



FATIMA JINNAH WOMEN UNIVERSITY

Submitted To:

Engr. Muhammad Shoaib

Submitted By:

Irraj Samreen(027)

Section:

5A

CLOUD COMPUTING

LAB 9

Task 1 and 2

```
C:\Users\USMAN-PC>
C:\Users\USMAN-PC>winget install --id GitHub.cli
Found an existing package already installed. Trying to upgrade the installed package...
No available upgrade found.
No newer package versions are available from the configured sources.

C:\Users\USMAN-PC>s_
```

```
C:\Users\USMAN-PC>
C:\Users\USMAN-PC>winget install --id GitHub.cli
Found an existing package already installed. Trying to upgrade the installed package...
No available upgrade found.
No newer package versions are available from the configured sources.

C:\Users\USMAN-PC>gh auth login -s codespace
? Where do you use GitHub? GitHub.com
? What is your preferred protocol for Git operations on this host? HTTPS
? Authenticate Git with your GitHub credentials? Yes
? How would you like to authenticate GitHub CLI? Login with a web browser

! First copy your one-time code: 536E-5546
Press Enter to open https://github.com/login/device in your browser...
```



Authorize GitHub CLI

 This authorization was requested from Chakwal 103.149.9.130 on January 3rd, 2026 at 20:36 (PKT)

Make sure you trust this device as it will get access to your account.



