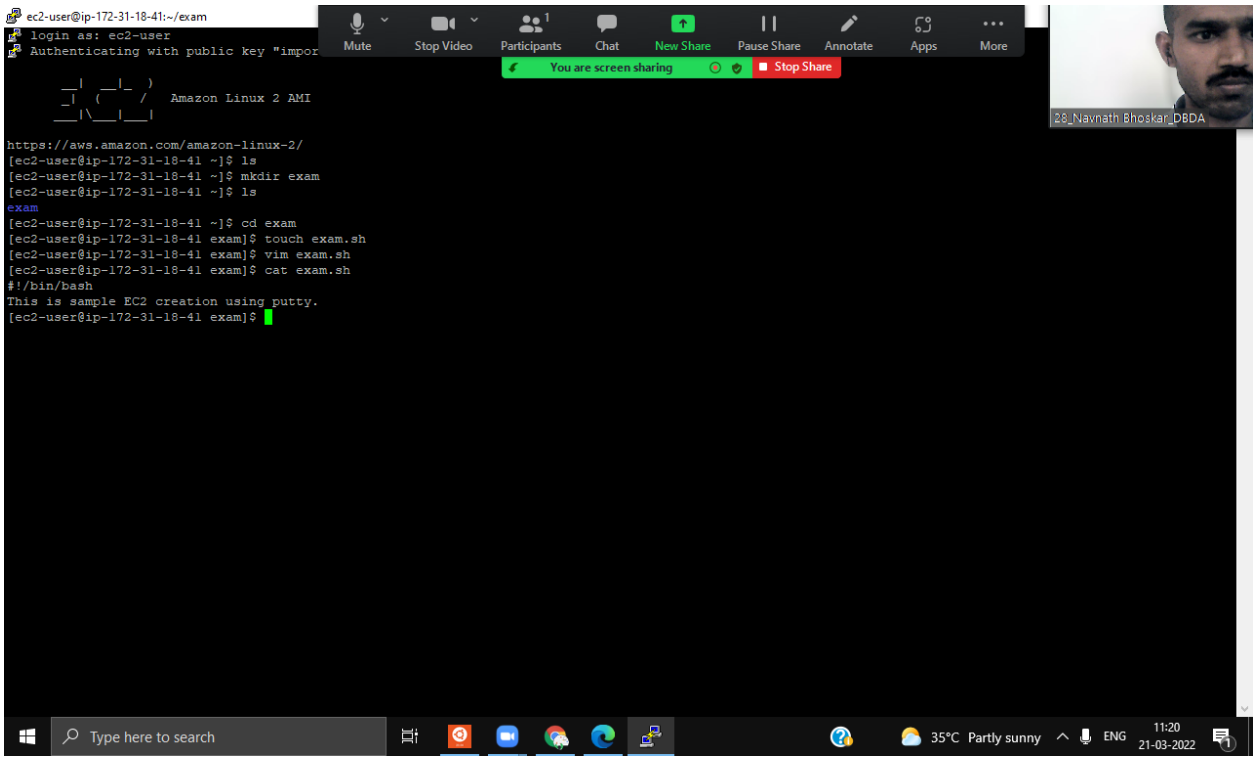
ENG
11:18
21-03-2022


ec2-user@ip-172-31-18-41:~/exam
login as: ec2-user
Authenticating with public key "impor
Amazon Linux 2 AMI
https://aws.amazon.com/amazon-linux-2/
[ec2-user@ip-172-31-18-41 ~]$ ls
[ec2-user@ip-172-31-18-41 ~]$ mkdir exam
[ec2-user@ip-172-31-18-41 ~]$ ls
exam
[ec2-user@ip-172-31-18-41 ~]$ cd exam
[ec2-user@ip-172-31-18-41 exam]$ touch exam.sh
[ec2-user@ip-172-31-18-41 exam]$ vim exam.sh
