
LAB 10

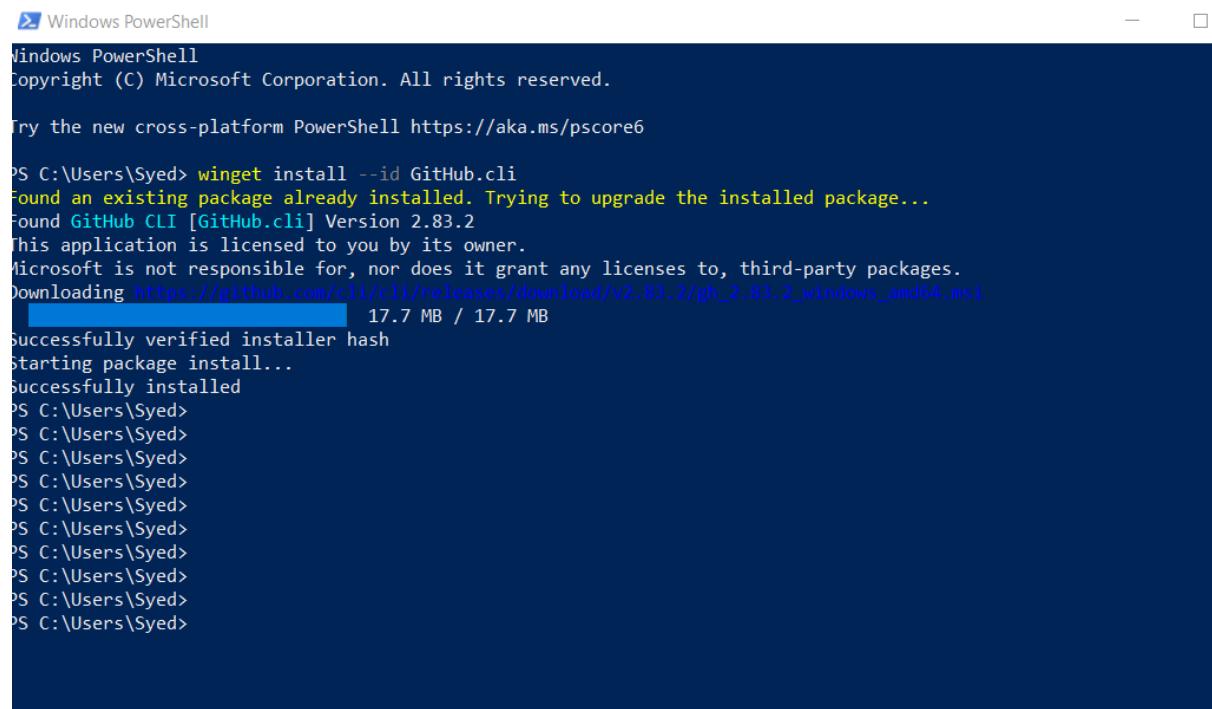
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DEPARTMENT: BSE(5B)**

LAB TASK

GH CLI Codespaces + AWS + Terraform: CLI Automation of VPC/Subnet Creation

Task 1 — GitHub CLI Codespace Setup & Authentication

task1_gh_install



```
Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.

Try the new cross-platform PowerShell https://aka.ms/pscore6

PS C:\Users\Syed> winget install --id GitHub.cli
Found an existing package already installed. Trying to upgrade the installed package...
Found GitHub CLI [GitHub.cli] Version 2.83.2
This application is licensed to you by its owner.
Microsoft is not responsible for, nor does it grant any licenses to, third-party packages.
Downloading https://github.com/cli/cli/releases/download/v2.83.2/gh_2.83.2_windows_amd64.msi
███████████████████ 17.7 MB / 17.7 MB
Successfully verified installer hash
Starting package install...
Successfully installed
PS C:\Users\Syed>
```

task1_gh_auth_login

```

PS C:\Users\Syed> 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? Paste an authentication token
Tip: you can generate a Personal Access Token here https://github.com/settings/tokens
The minimum required scopes are 'repo', 'read:org', 'workflow'.
? Paste your authentication token:
X Sorry, your reply was invalid: Value is required
? Paste your authentication token: *****
- gh config set -h github.com git_protocol https
Configured git protocol
Logged in as 23-22411-061-rgb
! You were already logged in to this account
PS C:\Users\Syed>

