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Roll No.: 331069

PRN: 22120084

Batch: A3

Assignment No 5

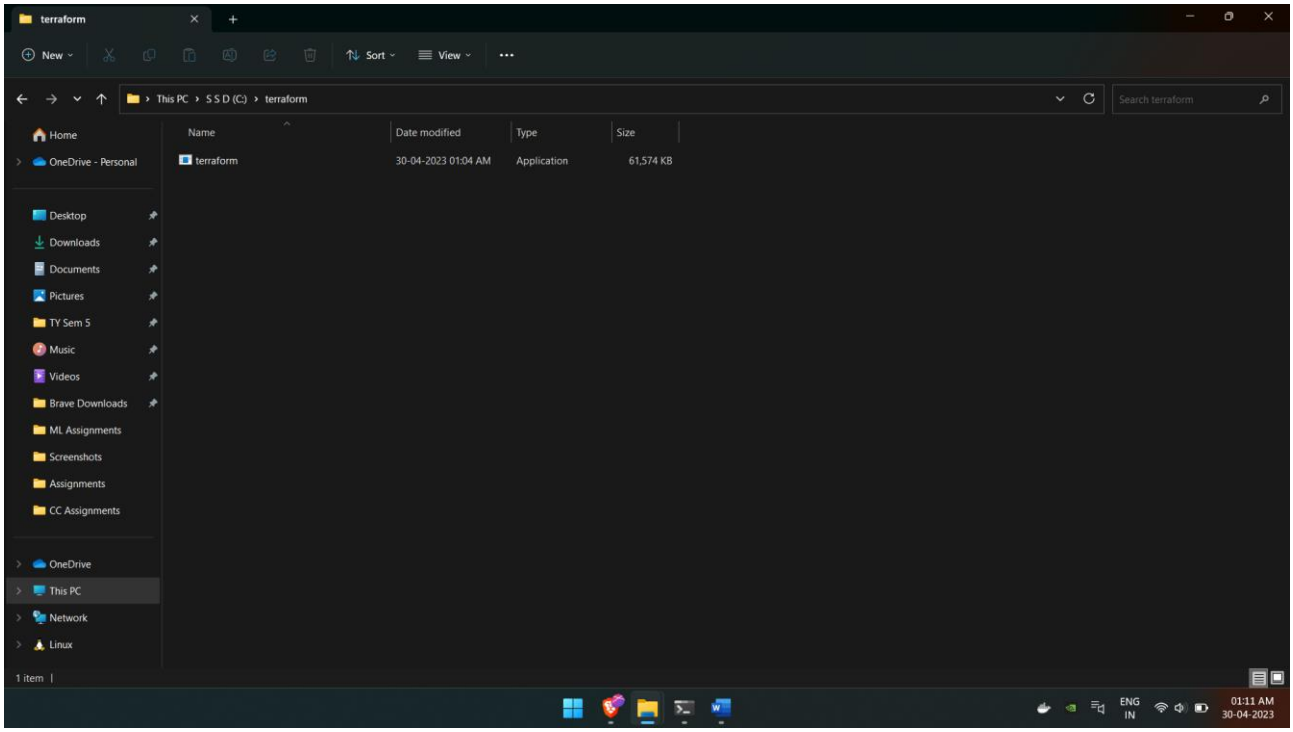
Title: Write IaC using terraform to create EC2 machine on aws (use modules, input and output)

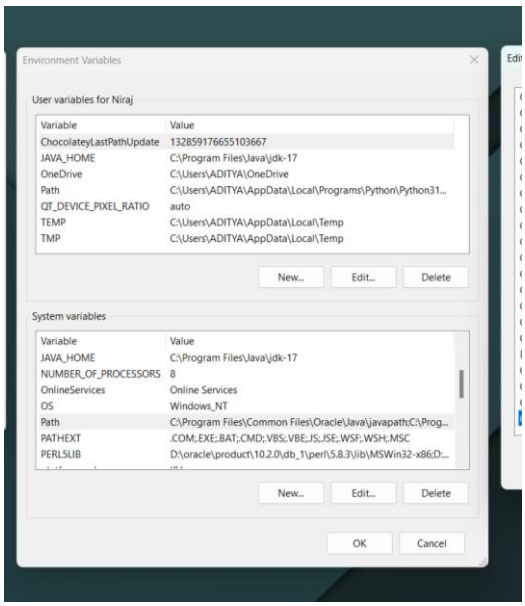
Theory:

