

CLOUD COMPUTING LABORATORY- 07

AWS ACADEMY LAB 4.1

Amazon Web Services

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Roll No: 1928228

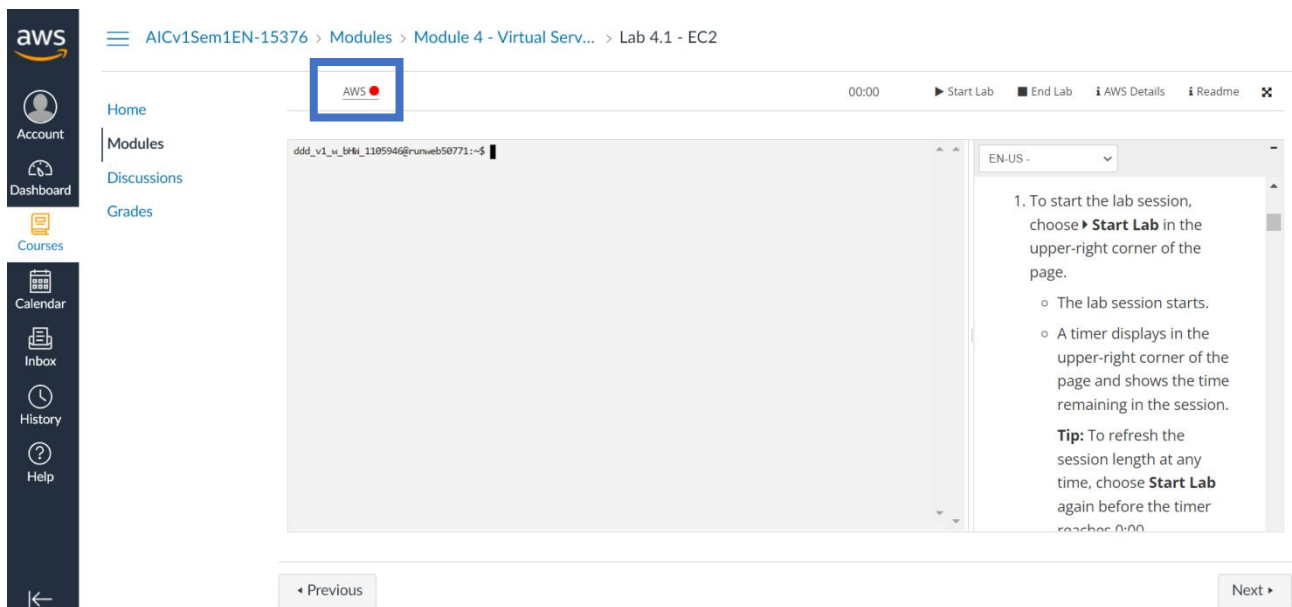
Date: 09/03/2022

Aim: Create an Amazon Elastic Compute Cloud (Amazon EC2) instance that hosts a simple website.

Time Duration: Approximately 1 hour 30 minutes.

Requirements: - AWS account (access to AWS console dashboard)
- Internet connection

- If we use AWS academy to log in, we go to LAB4.1 and click on start lab, allowing the light beside AWS to turn green, before clicking on AWS on the left side, which automatically displays the AWS console dashboard.



- We go to <https://aws.amazon.com>, click on 'Sign in to Console', and login with our root account.



Sign in

☒ Root user

Account owner that performs tasks requiring unrestricted access. [Learn more](#)

☐ IAM user

User within an account that performs daily tasks. [Learn more](#)

Root user email address

1928228@kiit.ac.in

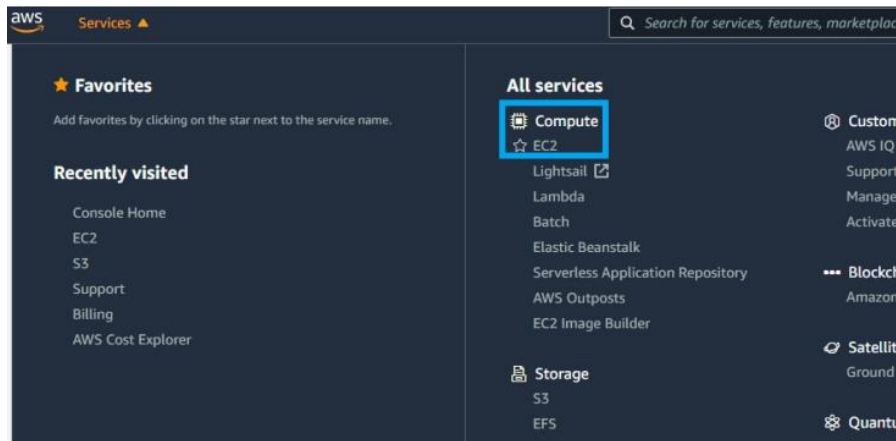
Next

By continuing, you agree to the [AWS Customer Agreement](#) or other agreement for AWS services, and the [Privacy Notice](#). This site uses essential cookies. See our [Cookie Notice](#) for more information.