[ec2-user@ip-172-31-18-41 exam]$ cat exam.sh
#!/bin/bash
This is sample EC2 creation using putty.
[ec2-user@ip-172-31-18-41 exam]$
Mute
Stop Video
Participants
Chat
New Share
Pause Share
Annotate
Apps
More
You are screen sharing
Stop Share
28_Navnath Bhoskar_DBDA
Type here to search
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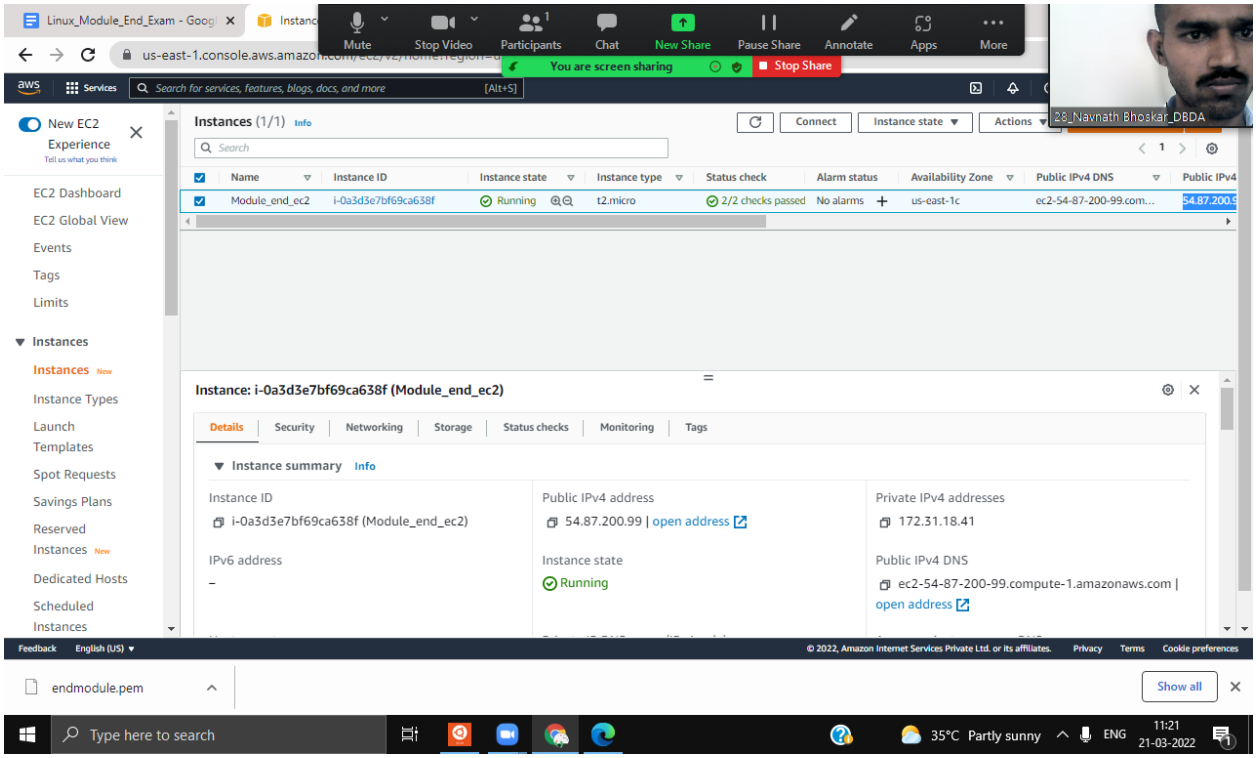
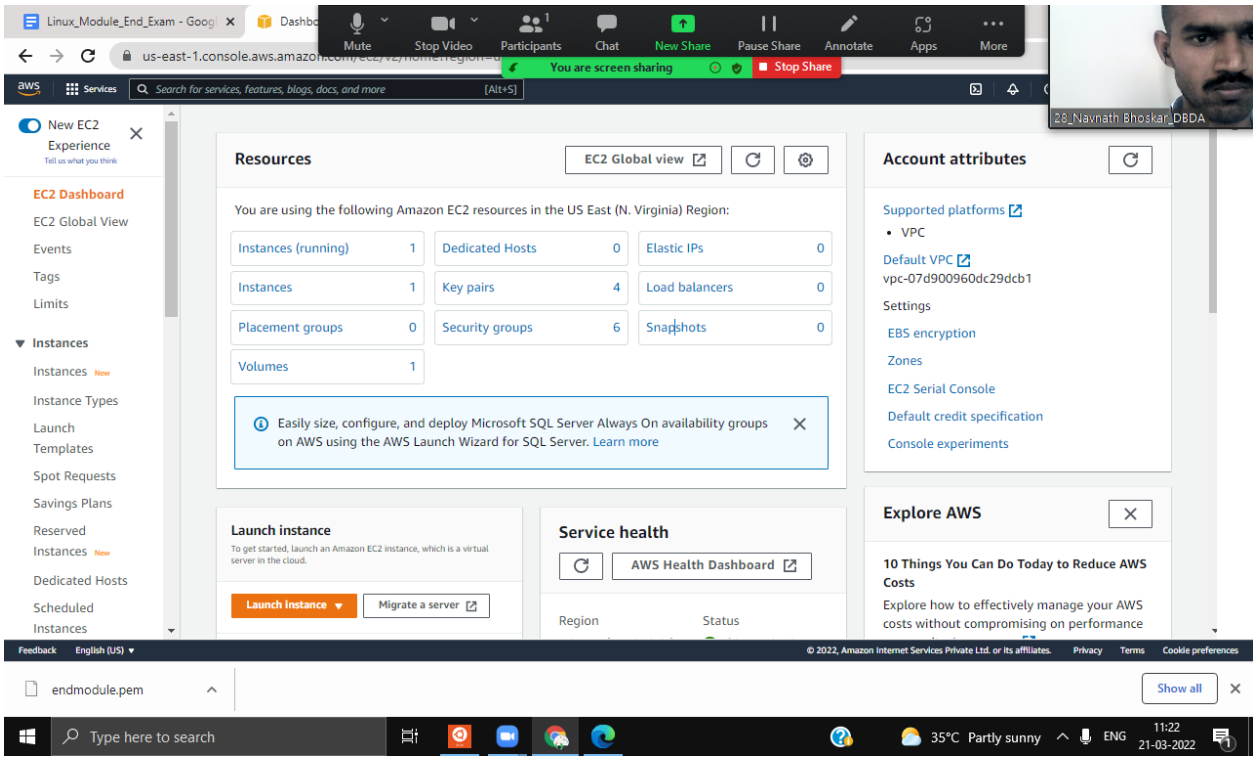
ENG
11:20
21-03-2022