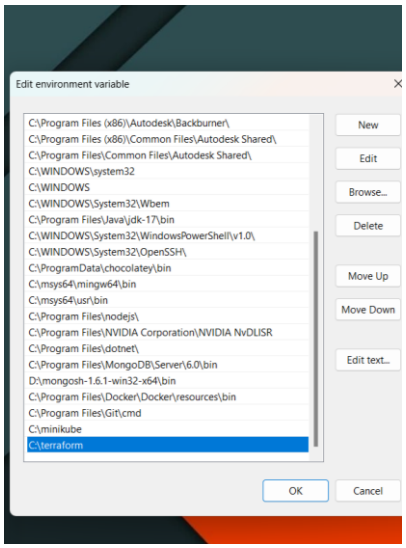
1) What is Terraform?

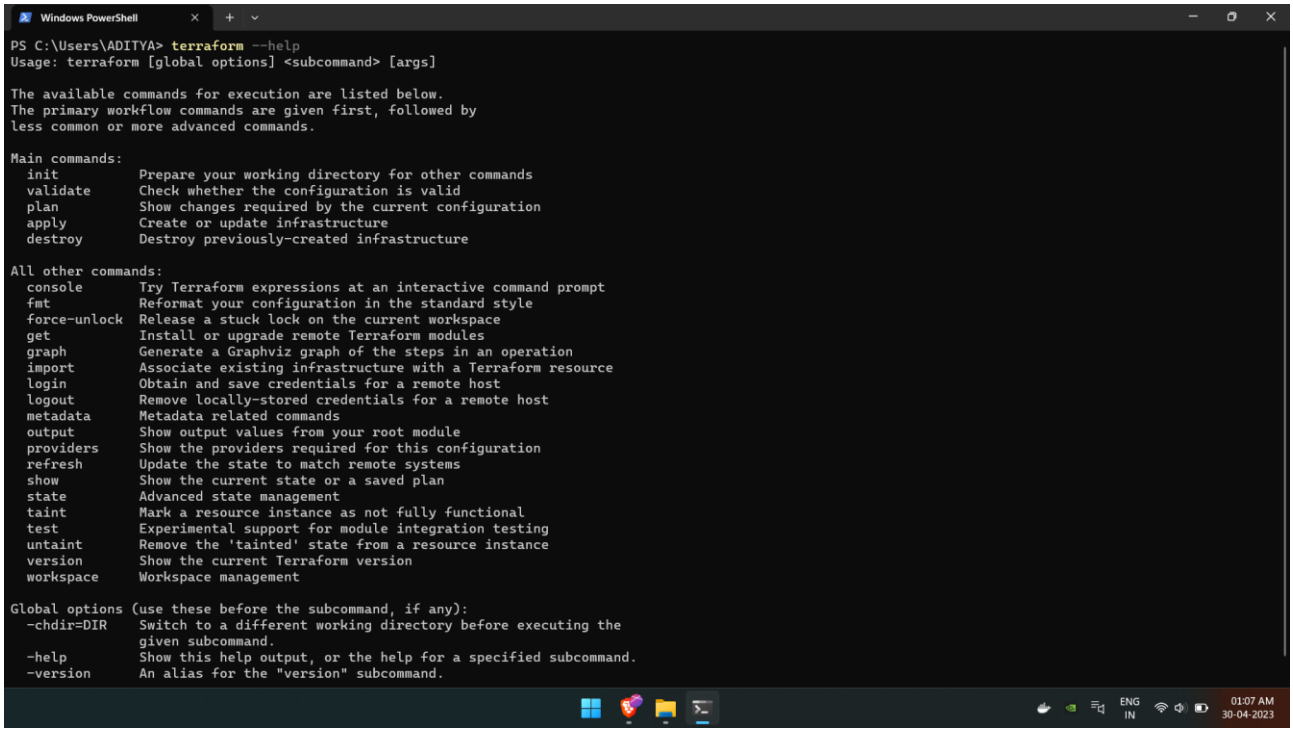
Terraform is an infrastructure as code tool that lets you build, change, and version infrastructure safely and efficiently. This includes low-level components like compute instances, storage, and networking; and high-level components like DNS entries and SaaS features.