GitHub CLI by GitHub

wants to access your 23-22411-027-max account



Codespace

Manage codespaces



Gists

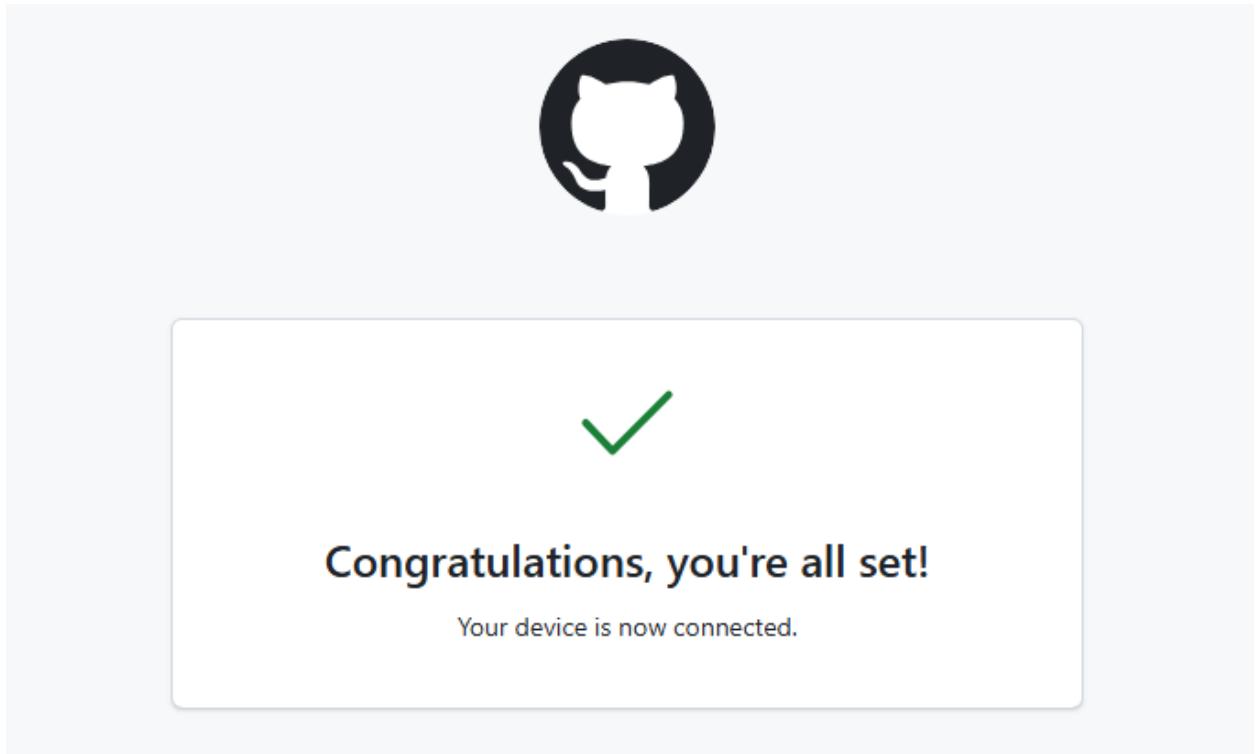
Read and write access



Organizations and teams

Read-only access





```
C:\Users\USMAN-PC>
C:\Users\USMAN-PC>gh codespace list
NAME          DISPLAY NAME      REPOSITORY      BRANCH      STATE
psychic-chainsaw-69xr9v9prg57... psychic chainsaw  23-22411-027-max/new... main   Shutdown
congenial-invention-4jpgjqjrg... congenial invention 23-22411-027-max/lab9  main   Shutdown
humble-lamp-96vxxqrpjpcxvgr    humble lamp     23-22411-027-max/lab10cc main*  Shutdown
congenial-space-fiesta-r45r47... congenial space fiesta 23-22411-027-max/LAB11CC main*  Shutdown
super-space-dollop-7vjrv7vxr9... super space dollop  23-22411-027-max/TERR... main   Shutdown
friendly-cod-jjp4jrjgrx7wfq57w friendly cod      23-22411-027-max/lab-12 main   Shutdown

C:\Users\USMAN-PC>
C:\Users\USMAN-PC>gh codespace ssh -c humble-lamp-96vxxqrpjpcxvgr
Waiting for codespace to become ready
```

```
C:\Users\USMAN-PC>gh codespace ssh -c congenial-invention-4jpgjqjrggxr2q7r
Welcome to Ubuntu 24.04.3 LTS (GNU/Linux 6.8.0-1030-azure x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:     https://landscape.canonical.com
 * Support:        https://ubuntu.com/pro

The programs included with the Ubuntu system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*copyright.

Ubuntu comes with ABSOLUTELY NO WARRANTY, to the extent permitted by
applicable law.

@23-22411-027-max ~ /workspaces/lab9 (main) $
@23-22411-027-max ~ /workspaces/lab9 (main) $
```

```

creating: aws/dist/awscli/customizations/wizard/wizards/iam/
creating: aws/dist/awscli/customizations/wizard/wizards/lambda/
inflating: aws/dist/awscli/customizations/wizard/wizards/configure/_main.yml
inflating: aws/dist/awscli/customizations/wizard/wizards/events/new-rule.yml
inflating: aws/dist/awscli/customizations/wizard/wizards/dynamodb/new-table.yml
inflating: aws/dist/awscli/customizations/wizard/wizards/lambda/new-function.yml
inflating: aws/dist/awscli/customizations/wizard/wizards/iam/new-role.yml
inflating: aws/dist/awscli/customizations/sso/index.html
inflating: aws/dist/awscli/data/metadata.json
inflating: aws/dist/awscli/data/cli.json
inflating: aws/dist/awscli/data/ac.index
    creating: aws/dist/prompt_toolkit-3.0.51.dist-info/licenses/
inflating: aws/dist/prompt_toolkit-3.0.51.dist-info/top_level.txt
inflating: aws/dist/prompt_toolkit-3.0.51.dist-info/METADATA
inflating: aws/dist/prompt_toolkit-3.0.51.dist-info/WHEEL
inflating: aws/dist/prompt_toolkit-3.0.51.dist-info/INSTALLER
inflating: aws/dist/prompt_toolkit-3.0.51.dist-info/RECORD
inflating: aws/dist/prompt_toolkit-3.0.51.dist-info/licenses/AUTHORS.rst
inflating: aws/dist/prompt_toolkit-3.0.51.dist-info/licenses/LICENSE
inflating: aws/dist/wheel-0.45.1.dist-info/WHEEL
inflating: aws/dist/wheel-0.45.1.dist-info/LICENSE.txt
inflating: aws/dist/wheel-0.45.1.dist-info/METADATA
inflating: aws/dist/wheel-0.45.1.dist-info/REQUESTED
inflating: aws/dist/wheel-0.45.1.dist-info/INSTALLER
inflating: aws/dist/wheel-0.45.1.dist-info/direct_url.json
inflating: aws/dist/wheel-0.45.1.dist-info/entry_points.txt
inflating: aws/dist/wheel-0.45.1.dist-info/RECORD
@23-22411-027-max 🐧 /workspaces/lab9 (main) $ sudo ./aws/install
You can now run: /usr/local/bin/aws --version
@23-22411-027-max 🐧 /workspaces/lab9 (main) $

```

```

inflating: aws/dist/wheel-0.45.1.dist-info/METADATA
inflating: aws/dist/wheel-0.45.1.dist-info/REQUESTED
inflating: aws/dist/wheel-0.45.1.dist-info/INSTALLER
inflating: aws/dist/wheel-0.45.1.dist-info/direct_url.json
inflating: aws/dist/wheel-0.45.1.dist-info/entry_points.txt
inflating: aws/dist/wheel-0.45.1.dist-info/RECORD
@23-22411-027-max 🐧 /workspaces/lab9 (main) $ sudo ./aws/install
You can now run: /usr/local/bin/aws --version
@23-22411-027-max 🐧 /workspaces/lab9 (main) $ aws --version
aws-cli/2.32.28 Python/3.13.11 Linux/6.8.0-1030-azure exe/x86_64.ubuntu.24
@23-22411-027-max 🐧 /workspaces/lab9 (main) $ aws configure
AWS Access Key ID [None]: AKIATC2FAR6CN26MZ40S
AWS Secret Access Key [None]: /7o3jYrtCKZW9yazaU9sGFhyPbb9Zp1d7WVYEqiY
Default region name [None]: me-central-1
Default output format [None]: json
@23-22411-027-max 🐧 /workspaces/lab9 (main) $ cat ~/.aws/credentials
[default]
aws_access_key_id = AKIATC2FAR6CN26MZ40S
aws_secret_access_key = /7o3jYrtCKZW9yazaU9sGFhyPbb9Zp1d7WVYEqiY
@23-22411-027-max 🐧 /workspaces/lab9 (main) $ cat ~/.aws/config
[default]
region = me-central-1
output = json
@23-22411-027-max 🐧 /workspaces/lab9 (main) $ aws sts get-caller-identity
{
    "UserId": "AIDATC2FAR6CKZM7UCAFY",
    "Account": "212208750468",
    "Arn": "arn:aws:iam::212208750468:user/Admin"
}
@23-22411-027-max 🐧 /workspaces/lab9 (main) $