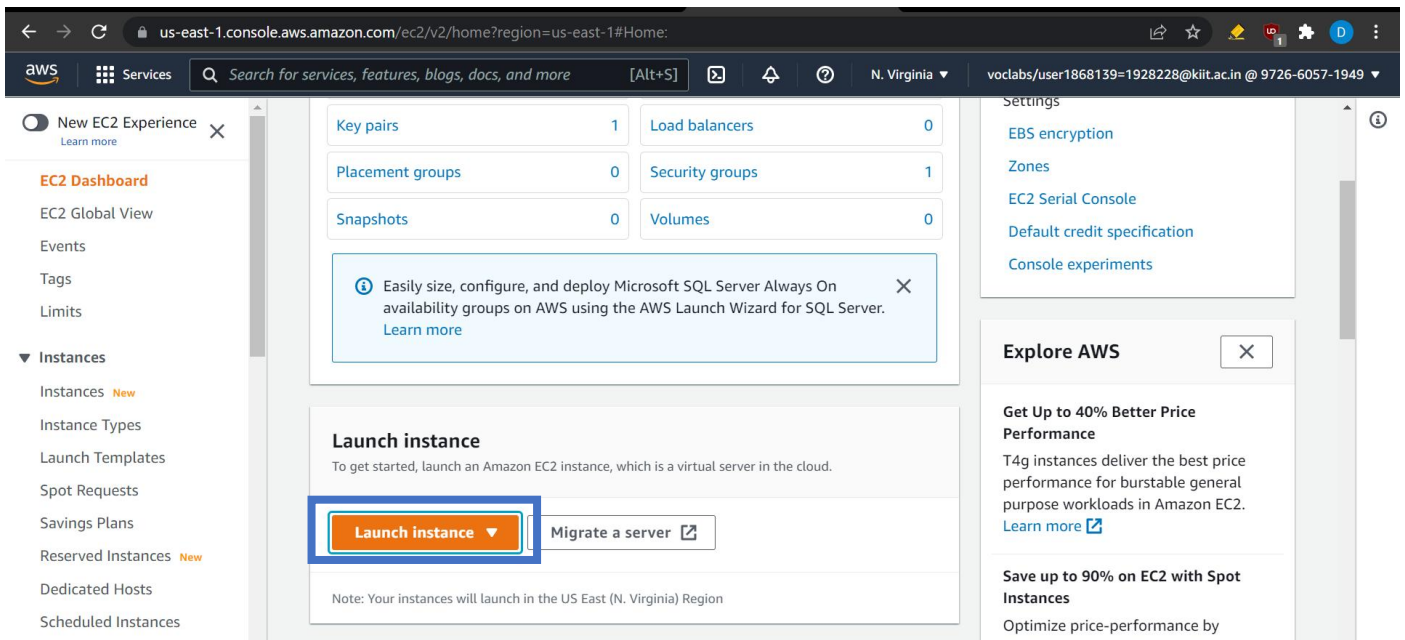
☐ New to AWS?



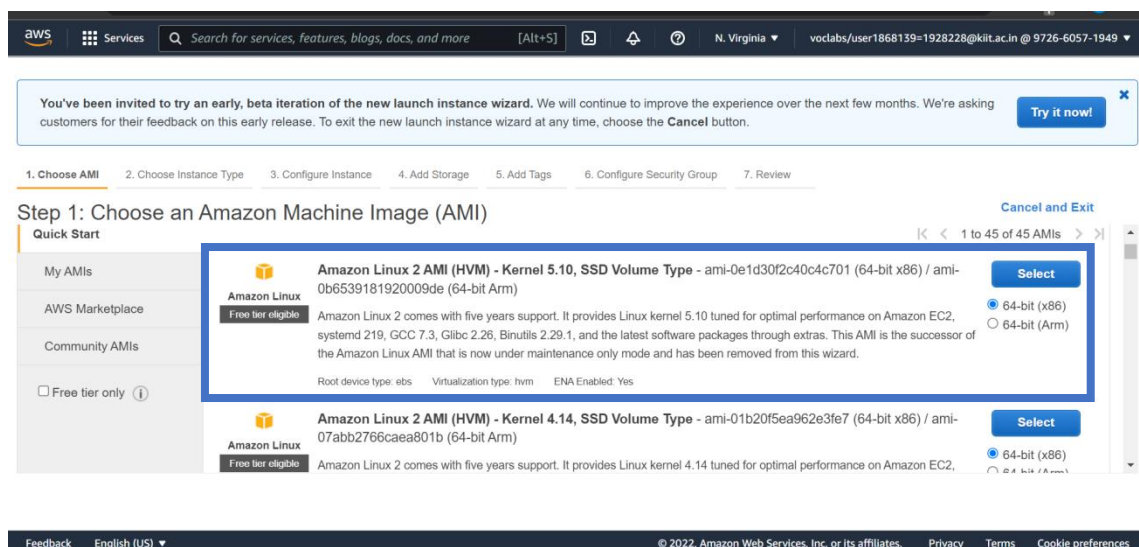
- We are directed to our "AWS Management Console," where we click on "Services," then "EC2," which is Amazon Web Services' Computing as a Service.