2) Step-by-step screenshot to install and configure Terraform.

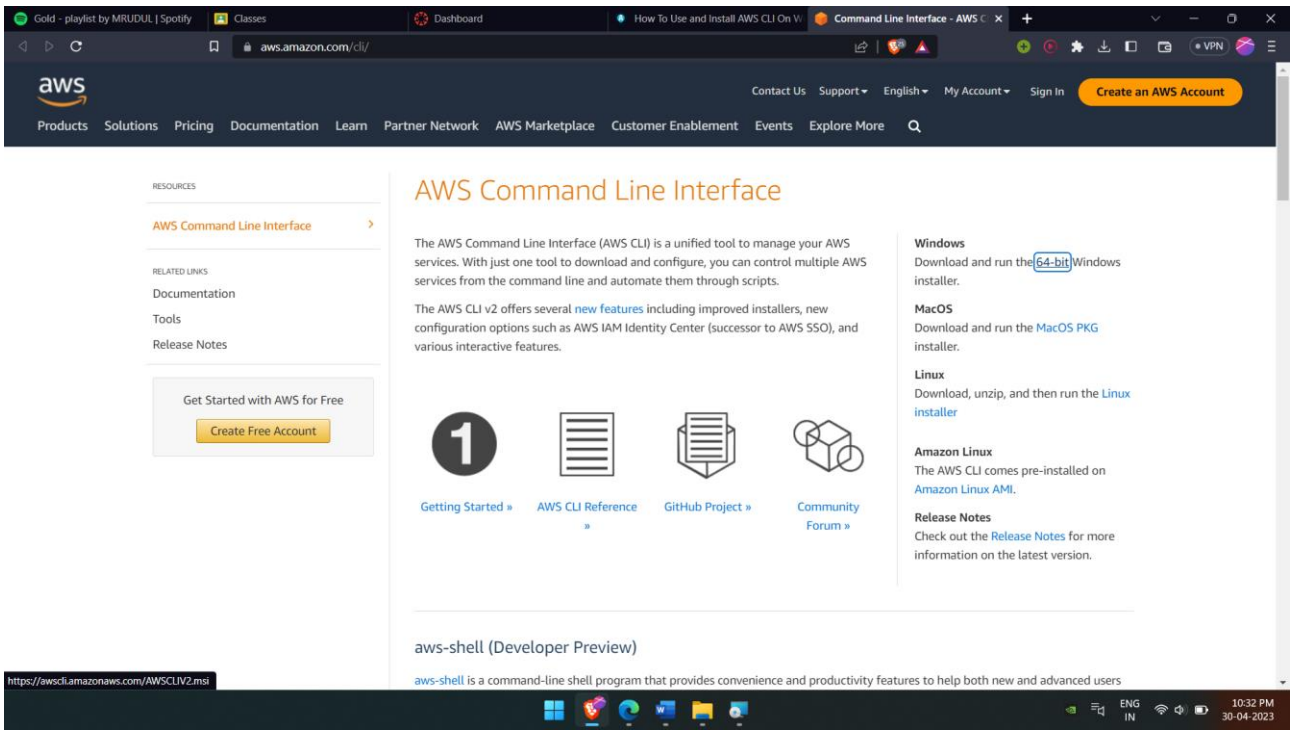


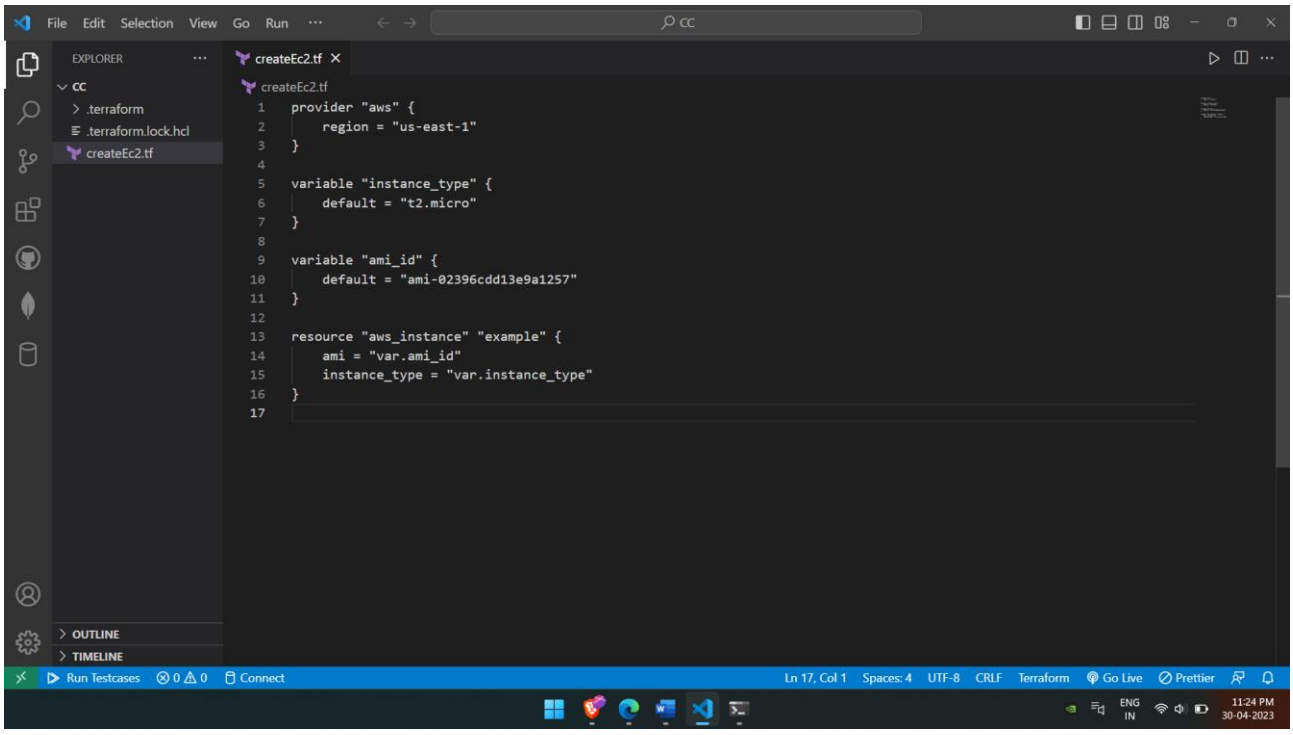


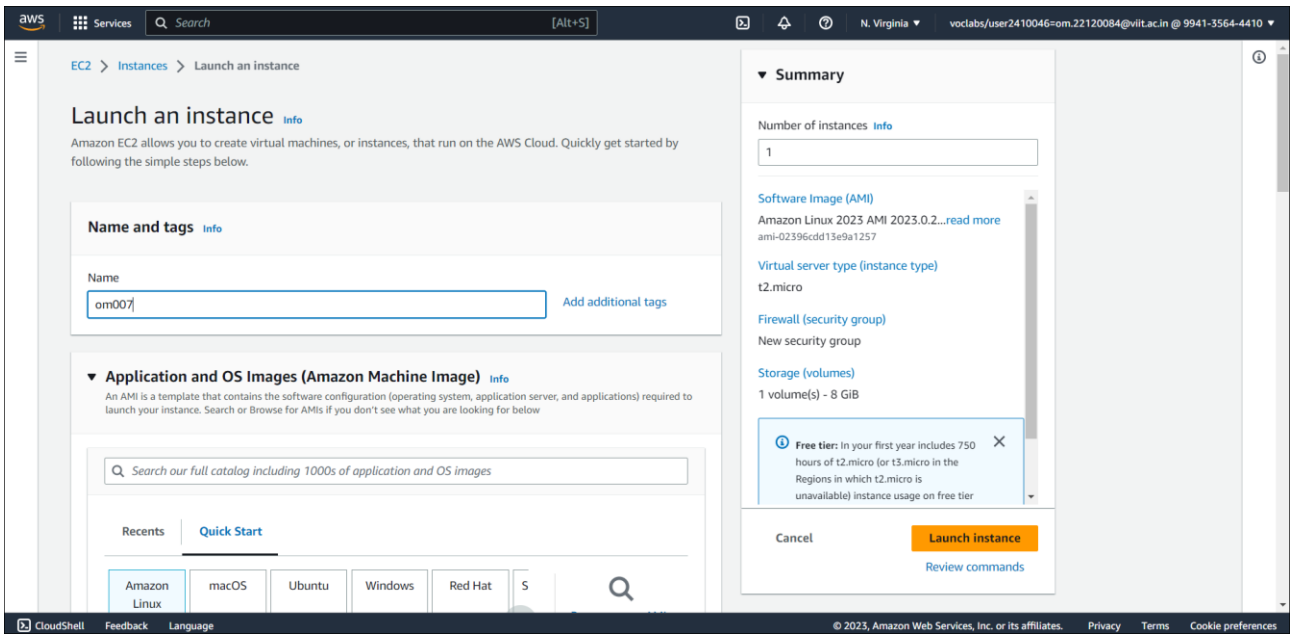




3) Terraform script to create Infrastructure on any cloud platform (AWS or Azure or Google)


aws.amazon.com/cli/
Contact Us
Support
English
My Account
Sign In
Create an AWS Account
Products
Solutions
Pricing
Documentation
Learn
Partner Network
AWS Marketplace
Customer Enablement
Events
Explore More
RESOURCES
AWS Command Line Interface
RELATED LINKS
Documentation
Tools
Release Notes
Get Started with AWS for Free
Create Free Account
AWS Command Line Interface