```

Task 3 and 4

```
        "Value": "Terraform"
    },
    {
        "Key": "Name",
        "Value": "prod-vpc"
    }
]
],
[
    "vpc-0a3ccfa34f8ccf642",
    null
],
[
    "vpc-0e5d310e1ba4a5607",
    [
        {
            "Key": "Name",
            "Value": "prod-vpc"
        },
@23-22411-027-max eworkspaces/lab9 (main) $ aws ec2 create-security-group \
> --group-name "MySecurityGroup" \
> --description "My Security Group" \
> --vpc-id vpc-0d9a5bd95fa646fd5 \
> --region me-central-1
{
    "GroupId": "sg-0227bfd7b8bdef976",
    "SecurityGroupArn": "arn:aws:ec2:me-central-1:212208750468:security-group/sg-0227bfd7b8bdef976"
}
@23-22411-027-max eworkspaces/lab9 (main) $
@23-22411-027-max eworkspaces/lab9 (main) $
```

```
me-central-1
{
    "SecurityGroups": [
        {
            "GroupId": "sg-0227bfd7b8bdef976",
            "IpPermissionsEgress": [
                {
                    "IpProtocol": "-1",
                    "UserIdGroupPairs": [],
                    "IpRanges": [
                        {
                            "CidrIp": "0.0.0.0/0"
                        }
                    ],
                    "Ipv6Ranges": [],
                    "PrefixListIds": []
                }
            ],
            "VpcId": "vpc-0d9a5bd95fa646fd5",
            "SecurityGroupArn": "arn:aws:ec2:me-central-1:212208750468:security-group/sg-0227bfd7b8bdef976",
            "OwnerId": "212208750468",
            "GroupName": "MySecurityGroup",
            "Description": "My Security Group",
            "IpPermissions": []
        }
    ]
}
@23-22411-027-max eworkspaces/lab9 (main) $
@23-22411-027-max eworkspaces/lab9 (main) $
```

```
        }
    ]
}

@23-22411-027-max ~ /workspaces/lab9 (main) $ 
@23-22411-027-max ~ /workspaces/lab9 (main) $ curl ianhazip.com
20.192.21.54
@23-22411-027-max ~ /workspaces/lab9 (main) $ aws ec2 authorize-security-group-ingress \
> --group-id sg-0227bfd7b8bdef976 \
> --protocol tcp \
> --port 22 \
> --cidr 20.192.21.54/32 \
> --region me-central-1
{
  "Return": true,
  "SecurityGroupRules": [
    {
      "SecurityGroupRuleId": "sgr-0ae4f632e156b653d",
      "GroupId": "sg-0227bfd7b8bdef976",
      "GroupOwnerId": "212208750468",
      "IsEgress": false,
      "IpProtocol": "tcp",
      "FromPort": 22,
      "ToPort": 22,
      "CidrIpv4": "20.192.21.54/32",
      "SecurityGroupRuleArn": "arn:aws:ec2:me-central-1:212208750468:security-group-rule/sgr-0ae4f632e156b653d"
    }
  ]
}
@23-22411-027-max ~ /workspaces/lab9 (main) $ 
@23-22411-027-max ~ /workspaces/lab9 (main) $ ss
```

```
        ],
    }
@23-22411-027-max ~ /workspaces/lab9 (main) $ aws ec2 describe-security-groups --group-ids sg-0227bfd7b8bdef976 --region me-central-1
{
    "SecurityGroups": [
        {
            "GroupId": "sg-0227bfd7b8bdef976",
            "IpPermissionsEgress": [
                {
                    "IpProtocol": "-1",
                    "UserIdGroupPairs": [],
                    "IpRanges": [
                        {
                            "CidrIp": "0.0.0.0/0"
                        }
                    ],
                    "Ipv6Ranges": [],
                    "PrefixListIds": []
                }
            ],
            "VpcId": "vpc-0d9a5bd95fa646fd5",
            "SecurityGroupArn": "arn:aws:ec2:me-central-1:212208750468:security-group/sg-0227bfd7b8bdef976",
            "OwnerId": "212208750468",
            "GroupName": "MySecurityGroup",
            "Description": "My Security Group",
            "IpPermissions": [
                {
                    "IpProtocol": "tcp",
@23-22411-027-max ~ /workspaces/lab9 (main) $ aws ec2 create-key-pair \
> --key-name MyED25519Key2 \
> --key-type ed25519 \
> --key-format pem \
> --query 'KeyMaterial' \
> --output text > MyED25519Key2.pem
@23-22411-027-max ~ /workspaces/lab9 (main) $ aws ec2 describe-key-pairs
{
    "KeyPairs": [
        {
            "KeyPairId": "key-0ae5b6eea3cf29cba",
            "KeyType": "ed25519",
            "Tags": [],
            "CreateTime": "2025-12-30T13:24:39.272000+00:00",
            "KeyName": "prod-web-3-3-key",
            "KeyFingerprint": "ugBvEHEkj0EdViA/7gVoBwXoQjsW12+bM6WZDbAsnvc="
        },
        {
            "KeyPairId": "key-01d772d3858cbba73",