```

task1_codespace_list

```

PS C:\Users\Syed> gh codespace list
NAME          DISPLAY NAME      REPOSITORY           BRANCH   STATE    CREATED AT
special-space-funicular-97g7wxvqr97x2pgxr special space funicular 23-22411-061-rgb/CC_-Shumail-zahra_-2023-BSE-061- main  Shutdown about 15 days ago
studious-spork-5g7g59647wv4cvjg   studious spork     23-22411-061-rgb/CC_-Shumail-zahra_-2023-BSE-061- main* Shutdown about 15 days ago
PS C:\Users\Syed>

```

task1_codespace_ssh_connected

```

PS C:\Users\Syed> gh codespace ssh -c special-space-funicular-97g7wxvqr97x2pgxr
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.

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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.

@23-22411-061-rgb ~ /workspaces/CC_-Shumail-zahra_-2023-BSE-061- (main) $ 

```

Task 2 — Install AWS CLI, Terraform CLI, Provider Setup

A. Install AWS CLI (Skip if already installed)

task2_aws_install_and_version

```

Windows PowerShell
    inflating: aws/dist/awscli/examples/ses/list-identities.rst
    inflating: aws/dist/awscli/examples/srvr/get-service-graph.rst
    inflating: aws/dist/awscli/examples/srvr/update-group.rst
    inflating: aws/dist/awscli/examples/srvr/delete-sampling-rule.rst
    inflating: aws/dist/awscli/examples/srvr/get-sampling-rules.rst
    inflating: aws/dist/awscli/examples/srvr/create-group.rst
    inflating: aws/dist/awscli/examples/srvr/put-encryption-config.rst
    inflating: aws/dist/awscli/examples/srvr/put-trace-segments.rst
    inflating: aws/dist/awscli/examples/srvr/create-sampling-rule.rst
    inflating: aws/dist/awscli/examples/srvr/get-targets.rst
    inflating: aws/dist/awscli/examples/srvr/get-groups.rst
    inflating: aws/dist/awscli/examples/srvr/hatch-traces-get.rst
    inflating: aws/dist/awscli/examples/srvr/delete-group.rst
    inflating: aws/dist/awscli/examples/srvr/get-group.rst
    inflating: aws/dist/awscli/examples/srvr/get-encryption-config.rst
    inflating: aws/dist/awscli/examples/srvr/get-trace-segments.rst
    inflating: aws/dist/awscli/examples/guardduty/get-master-account.rst
    inflating: aws/dist/awscli/examples/guardduty/dissociate-from-master-account.rst
    inflating: aws/dist/awscli/examples/guardduty/create-filter.rst
    inflating: aws/dist/awscli/examples/guardduty/get-detector.rst
    inflating: aws/dist/awscli/examples/guardduty/get-findings.rst
    inflating: aws/dist/awscli/examples/guardduty/decline-invitations.rst
    inflating: aws/dist/awscli/examples/guardduty/get-detector.rst
    inflating: aws/dist/awscli/examples/guardduty/delete-detector.rst
    inflating: aws/dist/awscli/examples/guardduty/create-sample-findings.rst
    inflating: aws/dist/awscli/examples/guardduty/get-ip-set.rst
    inflating: aws/dist/awscli/examples/guardduty/create-ip-set.rst
    inflating: aws/dist/awscli/examples/guardduty/list-invitations.rst
    inflating: aws/dist/awscli/examples/guardduty/delete-filter.rst
    inflating: aws/dist/awscli/examples/guardduty/get-threat-intel-set.rst
    inflating: aws/dist/awscli/examples/guardduty/create-publishing-destination.rst
    inflating: aws/dist/awscli/examples/vschat/untag-resource.rst
    inflating: aws/dist/awscli/examples/vschat/disconnect-user.rst
    inflating: aws/dist/awscli/examples/vschat/delete-message.rst
    inflating: aws/dist/awscli/examples/vschat/get-chat-token.rst
    inflating: aws/dist/awscli/examples/vschat/create-chat-token.rst
    inflating: aws/dist/awscli/examples/vschat/delete-logging-configuration.rst
    inflating: aws/dist/awscli/examples/vschat/delete-room.rst