- We are then directed to the "EC2 Management Console," which maintains track of our resources on the EC2 Service; we then click "Launch Instance" to set our resources for our cloud instance.



- We configure our resources with the default AMI or “Amazon Machine Image” i.e “Amazon Linux 2 AMI 64 bit(x86)”, we click select.



- Choose the default instance type “t2.micro” which comes with a flavour of 1 CPU, 1 GB RAM, flexible EBS storage support or internal storage and support for IPv6 address under the free tier. We click next.

Step 2: Choose an Instance Type

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
<input type="checkbox"/>	t2	t2.nano	1	0.5	EBS only	-	Low to Moderate	Yes
<input checked="" type="checkbox"/>	t2	t2.micro <small>Free tier eligible</small>	1	1	EBS only	-	Low to Moderate	Yes
<input type="checkbox"/>	t2	t2.small	1	2	EBS only	-	Low to Moderate	Yes
<input type="checkbox"/>	t2	t2.medium	2	4	EBS only	-	Low to Moderate	Yes
<input type="checkbox"/>	t2	t2.large	2	8	EBS only	-	Low to Moderate	Yes

Cancel Previous **Review and Launch** Next: Configure Instance Details

- For custom configuration of the instance details, we go with the default configuration and click next but before that we in the text for connection in user data field we add a code snippet

```
#!/bin/bash
yum update -y
yum -y install httpd
systemctl enable httpd
systemctl start httpd
echo '<html><h1>Hello world!</h1></html>' >
/var/www/html/index.html
```

The script the following:

- Updates the server.
- Installs an Apache web server (httpd).
- Configures the web server to automatically start on boot.
- Activates the web server.
- Creates a simple webpage.

- We are guided to “Add Storage” or internal EBS storage, we go for the default 8GB value, and click next,
- We are then guided to “Add Tags” here in key we write “Name” and in value we write “Web Server”.
- We move ahead to “Configure our Security Group” and go for the default group and write SSH with TCP protocol on the port 22, HTTP with TCP protocol on the port 80, HTTPS with TCP protocol on the port 443 whose source can be from anywhere.

- After adding all the HTTP, HTTPS, SSH, we don't have to change any setting in the coming section for launch and we will just have to copy and paste the IP address in the browser and it will show the output.

Step 6: Configure Security Group
server and allow internet traffic to reach your instance, add rules that allow unrestricted access to the HTTP and HTTPS ports. You can create a new security group or select from an existing one below.
[Learn more](#) about Amazon EC2 security groups.

Assign a security group: ☒ Create a new security group
☐ Select an existing security group

Security group name:
Description:

Type	Protocol	Port Range	Source	Description
SSH	TCP	22	Anywhere (0.0.0.0/0, ::/0)	e.g. SSH for Admin Desktop
HTTP	TCP	80	Anywhere (0.0.0.0/0, ::/0)	e.g. SSH for Admin Desktop
HTTPS	TCP	443	Anywhere (0.0.0.0/0, ::/0)	e.g. SSH for Admin Desktop

[Add Rule](#)

[Cancel](#) [Previous](#) [Review and Launch](#)

- We click on review and launch after completing all of the processes and filling up all of the appropriate fields for the desired features we want in the EC2 interface to host the website, and then we receive this screen.