            "KeyType": "ed25519",
            "Tags": [],
            "CreateTime": "2025-12-30T13:24:39.350000+00:00",
            "KeyName": "prod-web-2-2-key",
            "KeyFingerprint": "ugBvEHEkj0EdViA/7gVoBwXoQjsW12+bM6WZDbAsnvc="
        },
        {
            "KeyPairId": "key-016ddb688353132d2",
            "KeyType": "ed25519",
            "Tags": [],
            "CreateTime": "2026-01-01T19:28:00.074000+00:00",
            "KeyName": "MyED25519Key",
            "KeyFingerprint": "1NXHI0vaOnECy+vhaCwsLbhokuw2bum6nuWG72GbIp4="
        },
        {
            "KeyPairId": "key-0932067197856e6b2",
            "KeyType": "rsa",
@23-22411-027-max ~ /workspaces/lab9 (main) $
```

```
> --key-name MyED25519Key \
> --key-type ed25519 \
> --key-format pem \
> --query 'KeyMaterial' \
> --output text \
> --region me-central-1 > MyED25519Key.pem

@23-22411-027-max ~ /workspaces/lab9 (main) $ chmod 400 MyED25519Key.pem
@23-22411-027-max ~ /workspaces/lab9 (main) $ aws ec2 run-instances \
>   --image-id ami-05e66df2bafcb7dea \
>   --count 1 \
>   --instance-type t3.micro \
>   --key-name MyED25519Key \
>   --security-group-ids sg-0227bfd7b8bdef976 \
>   --subnet-id subnet-0a80547ecbb2cf81d \
>   --tag-specifications 'ResourceType=instance,Tags=[{Key=Name,Value=MyServer}]' \
>   --region me-central-1

{
    "ReservationId": "r-05456ac9b2570f15a",
    "OwnerId": "212208750468",
    "Groups": [],
    "Instances": [
        {
            "Architecture": "x86_64",
            "BlockDeviceMappings": [],
            "ClientToken": "2ab5d651-8a85-4bb1-b1f9-48a01e243fd9",
            "Architecture": "x86_64",
            "BlockDeviceMappings": [],
            "ClientToken": "2ab5d651-8a85-4bb1-b1f9-48a01e243fd9",
            "EbsOptimized": false,
            "EnaSupport": true,
            "Hypervisor": "xen",
            "NetworkInterfaces": [
                {
                    "Attachment": {
                        "AttachTime": "2026-01-03T16:55:21+00:00",
                        "AttachmentId": "eni-attach-002fbb7e22cc888e8",
                        "DeleteOnTermination": true,
                        "DeviceIndex": 0,
                        "Status": "attaching",
                        "NetworkCardIndex": 0
                    },
                    "Description": "",
                    "Groups": [
                        {
                            "GroupId": "sg-0227bfd7b8bdef976",
                            "GroupName": "MySecurityGroup"
                        }
                    ],
                    "Ipv6Addresses": []
                }
            ]
        }
    ]
}
```

```

@23-22411-027-max ~ /workspaces/lab9 (main) $ @23-22411-027-max ~ /workspaces/lab9 (main) $ aws ec2 run-instances \
> --image-id ami-05e66df2bafcb7dea \
> --count 1 \
> --instance-type t3.micro \
> --key-name MyED25519Key \
> --security-group-ids sg-0227bfd7b8bdef976 \
> --subnet-id subnet-0a80547ecbb2cf81d \
> --tag-specifications 'ResourceType=instance,Tags=[{Key=Name,Value=MyServer}]' \
> --region me-central-1

{
    "ReservationId": "r-03446dbe75af92a2",
    "OwnerId": "212208750468",
    "Groups": [],
    "Instances": [
        {
            "Architecture": "x86_64",
            "BlockDeviceMappings": [],
            "ClientToken": "1d31d256-35fa-4329-881e-bb81109761c9",
            "EbsOptimized": false,
            "EnaSupport": true,
            "Hypervisor": "xen",
            "NetworkInterfaces": [
                {
                    "Attachment": {
                        "AttachTime": "2026-01-03T17:02:05+00:00",
                        "AttachmentId": "eni-attach-03cdff6f409008b7b",
                        "DeleteOnTermination": true,
                        "DeviceIndex": 0,
                        "Status": "attaching",
                        "NetworkCardIndex": 0
                    },
                    "Description": "",
                    "Groups": [
                        {
                            "GroupId": "sg-0227bfd7b8bdef976",
                            "GroupName": "MySecurityGroup"
                        }
                    ],
                    "Ipv6Addresses": []
                }
            ]
        }
    ]
}

