
LAB EXAM

NAME: SHUMAIL ZAHRA
REGISTRATION #: 2023-BSE-061
DEPARTMENT: BSE(5B)

LAB TASK

q1_create_group

```
● @23-22411-061-rgb → /workspaces/Lab_exam (main) $ aws iam create-group --group-name SoftwareEngineering
{
    "Group": {
        "Path": "/",
        "GroupName": "SoftwareEngineering",
        "GroupId": "AGPARC5V6TLZXQKHZDWBX",
        "Arn": "arn:aws:iam::075006647027:group/SoftwareEngineering",
        "CreateDate": "2026-01-19T07:45:39+00:00"
    }
}
```

q1_group_details

```
● @23-22411-061-rgb → /workspaces/Lab_exam (main) $ aws iam get-group --group-name SoftwareEngineering
{
    "Users": [],
    "Group": {
        "Path": "/",
        "GroupName": "SoftwareEngineering",
        "GroupId": "AGPARC5V6TLZXQKHZDWBX",
        "Arn": "arn:aws:iam::075006647027:group/SoftwareEngineering",
        "CreateDate": "2026-01-19T07:45:39+00:00"
    }
}
```

q1_create_user

```
● @23-22411-061-rgb → /workspaces/Lab_exam (main) $ aws iam create-user --user-name Shumail
{
    "User": {
        "path": "/",
        "UserName": "Shumail",
        "UserId": "AIDARC5V6TLZYTZZYNN4",
        "Arn": "arn:aws:iam::075006647027:user/Shumail",
        "CreateDate": "2026-01-19T07:45:55+00:00"
    }
}
```

q1_user_details

```
● @23-22411-061-rgb →/workspaces/Lab_exam (main) $ aws iam get-user --user-name Shumail
{
  "User": {
    "Path": "/",
    "UserName": "Shumail",
    "UserId": "AIDARC5V6TLZYTZZYNN4",
    "Arn": "arn:aws:iam::075006647027:user/Shumail",
    "CreateDate": "2026-01-19T07:45:55+00:00"
  }
}
```

q1_add_user_to_group

```
● @23-22411-061-rgb →/workspaces/Lab_exam (main) $ aws iam add-user-to-group \
  --group-name SoftwareEngineering \
  --user-name Shumail
○ @23-22411-061-rgb →/workspaces/Lab_exam (main) $ █
  (W) 0
```

q1_group_membership

```
● @23-22411-061-rgb →/workspaces/Lab_exam (main) $ aws iam get-group --group-name SoftwareEngineering
{
  "Users": [
    {
      "Path": "/",
      "UserName": "Shumail",
      "UserId": "AIDARC5V6TLZYTZZYNN4",
      "Arn": "arn:aws:iam::075006647027:user/Shumail",
      "CreateDate": "2026-01-19T07:45:55+00:00"
    }
  ],
  "Group": {
    "Path": "/",
    "GroupName": "SoftwareEngineering",
    "GroupId": "AGPARC5V6TLZXQKHZDWBX",
    "Arn": "arn:aws:iam::075006647027:group/SoftwareEngineering",
    "CreateDate": "2026-01-19T07:45:39+00:00"
  }
}
```

q1_find_admin_policy

```
● @23-22411-061-rgb →/workspaces/Lab_exam (main) $ aws iam list-policies --scope AWS --query "Policies[?PolicyName=='AdministratorAccess']"
[
  {
    "PolicyName": "AdministratorAccess",
    "PolicyId": "ANPAIWMBCSKIEE64ZLYK",
    "Arn": "arn:aws:iam::aws:policy/AdministratorAccess",
    "Path": "/",
    "DefaultVersionId": "v1",
    "AttachmentCount": 1,
    "PermissionsBoundaryUsageCount": 0,
    "IsAttachable": true,
    "CreateDate": "2015-02-06T18:39:46+00:00",
    "UpdateDate": "2015-02-06T18:39:46+00:00"
  }
]
```

```
○ @23-22411-061-rgb →/workspaces/Lab_exam (main) $ █
```