The AWS Command Line Interface (AWS CLI) is a unified tool to manage your AWS services. With just one tool to download and configure, you can control multiple AWS services from the command line and automate them through scripts.
The AWS CLI v2 offers several new features including improved installers, new configuration options such as AWS IAM Identity Center (successor to AWS SSO), and various interactive features.
Getting Started »
AWS CLI Reference »
GitHub Project »
Community Forum »
Windows
Download and run the 64-bit Windows installer.
MacOS
Download and run the MacOS PKG installer.
Linux
Download, unzip, and then run the Linux installer
Amazon Linux
The AWS CLI comes pre-installed on Amazon Linux AMI.
Release Notes
Check out the Release Notes for more information on the latest version.
aws-shell (Developer Preview)
aws-shell is a command-line shell program that provides convenience and productivity features to help both new and advanced users
https://awscli.amazonaws.com/AWSCLIV2.msi


File
Edit
Selection
View
Go
Run
EXPLORER
createEc2.tf
.terraform
.terraform.lock.hcl
createEc2.tf
provider "aws" {
region = "us-east-1"
}
variable "instance_type" {
default = "t2.micro"
}
variable "ami_id" {
default = "ami-02396cdd13e9a1257"
}
resource "aws_instance" "example" {
ami = "var.ami_id"
instance_type = "var.instance_type"
}
OUTLINE
TIMELINE
Run Testcases
Connect
Ln 17, Col 1
Spaces: 4
UTF-8
CRLF
Terraform
Go Live
Prettier