    inflating: aws/dist/awscli/examples/vschat/send-event.rst
    inflating: aws/dist/awscli/examples/vschat/update-logging-configuration.rst
    inflating: aws/dist/awscli/examples/vschat/list-logging-configurations.rst
    inflating: aws/dist/awscli/examples/vschat/get-logging-configuration.rst
    inflating: aws/dist/awscli/examples/vschat/create-room.rst
    inflating: aws/dist/awscli/examples/vschat/update-room.rst
    inflating: aws/dist/awscli/examples/vschat/tag-resource.rst
    inflating: aws/dist/awscli/botocore/data/list/2020-12-01/service-1.json
    inflating: aws/dist/awscli/botocore/data/fis/2020-12-01/paginator-1.json
    creating: aws/dist/awscli/botocore/data/s3outputposts/2017-07-25
    inflating: aws/dist/awscli/botocore/data/s3outputposts/2017-07-25/endpoint-rule-set-1.json
    inflating: aws/dist/awscli/botocore/data/s3outputposts/2017-07-25/service-2.json
    inflating: aws/dist/awscli/botocore/data/s3outputposts/2017-07-25/paginator-1.json
    creating: aws/dist/awscli/botocore/.changes/next-release/
    inflating: aws/dist/awscli/botocore/.changes/next-release/api-change-connect-59117.json
    inflating: aws/dist/awscli/data/cli.json
    inflating: aws/dist/awscli/data/metadata.json
    inflating: aws/dist/awscli/data/ac.index
    creating: aws/dist/awscli/customizations/sso/
    creating: aws/dist/awscli/customizations/wizard/
    creating: aws/dist/awscli/customizations/wizard/wizards/
    creating: aws/dist/awscli/customizations/wizard/wizards/configure/
    creating: aws/dist/awscli/customizations/wizard/wizards/dynamodb/
    creating: aws/dist/awscli/customizations/wizard/wizards/events/
    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/lambda/new-function.yml
    inflating: aws/dist/awscli/customizations/wizard/wizards/dynamodb/new-table.yml
    inflating: aws/dist/awscli/customizations/wizard/wizards/iam/new-role.yml
    inflating: aws/dist/awscli/customizations/sso/index.html
    inflating: aws/dist/awscli/topics/ddb-expressions.rst
    inflating: aws/dist/awscli/topics/return-codes.rst
    inflating: aws/dist/awscli/topics/config-vars.rst
    inflating: aws/dist/awscli/topics/s3-config.rst
    inflating: aws/dist/awscli/topics/topic-tags.json
    inflating: aws/dist/awscli/topics/s3-faq.rst
    creating: aws/dist/prompt/toolkit-3.0.51.dist-info/licenses/
    inflating: aws/dist/prompt/toolkit-3.0.51.dist-info/RECORD
    inflating: aws/dist/prompt/toolkit-3.0.51.dist-info/INSTALLER
    inflating: aws/dist/prompt/toolkit-3.0.51.dist-info/WHEEL
    inflating: aws/dist/prompt/toolkit-3.0.51.dist-info/METADATA
    inflating: aws/dist/prompt/toolkit-3.0.51.dist-info/top_level.txt
    inflating: aws/dist/prompt/toolkit-3.0.51.dist-info/licenses/LICENSE
    inflating: aws/dist/prompt/toolkit-3.0.51.dist-info/licenses/AUTHORS.rst
    inflating: aws/dist/wheel-0.45.1.dist-info/WHEEL
    inflating: aws/dist/wheel-0.45.1.dist-info/RECORD
    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/direct_url.json
    inflating: aws/dist/wheel-0.45.1.dist-info/entry_points.txt
    inflating: aws/dist/wheel-0.45.1.dist-info/INSTALLER
    inflating: aws/dist/wheel-0.45.1.dist-info/REQUESTED
03:22:11.061+0000 ② [workspaces/C_ Shumail-zahra -_2023-BSE-001- (main) $ sudo ./aws/install
You can now run: /usr/local/bin/aws --version
03:22:11.061+0000 ② [workspaces/C_ Shumail-zahra -_2023-BSE-001- (main) $ aws --version
aws-cli/2.32.21 Python/3.13.11 Linux/6.8.0-1030-azure exe/x86_64 ubuntu.24
03:22:11.061+0000 ② [workspaces/C_ Shumail-zahra -_2023-BSE-001- (main) $