q1_attach_admin_policy

```
@23-22411-061-rgb →/workspaces/Lab_exam (main) $ aws iam list-policies --scope AWS --query "Policies[?PolicyName=='AdministratorAccess']"
[
    {
        "PolicyName": "AdministratorAccess",
        "PolicyId": "ANPAIWMBCSKIEE64ZLYK",
        "Arn": "arn:aws:iam::aws:policy/AdministratorAccess",
        "Path": "/",
        "DefaultVersionId": "v1",
        "AttachmentCount": 1,
        "PermissionsBoundaryUsageCount": 0,
        "IsAttachable": true,
        "CreateDate": "2015-02-06T18:39:46+00:00",
        "UpdateDate": "2015-02-06T18:39:46+00:00"
    }
]
```

q1_attach_admin_policy

```
@23-22411-061-rgb →/workspaces/Lab_exam (main) $ aws iam attach-group-policy \
--group-name SoftwareEngineering \
--policy-arn arn:aws:iam::aws:policy/AdministratorAccess
```

q1_list_group_policies

```
@23-22411-061-rgb →/workspaces/Lab_exam (main) $ aws iam list-attached-group-policies --group-name SoftwareEngi
g
{
    "AttachedPolicies": [
        {
            "PolicyName": "AdministratorAccess",
            "PolicyArn": "arn:aws:iam::aws:policy/AdministratorAccess"
        }
    ]
}
@23-22411-061-rgb →/workspaces/Lab_exam (main) $
```

q1_console_group

The screenshot shows the AWS IAM User Groups page. The left sidebar has 'Identity and Access Management (IAM)' selected under 'Access Management'. The main area displays a table titled 'User groups (1)'. The table has columns for 'Group name', 'Users', 'Permissions', and 'Creation time'. One row is shown for the group 'SoftwareEngineering', which was created 8 minutes ago. The 'Defined' permission level is indicated by a green circle. The top right of the page shows the user's name 'Shumail Zahra (0750-0664-7027)' and a 'Create group' button.

q1_console_user_in_group

The screenshot shows the AWS IAM Users page. The left sidebar includes sections for Identity and Access Management (IAM), Access Management (User groups, Roles, Policies, Identity providers, Account settings, Root access management, Temporary delegation requests), and Access reports (Access Analyzer, Resource analysis). The main content area displays a table titled "Users (2) Info" with two entries:

User name	Path	Group	Last activity	MFA	Password age	Console last sign-in	Access
ec2	/	0	6 minutes ago	-	-	-	Act.
Shumail	/	1	-	-	-	-	-

Buttons at the top right include "Delete" and "Create user". A search bar is also present.

q1_console_group_policy

The screenshot shows the AWS IAM User groups page. The left sidebar includes sections for Identity and Access Management (IAM), Access Management (User groups, Users, Roles, Policies, Identity providers, Account settings, Root access management, Temporary delegation requests), and Access reports (Access Analyzer, Resource analysis). The main content area displays a table titled "SoftwareEngineering Info" with the following details:

User group name	Creation time	ARN
SoftwareEngineering	January 19, 2026, 12:45 (UTC+05:00)	arn:aws:iam::075006647027:group/SoftwareEngineering

Below this, there are tabs for "Users (1)", "Permissions", and "Access Advisor". The "Permissions" tab is selected, showing a table titled "Permissions policies (1) Info" with one entry:

Policy name	Type	Attached entities
AdministratorAccess	AWS managed - job function	2

Buttons at the top right include "Delete", "Edit", "Simulate", "Remove", and "Add permissions". A search bar and filter dropdown are also present.