```

i-0a59bc2a26c91fd1d	None	
i-00ca19afdc23dcc9b	None	
i-010989d728ba10231	None	
i-0646a8468108f2f80	None	
i-043d0b83db16ae4d0	None	
i-055b1c8b46f225f3d	None	
i-0194108d581e4f516	None	
i-08f077ddf88fc01a1	None	
i-0282facac818f3072	3.28.187.76	

```

@23-22411-027-max ~ /workspaces/lab9 (main) $ @23-22411-027-max ~ /workspaces/lab9 (main) $ chmod 400 MyED25519Key.pem
@23-22411-027-max ~ /workspaces/lab9 (main) $ ssh -i MyED25519Key.pem ec2-user@3.28.187.76
The authenticity of host '3.28.187.76 (3.28.187.76)' can't be established.
ED25519 key fingerprint is SHA256:wc/TxNyl3fNGeJ1adLWmCoiUNBQ2XSm3l2Qn4Dn0qFI.
This key is not known by any other names.
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added '3.28.187.76' (ED25519) to the list of known hosts.

          #_
         ~\_\####_      Amazon Linux 2023
         ~~ \####\_
         ~~ \|##|
         ~~  \|/_   https://aws.amazon.com/linux/amazon-linux-2023
         ~~   \-'-->
         ~~~   /
         ~~_.-/-
         /m/-
[ec2-user@ip-10-0-10-85 ~]$ 

```

```
@23-22411-027-max 🐖 /workspaces/lab9 (main) $ aws ec2 stop-instances --instance-ids i-0282facac818f3072 --region me-central-1
[
    "StoppingInstances": [
        {
            "InstanceId": "i-0282facac818f3072",
            "CurrentState": {
                "Code": 64,
                "Name": "stopping"
            },
            "PreviousState": {
                "Code": 16,
                "Name": "running"
            }
        }
    ]
]
```

```
@23-22411-027-max 🐖 /workspaces/lab9 (main) $ aws ec2 describe-instances \
>   --instance-ids i-0282facac818f3072 \
>   --region me-central-1 \
>   --query "Reservations[*].Instances[*].[InstanceId,State.Name]" \
>   --output table
+-----+
|      DescribeInstances      |
+-----+
| i-0282facac818f3072 | stopped |
+-----+
@23-22411-027-max 🐖 /workspaces/lab9 (main) $
@23-22411-027-max 🐖 /workspaces/lab9 (main) $ aws ec2 start-instances --instance-ids i-0282facac818f3072 --region me-central-1
{
    "StartingInstances": [
        {
            "InstanceId": "i-0282facac818f3072",
            "CurrentState": {
                "Code": 0,
                "Name": "pending"
            },
            "PreviousState": {
                "Code": 64
            }
        }
    ]
}
```

```
me-central-1
{
    "StartingInstances": [
        {
            "InstanceId": "i-0282facac818f3072",
            "CurrentState": {
                "Code": 0,
                "Name": "pending"
            },
            "PreviousState": {
                "Code": 80,
                "Name": "stopped"
            }
        }
    ]
}
@23-22411-027-max 🐖 /workspaces/lab9 (main) $
@23-22411-027-max 🐖 /workspaces/lab9 (main) $ aws ec2 describe-instances \
>   --instance-ids i-0282facac818f3072 \
>   --region me-central-1 \
>   --query "Reservations[*].Instances[*].[InstanceId,State.Name,PublicIpAddress]" \
>   --output table
+-----+
|      DescribeInstances      |
+-----+
| i-0282facac818f3072 | running | 3.29.67.1 |
+-----+
@23-22411-027-max 🐖 /workspaces/lab9 (main) $
@23-22411-027-max 🐖 /workspaces/lab9 (main) $
```