Services
Search
[Alt+S]
N. Virginia
voclabs/user2410046=om.22120084@viit.ac.in @ 9941-3564-4410
EC2 > Instances > Launch an instance
Launch an instance Info
Amazon EC2 allows you to create virtual machines, or instances, that run on the AWS Cloud. Quickly get started by following the simple steps below.
Name and tags Info
Name
om007
Add additional tags
Application and OS Images (Amazon Machine Image) Info
An AMI is a template that contains the software configuration (operating system, application server, and applications) required to launch your instance. Search or Browse for AMIs if you don't see what you are looking for below
Search our full catalog including 1000s of application and OS images
Recents
Quick Start
Amazon Linux
macOS
Ubuntu
Windows
Red Hat
Summary
Number of instances Info
1
Software Image (AMI)
Amazon Linux 2023 AMI 2023.0.2...read more
ami-02396cdd13e9a1257
Virtual server type (instance type)
t2.micro
Firewall (security group)
New security group
Storage (volumes)
1 volume(s) - 8 GiB
Free tier: In your first year includes 750 hours of t2.micro (or t3.micro in the Regions in which t2.micro is unavailable) instance usage on free tier
Cancel
Launch instance
Review commands
CloudShell
Feedback
Language
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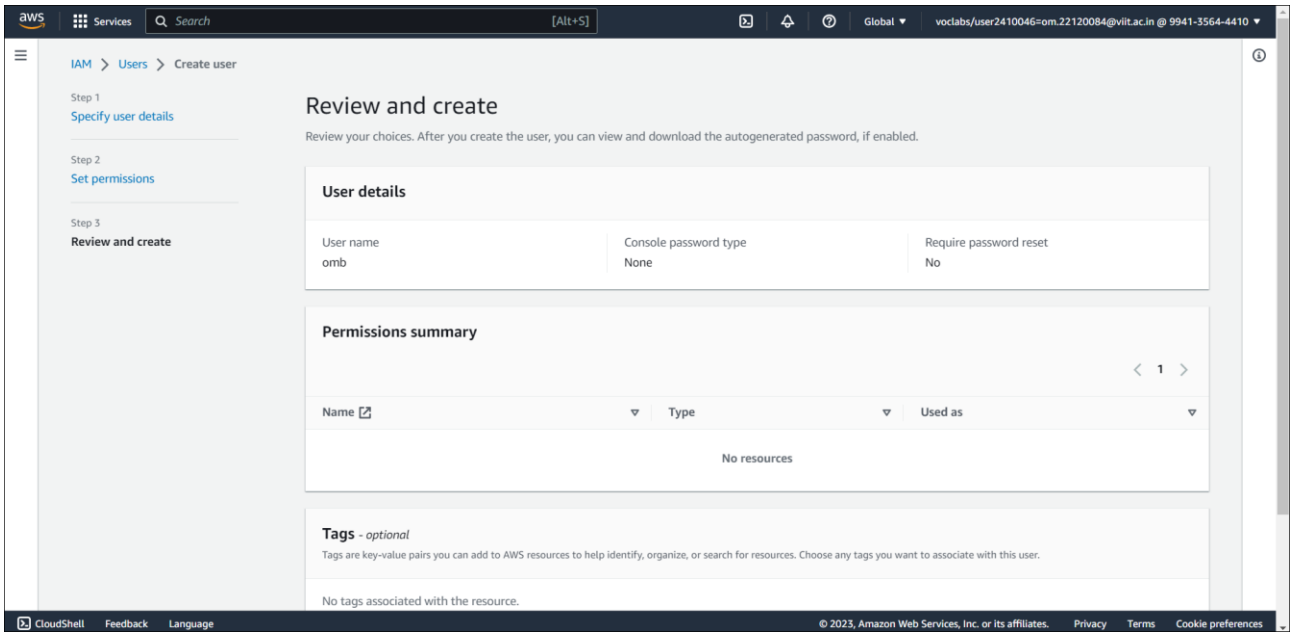
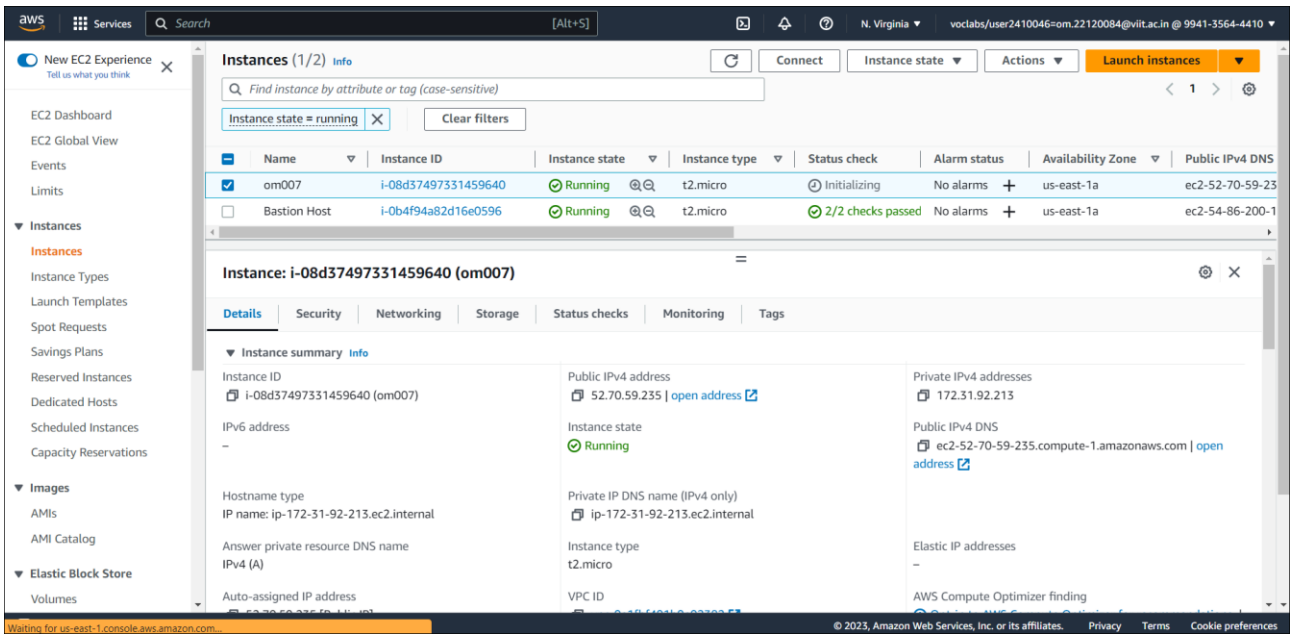