Q2

q2_provider

```
provider "aws" {  
    region = "us-east-1"  
}
```

~
~
~
~
~
~
~

q2_variables

```
variable "vpc_cidr_block" {
  type = string
}

variable "subnet_cidr_block" {
  type = string
}

variable "availability_zone" {
  type = string
}

variable "env_prefix" {
  type = string
}

variable "instance_type" {
  type = string
}
```

q2_vpc_subnet

```

provider "aws" {
  region = "us-east-1"
}
resource "aws_vpc" "myapp_vpc" {
  cidr_block = var.vpc_cidr_block

  tags = {
    Name = "${var.env_prefix}-vpc"
  }
}

resource "aws_subnet" "myapp_subnet" {
  vpc_id           = aws_vpc.myapp_vpc.id
  cidr_block       = var.subnet_cidr_block
  availability_zone = var.availability_zone
  map_public_ip_on_launch = true

  tags = {
    Name = "${var.env_prefix}-subnet-1"
  }
}

```

q2_igw_route_table

```

  Name = "${var.env_prefix}-igw"
}

resource "aws_default_route_table" "myapp_rt" {
  default_route_table_id = aws_vpc.myapp_vpc.default_route_table_id

  route {
    cidr_block = "0.0.0.0/0"
    gateway_id = aws_internet_gateway.myapp_igw.id
  }

  tags = {
    Name = "${var.env_prefix}-rt"
  }
}

```

q2_http_and_locals

```
tags = {
    Name = "${var.env_prefix}-rt"
}
}
data "http" "my_ip" {
    url = "https://icanhazip.com"
}

locals {
    my_ip = "${chomp(data.http.my_ip.response_body)}/32"
}
```

q2_default_sg

```

my_ip = "${chomp(data.http.my_ip.response_body)}/32"
}
resource "aws_default_security_group" "default_sg" {
  vpc_id = aws_vpc.myapp_vpc.id

  ingress {
    from_port   = 22
    to_port     = 22
    protocol    = "tcp"
    cidr_blocks = [local.my_ip]
  }

  ingress {
    from_port   = 80
    to_port     = 80
    protocol    = "tcp"
    cidr_blocks = ["0.0.0.0/0"]
  }

  ingress {
    from_port   = 443
    to_port     = 443
    protocol    = "tcp"
    cidr_blocks = ["0.0.0.0/0"]
  }

  egress {
    from_port   = 0
    to_port     = 0
    protocol    = "-1"
    cidr_blocks = ["0.0.0.0/0"]
  }

  tags = {
    Name = "${var.env_prefix}-default-sg"
    protocol    = "tcp"
    cidr_blocks = ["0.0.0.0/0"]
  }

  egress {
    from_port   = 0
    to_port     = 0
    protocol    = "-1"
    cidr_blocks = ["0.0.0.0/0"]
  }

  tags = {
    Name = "${var.env_prefix}-default-sg"
  }
}

```

q2_keypair

```
}
```

```
resource "aws_key_pair" "serverkey" {
    key_name      = "serverkey"
    public_key    = file("${path.module}/serverkey.pub")
}
```

q2_ec2_resource

```
resource "aws_instance" "myapp_ec2" {
    ami           = "ami-0c2b8ca1dad447f8a"
    instance_type          = var.instance_type
    subnet_id            = aws_subnet.myapp_subnet.id
    vpc_security_group_ids = [aws_default_security_group.default_sg.id]
    availability_zone      = var.availability_zone
    associate_public_ip_address = true
    key_name              = aws_key_pair.serverkey.key_name
}
```

:wq!