```

task2_aws_configure_and_files

```

@23-22411-061-rgb ~ /workspaces/CC_Shumail-zahra_-2023-BSE-061- (main) $ aws configure
AWS Access Key ID [None]: AIDARC5V6TLZX20EULWJY
AWS Secret Access Key [None]: XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
Default region name [None]: us-east-1
Default output format [None]: json
@23-22411-061-rgb ~ /workspaces/CC_Shumail-zahra_-2023-BSE-061- (main) $ cat ~/.aws/credentials
[default]
aws_access_key_id = XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
aws_secret_access_key = XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
@23-22411-061-rgb ~ /workspaces/CC_Shumail-zahra_-2023-BSE-061- (main) $ cat ~/.aws/config
[default]
region = us-east-1
output = json
@23-22411-061-rgb ~ /workspaces/CC_Shumail-zahra_-2023-BSE-061- (main) $

```

task2_aws_get_caller_identity

```

@23-22411-061-rgb ~ /workspaces/CC_Shumail-zahra_-2023-BSE-061- (main) $ aws sts get-caller-identity
{
    "UserId": "AIDARC5V6TLZX20EULWJY",
    "Account": "075006647027",
    "Arn": "arn:aws:iam::075006647027:user/terraform-user"
}

```

B. Install Terraform CLI

task2_terraform_install_and_version

```

@23-22411-061-rgb ~ /workspaces/CC_Shumail-zahra_-2023-BSE-061- (main) $ echo "deb [arch=$(dpkg --print-architecture) signed-by=/usr/share/keyrings/hashicorp-archive-keyring.gpg] https://apt.releases.hashicorp.com $(grep -oP '(?=<UBUNTU_CODENAME)=.*' /etc/os-release || lsb_release -cs) main" | sudo tee /etc/apt/sources.list.d/hashicorp.list
deb [arch=amd64 signed-by=/usr/share/keyrings/hashicorp-archive-keyring.gpg] https://apt.releases.hashicorp.com noble main
@23-22411-061-rgb ~ /workspaces/CC_Shumail-zahra_-2023-BSE-061- (main) $ sudo apt update
Get:1 https://dl.yarnpkg.com/debian stable InRelease
Get:2 https://apt.releases.hashicorp.com noble InRelease [12.9 kB]
Get:3 https://packages.microsoft.com/repos/microsoft-ubuntu-noble-prod noble InRelease [3600 B]
Get:4 https://apt.ubuntu.com/pkgs/mirage/noble/main InRelease [3961 B]
Get:5 https://dl.yarnpkg.com/debian stable/main amd64 Packages [11.8 kB]
Get:6 https://dl.yarnpkg.com/debian stable/main all Packages [11.8 kB]
Get:7 https://apt.releases.hashicorp.com noble/main amd64 Packages [264 kB]
Get:8 https://packages.microsoft.com/repos/microsoft-ubuntu-noble-prod noble/main all Packages [643 B]
Get:9 https://packages.microsoft.com/repos/microsoft-ubuntu-noble-prod noble/main amd64 Packages [77.3 kB]