Mute
Stop Video
Participants
Chat
New Share
Pause Share
Annotate
Apps
More
You are screen sharing
Stop Share
28_Navnath Bhoskar_DBDA
Instances (1/1) Info
Connect
Instance state
Actions
Name
Instance ID
Instance state
Instance type
Status check
Alarm status
Availability Zone
Public IPv4 DNS
Module_end_ec2
i-0a3d3e7bf69ca638f
Running
t2.micro
2/2 checks passed
No alarms
us-east-1c
Instance: i-0a3d3e7bf69ca638f (Module_end_ec2)
Details
Security
Networking
Storage
Status checks
Monitoring
Tags
Instance summary Info
Instance ID
i-0a3d3e7bf69ca638f (Module_end_ec2)
Public IPv4 address
54.87.200.99 | open address
Private IPv4 addresses
172.31.18.41
IPv6 address
Instance state
Running
Public IPv4 DNS
ec2-54-87-200-99.compute-1.amazonaws.com | open address
endmodule.pem
Show all
Type here to search
35°C Partly sunny
ENG
11:21
21-03-2022


Mute
Stop Video
Participants
Chat
New Share
Pause Share
Annotate
Apps
More
You are screen sharing
Stop Share
28_Navnath Bhoskar_DBDA
Resources
EC2 Global view
You are using the following Amazon EC2 resources in the US East (N. Virginia) Region:
Instances (running) 1
Dedicated Hosts 0
Elastic IPs 0
Instances 1
Key pairs 4
Load balancers 0
Placement groups 0
Security groups 6
Snapshots 0
Volumes 1
Easily size, configure, and deploy Microsoft SQL Server Always On availability groups on AWS using the AWS Launch Wizard for SQL Server. Learn more
Account attributes
Supported platforms
VPC
Default VPC
vpc-07d900960dc29dcb1
Settings
EBS encryption
Zones
EC2 Serial Console
Default credit specification
Console experiments
Launch instance
To get started, launch an Amazon EC2 instance, which is a virtual server in the cloud.
Launch instance
Migrate a server
Service health
AWS Health Dashboard
Region
Status
Explore AWS
10 Things You Can Do Today to Reduce AWS Costs
Explore how to effectively manage your AWS costs without compromising on performance
endmodule.pem
Show all
Type here to search
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ENG
11:22
21-03-2022

Step 2: Choose an Instance Type

Step 3: Configure Instance Details

Step 4: Add Storage

Step 5: Add Tags

Step 6: Configure Security Group

Step 7: Review Instance Launch

```
login as: ec2-user
Authenticating with public key "imported-openssh-key"

       __|  __|_  )
       _|  (     /   Amazon Linux 2 AMI
      ___|\___|___|

https://aws.amazon.com/amazon-linux-2/
[ec2-user@ip-172-31-18-41 ~]$ ls
[ec2-user@ip-172-31-18-41 ~]$ mkdir exam
[ec2-user@ip-172-31-18-41 ~]$ ls
exam
[ec2-user@ip-172-31-18-41 ~]$ cd exam
[ec2-user@ip-172-31-18-41 exam]$ touch exam.sh
[ec2-user@ip-172-31-18-41 exam]$ vim exam.sh
[ec2-user@ip-172-31-18-41 exam]$ cat exam.sh
#!/bin/bash
This is sample EC2 creation using putty.
[ec2-user@ip-172-31-18-41 exam]$
```