q2_entry_script

```
#!/bin/bash
dnf update -y
dnf install -y nginx openssl

mkdir -p /etc/nginx/ssl

openssl req -x509 -nodes -days 365 \
-newkey rsa:2048 \
-keyout /etc/nginx/ssl/nginx.key \
-out /etc/nginx/ssl/nginx.crt \
-subj "/CN=Terraform-Nginx"

cat <<EOF > /etc/nginx/conf.d/default.conf
server {
    listen 80;
    return 301 https://$host$request_uri;
}

server {
    listen 443 ssl;
    ssl_certificate /etc/nginx/ssl/nginx.crt;
    ssl_certificate_key /etc/nginx/ssl/nginx.key;

    location / {
        root /usr/share/nginx/html;
        index index.html;
    }
}
EOF

echo "<h1>This is Shumail's Terraform environment</h1>" > /usr/share/nginx/html/index.html

systemctl enable nginx
systemctl restart nginx
```

q2_output_block

```
output "ec2_public_ip" {  
    value = aws_instance.myapp_ec2.public_ip  
}  
~  
~  
~  
~  
~  
~
```

q2_tfvars_or_vars

```
vpc_cidr_block      = "10.0.0.0/16"  
subnet_cidr_block  = "10.0.10.0/24"  
availability_zone  = "us-east-1a"  
env_prefix          = "dev"  
instance_type       = "t3.micro"
```

```
~  
~  
~  
~  
~  
~  
~  
~  
~  
~
```

q2_terraform_init

```

● @23-22411-061-rgb →/workspaces/Lab_exam (main) $ terraform init
  Initializing the backend...
  Initializing provider plugins...
    - Finding latest version of hashicorp/aws...
    - Finding latest version of hashicorp/http...
    - Installing hashicorp/aws v6.28.0...
    - Installed hashicorp/aws v6.28.0 (signed by HashiCorp)
    - Installing hashicorp/http v3.5.0...
    - Installed hashicorp/http v3.5.0 (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.

```

q2_terraform_plan

```

@23-22411-061-rgb →/workspaces/Lab_exam (main) $ terraform plan
+ arn                               = (known after apply)
+ cidr_block                         = "10.0.0.0/16"
+ default_network_acl_id             = (known after apply)
+ default_route_table_id              = (known after apply)
+ default_security_group_id          = (known after apply)
+ dhcp_options_id                   = (known after apply)
+ enable_dns_hostnames               = (known after apply)
+ enable_dns_support                 = true
+ enable_network_address_usage_metrics = (known after apply)
+ id                                 = (known after apply)
+ instance_tenancy                  = "default"
+ ipv6_association_id                = (known after apply)
+ ipv6_cidr_block                   = (known after apply)
+ ipv6_cidr_block_network_border_group = (known after apply)
+ main_route_table_id                = (known after apply)
+ owner_id                           = (known after apply)
+ region                            = "us-east-1"
+ tags
  + "Name" = "dev-vpc"
}
+ tags_all
  + "Name" = "dev-vpc"
}

```

Plan: 7 to add, 0 to change, 0 to destroy.

Changes to Outputs:

```
+ ec2_public_ip = (known after apply)
```

Note: You didn't use the -out option to save this plan, so Terraform can't guarantee to take exactly these actions if
 "tf apply" is run again.

q2_terraform_apply

```
@23-22411-061-rgb →/workspaces/Lab_exam (main) $ terraform apply

+ maintenance_options (known after apply)
+ metadata_options (known after apply)
+ network_interface (known after apply)
+ primary_network_interface (known after apply)
+ private_dns_name_options (known after apply)
+ root_block_device (known after apply)
}

Plan: 1 to add, 0 to change, 0 to destroy.

Changes to Outputs:
+ ec2_public_ip = (known after apply)

Do you want to perform these actions?
Terraform will perform the actions described above.
Only 'yes' will be accepted to approve.

Enter a value: yes

aws_instance.myapp_ec2: Creating...
aws_instance.myapp_ec2: Still creating... [00m10s elapsed]
aws_instance.myapp_ec2: Creation complete after 16s [id=i-0452b0ee8f31b4e2d]

Apply complete! Resources: 1 added, 0 changed, 0 destroyed.

Outputs:

ec2_public_ip = "3.238.32.182"
@23-22411-061-rgb →/workspaces/Lab_exam (main) $
```