Launch Status

✓ **Your instances are now launching**
The following instance launches have been initiated: [i-0f6d5e0bdd1c8abf5](#) [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](#)
- [Amazon EC2: User Guide](#)
- [Learn about AWS Free Usage Tier](#)
- [Amazon EC2: Discussion Forum](#)

- We'll click 'Launch' in the bottom right of the page after analyzing all of the instance's characteristics. After that, the page will take a bit to load, but once it does, we can copy and paste the IP address and even access to the terminal using command prompt.

us-east-1.console.aws.amazon.com/ec2/v2/home?region=us-east-1#Instances:

aws

Services

Search for services, features, blogs, docs, and more

[Alt+S]

N. Virginia

voclabs/user1868139=1928228@kiit.ac.in @ 9726-6057-1949

Capacity Reservations

Images

AMIs New

AMI Catalog

Elastic Block Store

Volumes New

Snapshots New

Lifecycle Manager New

Network & Security

Security Groups

Elastic IPs

Placement Groups

Key Pairs

Network Interfaces

Load Balancing

Load Balancers

Instances (1/1) Info

Connect

Instance state

Actions

Launch instances

Search

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability zone
Web Server	i-0f6d5e0bdd1c8abf5	Running	t2.micro	2/2 checks passed	No alarms	us-east-1a

Instance: i-0f6d5e0bdd1c8abf5 (Web Server)

DetailsSecurityNetworkingStorageStatus checksMonitoringTags

Instance summary Info

Instance ID	Public IPv4 address	Private IPv4 addresses
i-0f6d5e0bdd1c8abf5 (Web Server)	3.91.176.39 open address	172.31.81.127
IPv6 address	Instance state	Public IPv4 DNS
-	Running	ec2-3-91-176-39.compute-1.amazonaws.com open address

Feedback

English (US)

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Privacy

Terms

Cookie preferences

Instance state

Running

Status check

2/2 checks passed

Public IPv4 address

3.91.176.39 | [open address](#)

New EC2 Experience

EC2 Dashboard

EC2 Global View

Events

Tags

Limits

Instances

Instances New

Instance Types

Launch Templates

Spot Requests

Savings Plans

Reserved Instances New

Dedicated Hosts

Scheduled Instances

Capacity Reservations

Instance summary for i-0f6d5e0bdd1c8abf5 (Web Server) Info

Updated less than a minute ago

Connect

Instance state

Actions

Instance ID	Public IPv4 address	Private IPv4 addresses
i-0f6d5e0bdd1c8abf5 (Web Server)	3.91.176.39 open address	172.31.81.127
IPv6 address	Instance state	Public IPv4 DNS
-	Running	ec2-3-91-176-39.compute-1.amazonaws.com open address
Hostname type	Private IP DNS name (IPv4 only)	Answer private resource DNS name IPv4 (A)
IP name: ip-172-31-81-127.ec2.internal	ip-172-31-81-127.ec2.internal	
Instance type	Elastic IP addresses	VPC ID
t2.micro	-	vpc-06f78f01920d95855
AWS Compute Optimizer finding	IAM Role	Subnet ID
Opt-in to AWS Compute Optimizer for recommendations. Learn more	-	subnet-0ca045e5377939580

SUMMARY

New EC2 Experience

EC2 Dashboard

EC2 Global View

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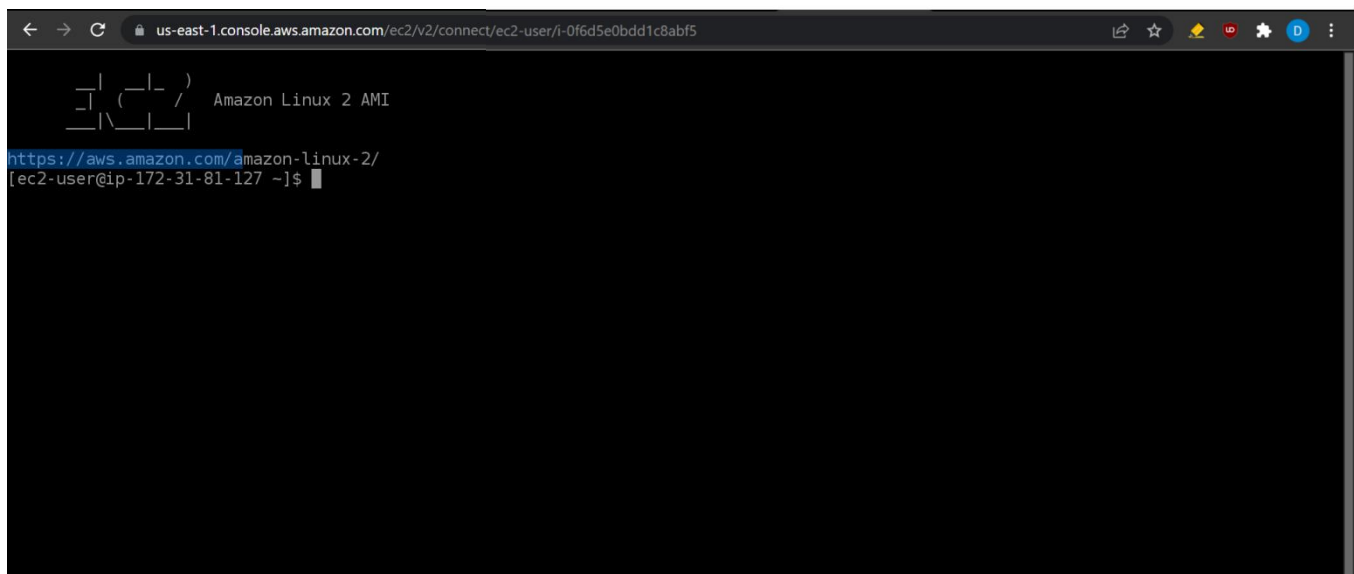
Capacity Reservations