Get:10 https://apt.ubuntu.com/pkgs/mirage/noble/main amd64 Packages [457 B]
Get:11 https://archive.ubuntu.com/ubuntu noble InRelease [254 kB]
Get:12 https://security.ubuntu.com/ubuntu noble-security InRelease [126 kB]
Get:13 https://security.ubuntu.com/ubuntu noble-security/restricted amd64 Packages [2898 kB]
Get:14 https://archive.ubuntu.com/ubuntu noble-updates InRelease [126 kB]
Get:15 https://archive.ubuntu.com/ubuntu noble-backports InRelease [126 kB]
Get:16 https://archive.ubuntu.com/ubuntu/noble/main/amd64/Packages [331 kB]
Get:17 https://archive.ubuntu.com/ubuntu/noble/restricted amd64 Packages [117 kB]
Get:18 https://archive.ubuntu.com/ubuntu/noble/main amd64 Packages [1888 kB]
Get:19 https://security.ubuntu.com/ubuntu/noble-security/universe amd64 Packages [1183 kB]
Get:20 https://security.ubuntu.com/ubuntu/noble-security/universe amd64 Packages [33.1 kB]
Get:21 https://archive.ubuntu.com/ubuntu/noble-security/universe amd64 Packages [152 kB]
Get:22 https://archive.ubuntu.com/ubuntu/noble-updates/universe amd64 Packages [19.3 kB]
Get:23 https://archive.ubuntu.com/ubuntu/noble-updates/universe amd64 Packages [1958 kB]
Get:24 https://archive.ubuntu.com/ubuntu/noble-updates/main amd64 Packages [2130 kB]
Get:25 https://archive.ubuntu.com/ubuntu/noble-updates/restricted amd64 Packages [3059 kB]
Get:26 https://archive.ubuntu.com/ubuntu/noble-updates/universe amd64 Packages [1099 kB]
Get:27 https://archive.ubuntu.com/ubuntu/noble/backports/main amd64 Packages [49.5 kB]
Get:28 https://archive.ubuntu.com/ubuntu/noble-backports/universe amd64 Packages [34.6 kB]
Fetched 35.7 MB in 5s (7568 kB/s)
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
67 packages can be upgraded. Run 'apt list --upgradable' to see them.
@23-22411-061-rgb ~ /workspaces/CC_Shumail-zahra_-2023-BSE-061- (main) $ sudo apt install terraform
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following NEW packages will be installed:
  terraform
0 upgraded, 1 newly installed, 0 to remove and 67 not upgraded.
Need to get 30.6 MB of archives.
After this operation, 130 MB of additional disk space will be used.
Get:1 https://apt.releases.hashicorp.com/noble/main amd64 terraform amd64 1.14.3-1 [30.6 MB]
Fetched 30.6 MB in 0s (151 MB/s)
Selecting previously unselected package terraform.
(Reading database ... 90K