q2_terraform_output

```
@23-22411-061-rgb →/workspaces/Lab_exam (main) $ terraform output
ec2_public_ip = "3.238.32.182"
@23-22411-061-rgb →/workspaces/Lab_exam (main) $
```

q2_console_vpc

Your VPCs								
VPCs		VPC encryption controls						
Your VPCs (3) Info								
<input type="checkbox"/>	Name	VPC ID	State	Encryption c...	Encryption control ...	Block Public...	IPv6	Last updated less than a minute ago
<input type="checkbox"/>	lab-vpc	vpc-0fdf4479b61f4fb4b	Available	-	-	Off	10.0.0.0/24	On
<input type="checkbox"/>	dev-vpc	vpc-0a8737149e63ee3fd	Available	-	-	Off	10.0.0.0/24	On
<input type="checkbox"/>	-	vpc-0cc0868d02cdd5863	Available	-	-	Off	172.31.0.0/24	On

Select a VPC above

Your VPCs (1/3) Info								
VPCs		VPC encryption controls						
Your VPCs (1/3) Info								
<input type="checkbox"/>	Name	VPC ID	State	Encryption c...	Encryption control ...	Block Public...	IPv6	Last updated 1 minute ago
<input type="checkbox"/>	lab-vpc	vpc-0fdf4479b61f4fb4b	Available	-	-	Off	10.0.0.0/24	On
<input checked="" type="checkbox"/>	dev-vpc	vpc-0a8737149e63ee3fd	Available	-	-	Off	10.0.0.0/24	On
<input type="checkbox"/>	-	vpc-0cc0868d02cdd5863	Available	-	-	Off	172.31.0.0/24	On

vpc-0a8737149e63ee3fd / dev-vpc

Details

VPC ID vpc-0a8737149e63ee3fd	State Available	Block Public Access Off	DNS hostnames Disabled
DNS resolution Enabled	Tenancy default	DHCP option set dopt-03c04818fb45a2df	Main route table rtb-0197e2f61fad6c79f
Main network ACL acl-09b51562f57ce2c86	Default VPC No	IPv4 CIDR 10.0.0.0/16	IPv6 pool -
IPv6 CIDR (Network border group)	Network Address Usage metrics	Route 53 Resolver DNS Firewall rule	Owner ID

q2_console_subnet

<input type="checkbox"/>	-	subnet-06489ca52d97665dc	Available	vpc-0fdf4479b61f4fb4b lab-vpc	Off	10.0.1.0/24
<input type="checkbox"/>	-	subnet-05c9ebf1230d6a267	Available	vpc-0cc0868d02cdd5863	Off	172.31.80.0/2
<input checked="" type="checkbox"/>	dev-subnet-1	subnet-03c2018a212fb80f7	Available	vpc-0a8737149e63ee3fd dev-vpc	Off	10.0.10.0/24
<input type="checkbox"/>	-	subnet-0ad57ddbf11a1febc	Available	vpc-0cc0868d02cdd5863	Off	172.31.32.0/2
<input type="checkbox"/>	-	subnet-0db578dbff650c91c	Available	vpc-0cc0868d02cdd5863	Off	172.31.16.0/2
<input type="checkbox"/>	-	subnet-03ba52752c6cd3922	Available	vpc-0cc0868d02cdd5863	Off	172.31.0.0/20

subnet-03c2018a212fb80f7 / dev-subnet-1

Details

Subnet ID subnet-03c2018a212fb80f7	Subnet ARN arn:aws:ec2:us-east-1:07500664707:subnet/subnet-03c2018a212fb80f7	State Available	Block Public Access Off
IPv4 CIDR 10.0.10.0/24	IPv6 CIDR -	IPv6 CIDR association ID -	Route table rtb-0197e2f61fad6c79f dev-rt
Availability Zone use1-az1 (us-east-1a)	VPC vpc-0a8737149e63ee3fd dev-vpc	Auto-assign public IPv4 address Yes	Auto-assign IPv6 address No
Network ACL acl-09b51562f57ce2c86	Network border group us-east-1	Default subnet No	