DetailsSecurityNetworkingStorageStatus checksMonitoringTags

Instance details Info

Platform	AMI ID	Monitoring
Amazon Linux (Inferred)	ami-0e1d30f2c40c4c701	disabled
Platform details	AMI name	Termination protection
Linux/UNIX	amzn2-ami-kernel-5.10-hvm-2.0.20220218.3-x86_64-gp2	Disabled
Launch time	AMI location	Lifecycle
Wed Mar 09 2022 12:14:40 GMT+0530 (India Standard Time) (5 minutes)	amazon/amzn2-ami-kernel-5.10-hvm-2.0.20220218.3-x86_64-gp2	normal
Stop-hibernate behavior	AMI Launch index	Key pair name
disabled	0	vockey
State transition reason	Credit specification	Kernel ID
-	standard	-
State transition message	Usage operation	RAM disk ID

- When we click on CONNECT, we can see if the connections and the virtual computer system are connected. So, we can see that our system is linked to Amazon Linux 2 AMI, as well as other information such as user IP, public and private IPs.

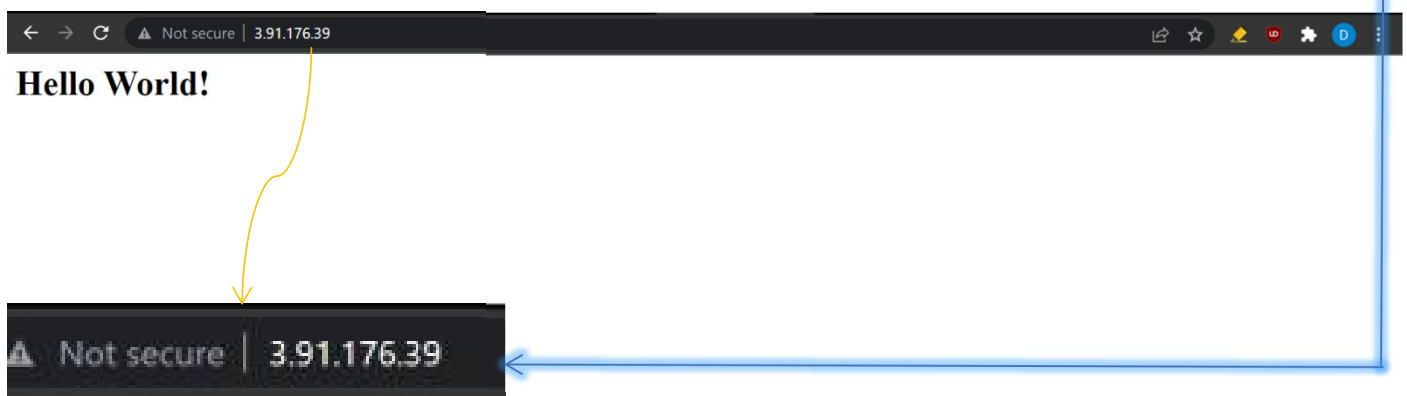


i-0f6d5e0bdd1c8abf5 (Web Server)

Public IPs: 3.91.176.39 Private IPs: 172.31.81.127

RESULT: If the connection was successful, the browser should display Hello World using our output IP address. And it worked!

This indicates that the connection was successful, and we were able to build an Amazon Elastic Compute Cloud (Amazon EC2) instance that runs a simple 'Hello World' webpage.



It is basically <http://3.91.176.39> (it came as https but it was showing the error as I have all SSH, HTTPS, HTTP, I hosted as http)