Task5

```
@23-22411-027 max eworkspaces/lab9 (main) $ aws ec2 describe-security-groups
{
    "SecurityGroups": [
        {
            "GroupId": "sg-0227bfd7b8bdef976",
            "IpPermissionsEgress": [
                {
                    "IpProtocol": "-1",
                    "UserIdGroupPairs": [],
                    "IpRanges": [
                        {
                            "CidrIp": "0.0.0.0/0"
                        }
                    ],
                    "Ipv6Ranges": [],
                    "PrefixListIds": []
                }
            ],
            "VpcId": "vpc-0d9a5bd95fa646fd5",
            "SecurityGroupArn": "arn:aws:ec2:me-central-1:212208750468:security-group/sg-0227bfd7b8bdef976",
            "OwnerId": "212208750468",
            "GroupName": "MySecurityGroup",
            "Description": "My Security Group",
            "IpPermissions": [
                {
                    "IpProtocol": "tcp",
                    "FromPort": 22,
                    "ToPort": 22,
                    "IpRanges": [
@23-22411-027 max eworkspaces/lab9 (main) $ aws ec2 describe-vpcs
{
    "Vpcs": [
        {
            "OwnerId": "212208750468",
            "InstanceTenancy": "default",
            "CidrBlockAssociationSet": [
                {
                    "AssociationId": "vpc-cidr-assoc-08402ecaef41d96bc",
                    "CidrBlock": "10.0.0.0/16",
                    "CidrBlockState": {
                        "State": "associated"
                    }
                }
            ],
            "IsDefault": false,
            "Tags": [
                {
                    "Key": "Environment",
                    "Value": "prod"
                },
                {
                    "Key": "ManagedBy",
                    "Value": "Terraform"
                },
                {
                    "Key": "Name",
                    "Value": "prod-vpc"
                }
            ]
        }
    ]
}
```

```
@23-22411-027-max ~ /workspaces/lab9 (main) $ aws ec2 describe-subnets
{
    "Subnets": [
        {
            "AvailabilityZoneId": "mec1-az1",
            "MapCustomerOwnedIpOnLaunch": false,
            "OwnerId": "212208750468",
            "AssignIpv6AddressOnCreation": false,
            "Ipv6CidrBlockAssociationSet": [],
            "SubnetArn": "arn:aws:ec2:me-central-1:212208750468:subnet/subnet-0af12daab35e04f30",
            "EnableDns64": false,
            "Ipv6Native": false,
            "PrivateDnsNameOptionsOnLaunch": {
                "HostnameType": "ip-name",
                "EnableResourceNameDnsARecord": false,
                "EnableResourceNameDnsAAAARecord": false
            },
            "BlockPublicAccessStates": {
                "InternetGatewayBlockMode": "off"
            },
            "SubnetId": "subnet-0af12daab35e04f30",
            "State": "available",
            "VpcId": "vpc-0a3ccfa34f8ccf642",
            "CidrBlock": "172.31.32.0/20",
            "AvailableIpAddressCount": 4091,
            "AvailabilityZone": "me-central-1a",
            "DefaultForAz": true,
            "MapPublicIpOnLaunch": true
        }
    ]
}
@23-22411-027-max ~ /workspaces/lab9 (main) $ aws ec2 describe-instances
{
    "Reservations": [
        {
            "ReservationId": "r-0a43575f8a18a0697",
            "OwnerId": "212208750468",
            "Groups": [],
            "Instances": [
                {
                    "Architecture": "x86_64",
                    "BlockDeviceMappings": [],
                    "ClientToken": "terraform-20251230071905916900000002",
                    "EbsOptimized": false,
                    "EnaSupport": true,
                    "Hypervisor": "xen",
                    "NetworkInterfaces": [],
                    "RootDeviceName": "/dev/xvda",
                    "RootDeviceType": "ebs",
                    "SecurityGroups": [],
                    "StateReason": {
                        "Code": "Client.UserInitiatedShutdown",
                        "Message": "Client.UserInitiatedShutdown: User initiated shutdown"
                    },
                    "Tags": [
                        {
                            "Key": "Name",
                            "Value": "nginx-server"
                        }
                    ],
                    "VirtualizationType": "hvm"
                }
            ]
        }
    ]
}
```

```
      Key : Environment ,  
@23-22411-027-max  /workspaces/lab9 (main) $ aws ec2 describe-regions  
{  
    "Regions": [  
        {  
            "OptInStatus": "opt-in-not-required",  
            "RegionName": "ap-south-1",  
            "Endpoint": "ec2.ap-south-1.amazonaws.com"  
        },  
        {  
            "OptInStatus": "opt-in-not-required",  
            "RegionName": "eu-north-1",  
            "Endpoint": "ec2.eu-north-1.amazonaws.com"  
        },  
        {  
            "OptInStatus": "opt-in-not-required",  
            "RegionName": "eu-west-3",  
            "Endpoint": "ec2.eu-west-3.amazonaws.com"  
        },  
        {  
            "OptInStatus": "opt-in-not-required",  
            "RegionName": "eu-west-2",  
            "Endpoint": "ec2.eu-west-2.amazonaws.com"  
        },  
        {  
            "OptInStatus": "opt-in-not-required",  
            "RegionName": "eu-west-1",  
            "Endpoint": "ec2.eu-west-1.amazonaws.com"  
        },  
        {  
            "OptInStatus": "opt-in-not-required",  
            "RegionName": "me-central-1",  
            "Endpoint": "ec2.me-central-1.amazonaws.com"  
        }  
    ]  
}
```

```
@23-22411-027-max  /workspaces/lab9 (main) $ aws ec2 describe-availability-zones  
{  
    "AvailabilityZones": [  
        {  
            "OptInStatus": "opt-in-not-required",  
            "Messages": [],  
            "RegionName": "me-central-1",  
            "ZoneName": "me-central-1a",  
            "ZoneId": "mec1-az1",  
            "GroupName": "me-central-1-zg-1",  
            "NetworkBorderGroup": "me-central-1",  
            "ZoneType": "availability-zone",  
            "GroupLongName": "Middle East (UAE) 1",  
            "State": "available"  
        },  
        {  
            "OptInStatus": "opt-in-not-required",  
            "Messages": [],  
            "RegionName": "me-central-1",  
            "ZoneName": "me-central-1b",  
            "ZoneId": "mec1-az2",  
            "GroupName": "me-central-1-zg-1",  
            "NetworkBorderGroup": "me-central-1",  
            "ZoneType": "availability-zone",  
            "GroupLongName": "Middle East (UAE) 1",  
            "State": "available"  
        },  
        {  
            "OptInStatus": "opt-in-not-required",  
            "Messages": [],  
            "RegionName": "me-central-1",  
            "ZoneName": "me-central-1c",  
            "ZoneId": "mec1-az3",  
            "GroupName": "me-central-1-zg-1",  
            "NetworkBorderGroup": "me-central-1",  
            "ZoneType": "availability-zone",  
            "GroupLongName": "Middle East (UAE) 1",  
            "State": "available"  
        }  
    ]  
}
```