Mobile App

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q2_console_igw

Internet gateways (1/3) Info

Find internet gateways by attribute or tag

<input type="checkbox"/>	Name	Internet gateway ID	State	VPC ID	Owner
<input type="checkbox"/>	-	igw-01c4c2289ed245c83	Attached	vpc-0cc0868d02cdd5863	075006647027
<input checked="" type="checkbox"/>	dev-igw	igw-022dc4343a629921f	Attached	vpc-0a8737149e63ee3fd dev-vpc	075006647027
<input type="checkbox"/>	-	igw-0a134d50262aa1a91	Attached	vpc-0fdf4479b61f4fb4b lab-vpc	075006647027

igw-022dc4343a629921f / dev-igw

[Details](#) [Tags](#)

Details

Internet gateway ID
 igw-022dc4343a629921f

State
 Attached

VPC ID
 vpc-0a8737149e63ee3fd | dev-vpc

Owner
 075006647027

q2_console_route_table

Route tables (1/4) Info

Last updated 3 minutes ago

[Actions](#) [Create route table](#)

Find route tables by attribute or tag

<input type="checkbox"/>	Name	Route table ID	Explicit subnet associations	Edge associations	Main	VPC
<input checked="" type="checkbox"/>	dev-rt	rtb-0197e2f61fad6c79f	-	-	Yes	vpc-0a8737149e63ee3fd dev-vpc
<input type="checkbox"/>	-	rtb-04e0bb5749f839d9b	subnet-06489ca52d9766...	-	No	vpc-0fdf4479b61f4fb4b lab-vpc
<input type="checkbox"/>	-	rtb-0dd69f9eeaffa80ff	-	-	Yes	vpc-0cc0868d02cdd5863
<input type="checkbox"/>	-	rtb-07c11adac07948025	-	-	Yes	vpc-0fdf4479b61f4fb4b lab-vpc

rtb-0197e2f61fad6c79f / dev-rt

[Details](#) [Routes](#) [Subnet associations](#) [Edge associations](#) [Route propagation](#) [Tags](#)

Details

Route table ID
 rtb-0197e2f61fad6c79f

Main
 Yes

Explicit subnet associations

Edge associations

Owner ID
 075006647027

q2_console_sg

Security Groups (1/5) Info

[Actions](#)

[Export security groups to CSV](#)

[Create security group](#)

Find security groups by attribute or tag

<input type="checkbox"/>	Name	Security group ID	Security group name	VPC ID	Description
<input type="checkbox"/>	-	sg-073aaa788e380ac56	launch-wizard-3	vpc-0cc0868d02cdd5863	launch-wizard-3 created by Terraform
<input type="checkbox"/>	-	sg-044f5eb0af3ca09b7	terraform-2026011614093188690000...	vpc-0fdf4479b61f4fb4b	Managed by Terraform
<input checked="" type="checkbox"/>	dev-default-sg	sg-0119ccb95fd783484	default	vpc-0a8737149e63ee3fd	default VPC security
<input type="checkbox"/>	-	sg-0b43439ec37a68447	default	vpc-0fdf4479b61f4fb4b	default VPC security
<input type="checkbox"/>	-	sg-03dd3730a272d2ff9	default	vpc-0cc0868d02cdd5863	default VPC security

sg-0119ccb95fd783484 - default

[Details](#) [Inbound rules](#) [Outbound rules](#) [Sharing](#) [VPC associations](#) [Tags](#)