Services
Search
[Alt+S]
Global
voclabs/user2410046=om.22120084@viit.ac.in @ 9941-3564-4410
IAM > Users > Create user
Step 1
Specify user details
Step 2
Set permissions
Step 3
Review and create
Review and create
Review your choices. After you create the user, you can view and download the autogenerated password, if enabled.
User details
User name
omb
Console password type
None
Require password reset
No
Permissions summary
Name
Type
Used as
No resources
Tags - optional
Tags are key-value pairs you can add to AWS resources to help identify, organize, or search for resources. Choose any tags you want to associate with this user.
No tags associated with the resource.
CloudShell
Feedback
Language
© 2023, Amazon Web Services, Inc. or its affiliates.
Privacy
Terms
Cookie preferences


Services
Search
[Alt+S]
N. Virginia
New EC2 Experience
Tell us what you think
EC2 Dashboard
EC2 Global View
Events
Limits
Instances
Instances
Instance Types
Launch Templates
Spot Requests
Savings Plans
Reserved Instances
Dedicated Hosts
Scheduled Instances
Capacity Reservations
Images
AMIs
AMI Catalog
Elastic Block Store
Volumes
Instances (1/2) Info
Connect
Instance state
Actions
Launch instances
Find instance by attribute or tag (case-sensitive)
Instance state = running
Clear filters
Name
Instance ID
Instance state
Instance type
Status check
Alarm status
Availability Zone
Public IPv4 DNS
om007
i-08d37497331459640
Running
t2.micro
Initializing
No alarms
us-east-1a
Bastion Host
i-0b4f94a82d16e0596
Running
t2.micro
2/2 checks passed
No alarms
us-east-1a
Instance: i-08d37497331459640 (om007)
Details
Security
Networking
Storage
Status checks
Monitoring
Tags
Instance summary Info
Instance ID
i-08d37497331459640 (om007)
Public IPv4 address
52.70.59.235 | open address
Private IPv4 addresses
172.31.92.213
IPv6 address
Instance state
Running
Public IPv4 DNS
ec2-52-70-59-235.compute-1.amazonaws.com | open address