TASK6

```
        "OptInStatus": "opt-in-not-required",
        "Messages": []
}
@23-22411-027-max ~ /workspaces/lab9 (main) $ aws iam create-group --group-name MyGroupCli
{
    "Group": {
        "Path": "/",
        "GroupName": "MyGroupCli",
        "GroupId": "AGPATC2FAR6CA6Q3LCTV5",
        "Arn": "arn:aws:iam::212208750468:group/MyGroupCli",
        "CreateDate": "2026-01-03T17:24:28+00:00"
    }
}
@23-22411-027-max ~ /workspaces/lab9 (main) $ 3. Create user:
@23-22411-027-max ~ /workspaces/lab9 (main) $ aws iam get-group --group-name MyGroupCli
{
    "Users": [],
    "Group": {
        "Path": "/",
        "GroupName": "MyGroupCli",
        "GroupId": "AGPATC2FAR6CA6Q3LCTV5",
        "Arn": "arn:aws:iam::212208750468:group/MyGroupCli",
        "CreateDate": "2026-01-03T17:24:28+00:00"
    }
}
```

```
@23-22411-027-max ~ /workspaces/lab9 (main) $ aws iam create-user --user-name MyUserCli
{
    "User": {
        "Path": "/",
        "UserName": "MyUserCli",
        "UserId": "AIDATC2FAR6CNYYQK07YL",
        "Arn": "arn:aws:iam::212208750468:user/MyUserCli",
        "CreateDate": "2026-01-03T17:25:16+00:00"
    }
}
@23-22411-027-max ~ /workspaces/lab9 (main) $
@23-22411-027-max ~ /workspaces/lab9 (main) $
@23-22411-027-max ~ /workspaces/lab9 (main) $ ^V
-bash: '$\026': command not found
@23-22411-027-max ~ /workspaces/lab9 (main) $ aws iam get-user --user-name MyUserCli
{
    "User": {
        "Path": "/",
        "UserName": "MyUserCli",
        "UserId": "AIDATC2FAR6CNYYQK07YL",
        "Arn": "arn:aws:iam::212208750468:user/MyUserCli",
        "CreateDate": "2026-01-03T17:25:16+00:00"
    }
}
```

```
@23-22411-027-max ~ /workspaces/lab9 (main) $ aws iam add-user-to-group --user-name MyUserCli --group-name MyGroupCli
@23-22411-027-max ~ /workspaces/lab9 (main) $ aws iam get-group --group-name MyGroupCli
{
    "Users": [
        {
            "Path": "/",
            "UserName": "MyUserCli",
            "UserId": "AIDATC2FAR6CNYYQK07YL",
            "Arn": "arn:aws:iam::212208750468:user/MyUserCli",
            "CreateDate": "2026-01-03T17:25:16+00:00"
        }
    ],
    "Group": {
        "Path": "/",
        "GroupName": "MyGroupCli",
        "GroupId": "AGPATC2FAR6CA6Q3LCTV5",
        "Arn": "arn:aws:iam::212208750468:group/MyGroupCli",
        "CreateDate": "2026-01-03T17:24:28+00:00"
    }
}
```

```
[0] 23-22411-027-max ~ /workspaces/lab9 (main) $ aws iam list-policies \
>   --query "Policies[?contains(PolicyName, 'EC2')].{Name:PolicyName}" \
>   --output text
AmazonEC2FullAccess
AmazonEC2ReadOnlyAccess
AmazonElasticMapReduceforEC2Role
AmazonEC2RoleforDataPipelineRole
AmazonEC2ContainerServiceforEC2Role
AmazonEC2ContainerServiceRole
AmazonEC2RoleforAWSCodeDeploy
AmazonEC2RoleforSSM
CloudWatchActionsEC2Access
AmazonEC2ContainerRegistryReadOnly
AmazonEC2ContainerRegistryPowerUser
AmazonEC2ContainerRegistryFullAccess
AmazonEC2ContainerServiceAutoscaleRole
AmazonEC2SpotFleetAutoscaleRole
AWSElasticBeanstalkCustomPlatformforEC2Role
AmazonEC2ContainerServiceEventsRole
AmazonEC2SpotFleetTaggingRole
AWSEC2SpotServiceRolePolicy
AWSServiceRoleForEC2ScheduledInstances
AWSEC2SpotFleetServiceRolePolicy
AWSApplicationAutoscalingEC2SpotFleetRequestPolicy
AWSEC2FleetServiceRolePolicy
AWSAutoScalingPlansEC2AutoScalingPolicy
EC2InstanceConnect
AmazonEC2RolePolicyForLaunchWizard
[0] 23-22411-027-max ~ /workspaces/lab9 (main) $ aws iam list-policies --query 'Policies[?PolicyName==`AmazonEC2FullAccess`].{Name:PolicyName, ARN:Arn}' --output table
+-----+-----+
|      ListPolicies      |
+-----+-----+
|      ARN              |      Name           |
+-----+-----+
| arn:aws:iam::aws:policy/AmazonEC2FullAccess | AmazonEC2FullAccess |
+-----+-----+
[0] 23-22411-027-max ~ /workspaces/lab9 (main) $ aws iam attach-group-policy \
```

```

|           ListPolicies
+-----+-----+
|      ARN          |      Name       |
+-----+-----+
| arn:aws:iam::aws:policy/AmazonEC2FullAccess | AmazonEC2FullAccess |
+-----+-----+
@23-22411-027-max ~ /workspaces/lab9 (main) $ aws iam attach-group-policy \
> --group-name MyGroupCli \
> --policy-arn arn:aws:iam::aws:policy/EXAMPLEPolicyName

An error occurred (NoSuchEntity) when calling the AttachGroupPolicy operation: Policy arn:aws:iam::aws:policy/EXAMPLEPolicyName does not exist or is not attachable.
@23-22411-027-max ~ /workspaces/lab9 (main) $ aws iam attach-group-policy \
> --group-name MyGroupCli \
> --policy-arn arn:aws:iam::aws:policy/AdministratorAccess

@23-22411-027-max ~ /workspaces/lab9 (main) $ aws iam attach-group-policy --group-name MyGroupCli --policy-arn arn:aws:iam::aws:policy/AdministratorAccess
@23-22411-027-max ~ /workspaces/lab9 (main) $ aws iam list-attached-group-policies --group-name MyGroupCli
{
  "AttachedPolicies": [
    {
      "PolicyName": "AdministratorAccess",
      "PolicyArn": "arn:aws:iam::aws:policy/AdministratorAccess"
    }
  ]
}
@23-22411-027-max ~ /workspaces/lab9 (main) $
@23-22411-027-max ~ /workspaces/lab9 (main) $ aws iam create-login-profile \
> --user-name MyUserCli \
> --password "MyStrongPass123!" \
> --password-reset-required

{
  "LoginProfile": {
    "UserName": "MyUserCli",
    "CreateDate": "2026-01-03T17:31:03+00:00",
    "PasswordResetRequired": true
  }
}

@23-22411-027-max ~ /workspaces/lab9 (main) $ aws iam attach-group-policy --group-name MyGroupCli --policy-arn arn:aws:iam::aws:policy/IAMUserChangePassword
@23-22411-027-max ~ /workspaces/lab9 (main) $ aws iam create-access-key --user-name MyUserCli
{
  "AccessKey": {
    "UserName": "MyUserCli",
    "AccessKeyId": "AKIATC2FAR6CNIDRMUH4",
    "Status": "Active",
    "SecretAccessKey": "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",
    "CreateDate": "2026-01-03T17:31:40+00:00"
  }
}

@23-22411-027-max ~ /workspaces/lab9 (main) $ export AWS_ACCESS_KEY_ID="AKIA123EXAMPLE456"
$ AWS_SECRET_ACCESS_KEY="abcd1234EXAMPLE5678"
@23-22411-027-max ~ /workspaces/lab9 (main) $ printenv | grep AWS_
AWS_SECRET_ACCESS_KEY=abcd1234EXAMPLE5678
AWS_ACCESS_KEY_ID=AKIA123EXAMPLE456
@23-22411-027-max ~ /workspaces/lab9 (main) $

----- Key -----
@23-22411-027-max ~ /workspaces/lab9 (main) $ export AWS_SECRET_ACCESS_KEY=/7o3jYrtC
@23-22411-027-max ~ /workspaces/lab9 (main) $ printenv | grep AWS_