Details

Security group name
 default

Security group ID
 sg-0119ccb95fd783484

Description
 default VPC security group

VPC ID
 vpc-0a8737149e63ee3fd

Owner
 075006647027

Inbound rules count
 3 Permission entries

Outbound rules count
 1 Permission entry

q2_console_ec2

Instances (1/5) Info

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4
lab-frontend	i-0fd3447076752b30a	Running	t2.micro	2/2 checks passed	View alarms +	us-east-1a	-
lab-backend-3	i-0b9696875277ze1f7	Running	t2.micro	2/2 checks passed	View alarms +	us-east-1a	-
lab-backend-1	i-0ae690fb462bd629e	Running	t2.micro	2/2 checks passed	View alarms +	us-east-1a	-
lab-backend-2	i-0e810e1d3b23389a9	Running	t2.micro	2/2 checks passed	View alarms +	us-east-1a	-
dev-ec2-instance	i-0452b0ee8f31b4e2d	Running	t3.micro	3/3 checks passed	View alarms +	us-east-1a	-

i-0452b0ee8f31b4e2d (dev-ec2-instance)

Details Status and alarms Monitoring Security Networking Storage Tags

Instance summary Info

Instance details Info

AMI ID	ami-0c2b8ca1dad447f8a	Monitoring	disabled	Platform details	Linux/UNIX
AMI name	amzn2-ami-hvm-2.0.20210721.2-x86_64-gp2	Allowed image	-	Termination protection	Disabled

q2_https_browser



This is Shumail's Terraform environment

Q3

q3_hosts

```
GNU nano 7.2 *hosts*
[ec2]
3.238.32.182

[ec2:vars]
ansible_user=ec2-user
ansible_ssh_private_key_file=~/ssh/id_ed25519
ansible_ssh_common_args=' -o StrictHostKeyChecking=no'
```

q3_ansible_cfg

```
[defaults]
host_key_checking = False
inventory = ./hosts
remote_python_interpreter = /usr/bin/python3
#
~
```

q3_playbook

```
--  
- name: EC2 Apache Web Server Setup  
  hosts: ec2  
  become: true  
  tasks:  
  
    - name: Update all packages  
      amazon.aws.yum:  
        name: "*"  
        state: latest  
  
    - name: Stop Nginx if running  
      systemd:  
        name: nginx  
        state: stopped  
        enabled: no  
        ignore_errors: yes  
  
    - name: Remove Nginx if installed  
      yum:  
        name: nginx  
        state: absent  
        ignore_errors: yes  
  
    - name: Install Apache HTTPD  
      yum:  
        name: httpd  
        state: present  
  
    - name: Start and enable Apache HTTPD  
      systemd:  
        name: httpd  
        state: started  
        enabled: yes
```

q3_http_browser



This is Shumail's Terraform environment

Cleanup (ungraded)