Hostname type
IP name: ip-172-31-92-213.ec2.internal
Private IP DNS name (IPv4 only)
ip-172-31-92-213.ec2.internal
Answer private resource DNS name
IPv4 (A)
Instance type
t2.micro
Elastic IP addresses
Auto-assigned IP address
VPC ID
AWS Compute Optimizer finding
Waiting for us-east-1.console.aws.amazon.com...
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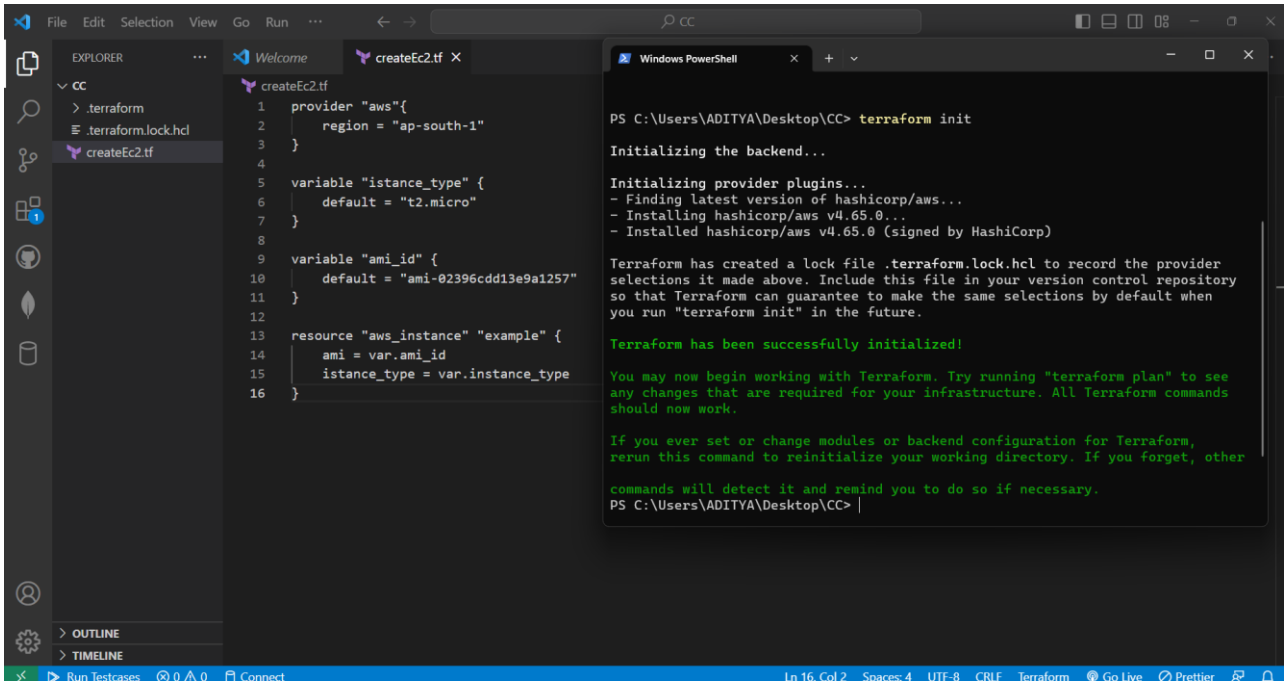
Privacy
Terms
Cookie preferences


File
Edit
Selection
View
Go
Run
EXPLORER
cc
.terraform
.terraform.lock.hcl
createEc2.tf
Welcome
createEc2.tf
createEc2.tf
provider "aws"{
region = "ap-south-1"
}
variable "istance_type" {
default = "t2.micro"
}
variable "ami_id" {
default = "ami-02396cdd13e9a1257"
}
resource "aws_instance" "example" {
ami = var.ami_id
istance_type = var.instance_type
}
Windows PowerShell
PS C:\Users\ADITYA\Desktop\CC> terraform init
Initializing the backend...
Initializing provider plugins...
- Finding latest version of hashicorp/aws...
- Installing hashicorp/aws v4.65.0...
- Installed hashicorp/aws v4.65.0 (signed by HashiCorp)
Terraform has created a lock file .terraform.lock.hcl to record the provider selections it made above. Include this file in your version control repository so that Terraform can guarantee to make the same selections by default when you run "terraform init" in the future.
Terraform has been successfully initialized!
You may now begin working with Terraform. Try running "terraform plan" to see any changes that are required for your infrastructure. All Terraform commands should now work.
If you ever set or change modules or backend configuration for Terraform, rerun this command to reinitialize your working directory. If you forget, other commands will detect it and remind you to do so if necessary.
PS C:\Users\ADITYA\Desktop\CC>
OUTLINE
TIMELINE
Run Testcases
Connect
Ln 16, Col 2
Spaces: 4
UTF-8
CRLF
Terraform
Go Live
Prettier