```

```

Windows PowerShell
Get:2 https://apt.releases.hashicorp.com noble InRelease [12.9 kB]
Get:3 https://packages.microsoft.com/repos/microsoft-ubuntu-noble-prod noble InRelease [3600 kB]
Get:4 https://archive.ubuntu.com/ubuntu/noble/main amd64 Packages [3961 kB]
Get:5 https://dl.yarnpkg.com/debian stable/main all Packages [11.8 kB]
Get:6 https://dl.yarnpkg.com/debian stable/main amd64 Packages [11.8 kB]
Get:7 https://apt.releases.hashicorp.com/noble/main amd64 Packages [264 kB]
Get:8 https://packages.microsoft.com/repos/microsoft-ubuntu-noble-prod/noble/main/all Packages [643 kB]
Get:9 https://security.ubuntu.com/ubuntu/nobility-security/prod/noble/main/amd64 Packages [77.3 kB]
Get:10 https://repo.anaconda.com/pkgs/mic/deb/repo/conda/stable/main amd64 Packages [4557 kB]
Get:11 https://archive.ubuntu.com/ubuntu/noble InRelease [256 kB]
Get:12 https://archive.ubuntu.com/ubuntu/nobility-security InRelease [126 kB]
Get:13 https://archive.ubuntu.com/ubuntu/nobility-security/restricted amd64 Packages [2898 kB]
Get:14 https://archive.ubuntu.com/ubuntu/nobility-security/universe amd64 Packages [105 kB]
Get:15 https://archive.ubuntu.com/ubuntu/noble/backports InRelease [126 kB]
Get:16 https://archive.ubuntu.com/ubuntu/noble/multiverse amd64 Packages [331 kB]
Get:17 https://archive.ubuntu.com/ubuntu/noble/restricted amd64 Packages [117 kB]
Get:18 https://archive.ubuntu.com/ubuntu/noble/main amd64 Packages [1888 kB]
Get:19 https://archive.ubuntu.com/ubuntu/nobility-security/multiverse amd64 Packages [1183 kB]
Get:20 https://security.ubuntu.com/ubuntu/nobility-security/multiverse amd64 Packages [33.1 kB]
Get:21 https://security.ubuntu.com/ubuntu/nobility-security/main amd64 Packages [1172 kB]
Get:22 https://archive.ubuntu.com/ubuntu/noble/universe amd64 Packages [19.3 kB]
Get:23 https://archive.ubuntu.com/ubuntu/nobility-updates/universe amd64 Packages [159 kB]
Get:24 https://archive.ubuntu.com/ubuntu/nobility-updates/restricted amd64 Packages [106 kB]
Get:25 https://archive.ubuntu.com/ubuntu/nobility-updates/universe amd64 Packages [3059 kB]
Get:26 https://archive.ubuntu.com/ubuntu/nobility-updates/multiverse amd64 Packages [35.9 kB]
Get:27 https://archive.ubuntu.com/ubuntu/nobility-backports/main amd64 Packages [49.5 kB]
Get:28 https://archive.ubuntu.com/ubuntu/nobility-backports/universe amd64 Packages [34.6 kB]
Fetched 35,545 kB (7568 kB/s)
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
67 packages can be upgraded. Run 'apt list --upgradable' to see them.
[123-22411-061-rgb: ~ /workspaces/CC_Shumail-zahra_-2023-BSE-061- (main) $ sudo apt install terraform
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following NEW packages will be installed:
  terraform
0 upgraded, 1 newly installed, 0 to remove and 67 not upgraded.
Need to get 30.6 MB of archives.
After this operation, 101 MB of additional disk space will be used.
Get:1 https://apt.releases.hashicorp.com/noble/main amd64 terraform amd64 1:14.3-1 [30.6 MB]
Get:2 1:14.3-1_all 101 kB/G
Selecting previously unselected package terraform.
(Reading database ... 58631 files and directories currently installed.)
Preparing to unpack .../terraform_1:14.3-1_amd64.deb ...
Unpacking terraform (1:14.3-1) ...
Setting up terraform (1:14.3-1) ...
[123-22411-061-rgb: ~ /workspaces/CC_Shumail-zahra_-2023-BSE-061- (main) $ which terraform
/usr/bin/terraform
[123-22411-061-rgb: ~ /workspaces/CC_Shumail-zahra_-2023-BSE-061- (main) $ terraform --version
Terraform v1.14.3
on linux_amd64
[123-22411-061-rgb: ~ /workspaces/CC_Shumail-zahra_-2023-BSE-061- (main) $
```