cleanup_terraform_destroy

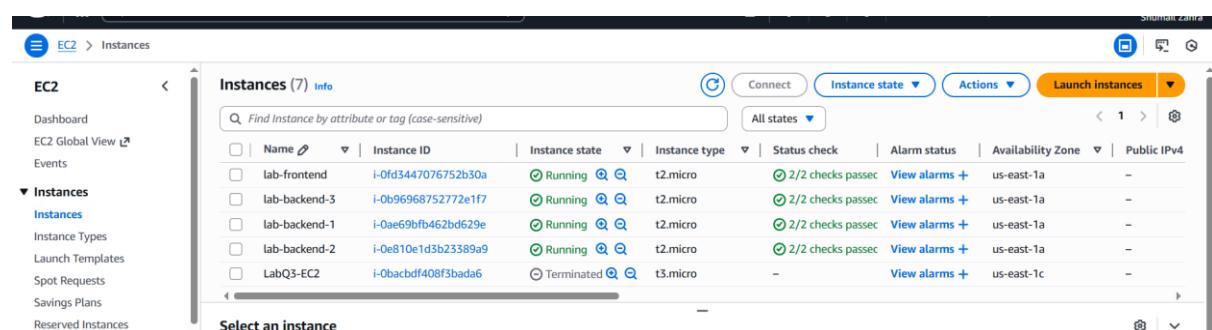
```
@23-22411-061-rgb → /workspaces/Lab_exam (main) $ terraform destroy -auto-approve
- tags_all = {
  - "Name" = "dev-vpc"
} → null
# (4 unchanged attributes hidden)
}

Plan: 0 to add, 0 to change, 7 to destroy.

Changes to Outputs:
- ec2_public_ip = "3.238.32.182" -> null
aws_default_route_table.myapp_rt: Destroying... [id=rtb-0197e2f61fad6c79f]
aws_instance.myapp_ec2: Destroying... [id=i-0452b0ee8f31b4e2d]
aws_default_route_table.myapp_rt: Destruction complete after 0s
aws_internet_gateway.myapp_igw: Destroying... [id=igw-022dc4343a629921f]
aws_instance.myapp_ec2: Still destroying... [id=i-0452b0ee8f31b4e2d, 00m10s elapsed]
aws_internet_gateway.myapp_igw: Still destroying... [id=igw-022dc4343a629921f, 00m10s elapsed]
aws_instance.myapp_ec2: Still destroying... [id=i-0452b0ee8f31b4e2d, 00m20s elapsed]
aws_internet_gateway.myapp_igw: Still destroying... [id=igw-022dc4343a629921f, 00m20s elapsed]
aws_instance.myapp_ec2: Still destroying... [id=i-0452b0ee8f31b4e2d, 00m30s elapsed]
aws_internet_gateway.myapp_igw: Still destroying... [id=igw-022dc4343a629921f, 00m30s elapsed]
aws_instance.myapp_ec2: Still destroying... [id=i-0452b0ee8f31b4e2d, 00m40s elapsed]
aws_internet_gateway.myapp_igw: Still destroying... [id=igw-022dc4343a629921f, 00m40s elapsed]
aws_internet_gateway.myapp_igw: Destruction complete after 43s
aws_instance.myapp_ec2: Destruction complete after 44s
aws_key_pair.serverkey: Destroying... [id=serverkey]
aws_subnet.myapp_subnet: Destroying... [id=subnet-03c2018a212fb80f7]
aws_default_security_group.default_sg: Destroying... [id=sg-0119ccb95fd783484]
aws_default_security_group.default_sg: Destruction complete after 0s
aws_key_pair.serverkey: Destruction complete after 1s
aws_subnet.myapp_subnet: Destruction complete after 2s
aws_vpc.myapp_vpc: Destroying... [id=vpc-0a8737149e63ee3fd]
aws_vpc.myapp_vpc: Destruction complete after 1s

Destroy complete! Resources: 7 destroyed.
○ @23-22411-061-rgb → /workspaces/Lab_exam (main) $
```

cleanup_ec2_console



The screenshot shows the AWS EC2 Instances page with the following details:

- EC2 > Instances**: The main navigation path.
- Instances (7) Info**: The title of the table.
- Table Headers**: Name, Instance ID, Instance state, Instance type, Status check, Alarm status, Availability Zone, Public IPv4.
- Table Data**:

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4
lab-frontend	i-0fd3447076752b30a	Running	t2.micro	2/2 checks passed	View alarms +	us-east-1a	-
lab-backend-3	i-0b96968752772e1f7	Running	t2.micro	2/2 checks passed	View alarms +	us-east-1a	-
lab-backend-1	i-0ae69bf462bd629e	Running	t2.micro	2/2 checks passed	View alarms +	us-east-1a	-
lab-backend-2	i-0e810e1d3b23389a9	Running	t2.micro	2/2 checks passed	View alarms +	us-east-1a	-
LabQ3-EC2	i-0bacbdf408f3bada6	Terminated	t3.micro	-	View alarms +	us-east-1c	-
- Actions**: Connect, Instance state, Actions, Launch Instances.
- Filters**: All states.
- Search**: Find Instance by attribute or tag (case-sensitive).
- Buttons**: < 1 >, Select an instance.