```

```
AWS_SECRET_ACCESS_KEY=7703jYHtCKZW9yazaa095GfHyPdb9Zp1d/WvyEqrV
AWS_SECRET_KEY_ID=AKIATC2FAR6CN26MZ40S
AWS_ACCESS_KEY_ID=AKIATC2FAR6CN26MZ40S
@23-22411-027-max ~ /workspaces/lab9 (main) $ aws iam get-user --user-name MyUserCli
[
  "User": {
    "Path": "/",
    "UserName": "MyUserCli",
    "UserId": "AIDATC2FAR6CNYYQK07YL",
    "Arn": "arn:aws:iam::212208750468:user/MyUserCli",
    "CreateDate": "2026-01-03T17:25:16+00:00"
  }
]
@23-22411-027-max ~ /workspaces/lab9 (main) $ -
```

```
Check-in
@23-22411-027-max ~ /workspaces/lab9 (main) $ exit
logout
Connection to localhost closed.
```

Task7

```
Last login: Sat Jan  3 10:12:37 2026 from ...
@23-22411-027-max ~ /workspaces/lab9 (main) $ aws ec2 describe-instances \
>   --filters "Name>tag:Name,Values=MyServer" \
>   --query "Reservations[*].Instances[*].PublicIpAddress" \
>   --output text
3.29.67.1
@23-22411-027-max ~ /workspaces/lab9 (main) $ aws ec2 describe-instances \
>   --filters "Name=instance-type,Values=t3.micro" \
>   --query "Reservations[].Instances[].[InstanceId]" \
>   --output table
+-----+
| DescribeInstances |
+-----+
| i-0a59bc2a26c91fd1d |
| i-00ca19afdc23dcc9b |
| i-010989d728ba10231 |
| i-0646a8468108f2f80 |
| i-043d0b83db16ae4d0 |
| i-055b1c8b46f225f3d |
| i-0194108d581e4f516 |
| i-08f077ddf88fc01a1 |
| i-0282facac818f3072 |
+-----+
@23-22411-027-max ~ /workspaces/lab9 (main) $
```



```
i-00107d419a01c01a1 |
i-0282facac818f3072 |
+-----+
@23-22411-027-max ~ /workspaces/lab9 (main) $ aws ec2 describe-instances \
>   --filters "Name=subnet-id,Values=subnet-0600df5fa8ce60857" \
>   --query "Reservations[*].Instances[*].InstanceId" \
>   --output table
@23-22411-027-max ~ /workspaces/lab9 (main) $ aws ec2 describe-instances --filters "Name=subnet-id,Values=su
5fa8ce60857" --query "Reservations[*].Instances[*].InstanceId" --output table
@23-22411-027-max ~ /workspaces/lab9 (main) $ aws ec2 describe-instances \
>   --filters "Name=vpc-id,Values=vpc-06be85cd81b657192" \
>   --query "Reservations[*].Instances[*].InstanceId" \
>   --output table
@23-22411-027-max ~ /workspaces/lab9 (main) $
```

Task 8

```

@23-22411-027-max ~ /workspaces/lab9 (main) $ aws ec2 describe-instances \
> --filters "Name>tag:Name,Values=MyServer" \
> --query "Reservations[*].Instances[*].[InstanceId,PublicIpAddress,Tags[?Key=='Name'].Value|[0]]" \
> --output table
+-----+
|             DescribeInstances           |
+-----+
| i-08f077ddf88fc01a1 | None   | MyServer |
| i-0282facac818f3072 | 3.29.67.1 | MyServer |
+-----+
@23-22411-027-max ~ /workspaces/lab9 (main) $ aws ec2 describe-instances \
> --query "Reservations[*].Instances[*].[InstanceId,State.Name]" \
> --output table
+-----+
|             DescribeInstances           |
+-----+
| i-0a59bc2a26c91fd1d | terminated |
| i-00ca19afdc23dcc9b | terminated |
| i-010989d728ba10231 | terminated |
| i-0646a8468108f2f80 | terminated |
| i-043d0b83db16ae4d0 | terminated |
| i-055b1c8b46f225f3d | terminated |
| i-0194108d581e4f516 | terminated |
| i-08f077ddf88fc01a1 | terminated |
| i-0282facac818f3072 | running   |
+-----+

```

```

@23-22411-027-max ~ /workspaces/lab9 (main) $ aws ec2 describe-instances \
> --query "Reservations[*].Instances[*].[InstanceId,InstanceType,Placement.AvailabilityZone]" \
> --output table
+-----+
|             DescribeInstances           |
+-----+
| i-0a59bc2a26c91fd1d | t3.micro | me-central-1a |
| i-00ca19afdc23dcc9b | t3.micro | me-central-1a |
| i-010989d728ba10231 | t3.micro | me-central-1a |
| i-0646a8468108f2f80 | t3.micro | me-central-1a |
| i-043d0b83db16ae4d0 | t3.micro | me-central-1a |
| i-055b1c8b46f225f3d | t3.micro | me-central-1a |
| i-0194108d581e4f516 | t3.micro | me-central-1a |
| i-08f077ddf88fc01a1 | t3.micro | me-central-1a |
| i-0282facac818f3072 | t3.micro | me-central-1a |
+-----+

```

Cleanup

```

@23-22411-027-max ~ /workspaces/lab9 (main) $ aws ec2 terminate-instances --instance-ids i-0282facac818f3072 --region me-central-1
{
    "TerminatingInstances": [
        {
            "InstanceId": "i-0282facac818f3072",
            "CurrentState": {
                "Code": 32,
                "Name": "shutting-down"
            },
            "PreviousState": {
                "Code": 16,
                "Name": "running"
            }
        }
    ]
}

```

```
3-22411-027-max ~ /workspaces/lab9 (main) $ aws ec2 describe-instances --query "Reservations[*].Instances[*].[InstanceId,State.Name]" --output table --region me-central-1
```

DescribeInstances	
i-0a59bc2a26c91fd1d	terminated
i-00ca19afdc23dcc9b	terminated
i-010989d728ba10231	terminated
i-0646a8468108f2f80	terminated
i-043d0b83db16ae4d0	terminated
i-055b1c8b46f225f3d	terminated
i-0194108d581e4f516	terminated
i-08f077ddf88fc01a1	terminated
i-0282facac818f3072	shutting-down

```
3-22411-027-max ~ /workspaces/lab9 (main) $ aws ec2 delete-security-group --group-id sg-0227bfd7b8bdef976 --region me-central-1
```

```
9Key --region me-central-1
```

```
    "Return": true,
    "GroupId": "sg-0227bfd7b8bdef976"
```

```
3-22411-027-max ~ /workspaces/lab9 (main) $ aws ec2 delete-key-pair --key-name MyED25519Key --region me-central-1
```

```
    "Return": true,
    "KeyPairId": "key-0c3ea0e48bed9bc31"
```

```
3-22411-027-max ~ /workspaces/lab9 (main) $
```