C. Provider Configuration (main.tf)

task2_provider_file_creation

```

On Linux_amd64
[123-22411-061-rgb: ~ /workspaces/CC_Shumail-zahra_-2023-BSE-061- (main) $ vim main.tf
[123-22411-061-rgb: ~ /workspaces/CC_Shumail-zahra_-2023-BSE-061- (main) $
```

task2_provider_block

```

Windows PowerShell
provider "aws" {
  shared_config_files  = ["~/.aws/config"]
  shared_credentials_files = ["~/.aws/credentials"]
}

[main.tf] 3L, 116B
[main.tf] 3,52 All
```

task2_vim_save_main_tf

```
Windows PowerShell
provider "aws"
shared_config_files = ["~/.aws/config"]
shared_credentials_files = ["~/.aws/credentials"]
```

task2_terraform_init_output

```
(23-22411-061-rgb) /workspaces/CC_-Shumail-zahra-_-2023-BSE-061- (main) $ terraform init
Initializing the backend...

Error: Terraform encountered problems during initialisation, including problems
with the configuration, described below.

The Terraform configuration must be valid before initialisation so that
Terraform can determine which modules and providers need to be installed.

Error: Missing newline after argument
on main.tf line 3, in provider "aws":
  3:   shared_credentials_files = ["~/.aws/credentials"]}

An argument definition must end with a newline.

(23-22411-061-rgb) /workspaces/CC_-Shumail-zahra-_-2023-BSE-061- (main) $ vim main.tf
(23-22411-061-rgb) /workspaces/CC_-Shumail-zahra-_-2023-BSE-061- (main) $ terraform init
Initializing the backend...
Initializing provider plugins...
- Finding latest version of hashicorp/aws...
- Installing hashicorp/aws v6.27.0...
- Installed hashicorp/aws v6.27.0 (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.
(23-22411-061-rgb) /workspaces/CC_-Shumail-zahra-_-2023-BSE-061- (main) $
```

task2_terraform_lock_hcl

```
@23-22411-061-rgb 🐧 /workspaces/CC_Shumail-zahra_-2023-BSE-061- (main) $ cat .terraform.lock.hcl
# This file is maintained automatically by "terraform init".
# Manual edits may be lost in future updates.

provider "registry.terraform.io/hashicorp/aws" {
  version = "6.27.0"
  hashes = [
    "hh:biixp2PsP5ZGBczGxccbSDn61F5QFlUXlNrog9cda4-",
    "zh:177a24b806c72e8484b5cab93b2b38e3d70ae6f745a998b54d6619fd0e8129",
    "zh:4ac4a85c14fb868a3306b542e6a56c10bd6c6d5a67bc0c9b8f6a9060cf5f3be7",
    "zh:552652185bc85c8ba1da1d65dea47c454728a5c6839c458b6ddcd3ce71c19ccfc",
    "zh:60284b8172d09aaee19eae0856f09855eaf040ce3a58d6933602ae17c53f8ed04",
    "zh:6be38d156756ca61fb8e7c752cc5d769cd709686700ac4b230f40a6e9b55dbc9",
    "zh:7a409138fae4ef42e3a637e37cb9efedf96459e28a3c764fc4e855e8db9a7485",
    "zh:8070cf5224ed1ed3a3e9a59f7c30ff88bf071c7567165275d477c1738a56c064",
    "zh:894439ef340a9a79f69cd759e27ad11c7826adeca27be1b1ca82b3c9702fa300",
    "zh:89d035eebf08a97c89374ff06040955ddc09f275ecca609d0c9d58d149bef5cf",
    "zh:895b1145d724fc1f38369099e4a5087141885740fd6c0b1dbc492171e73c2e49",
    "zh:9b12af85486a96aeadd8d7984b0ff811a4b42e3d88dad1a3fb4c0b580d04fa425",
    "zh:a80b47ae8d1475201c86bd94a5dc9dd4da5e8b73102a90820b68b66b76d50fd",
    "zh:d3395be1556210f82199b9166a6b2e677ce9c4b67e96e63f6c3a98325ad7ab0",
    "zh:db0b869d09657f6f1e4110b56093c5fcdf9dbdd97c020dbe577b239c0adcbe",
    "zh:ffc72e680370ae7c21f9bd3082c6317730df805c6797427839a6b6b7e9a26a01",
  ]
}

@23-22411-061-rgb 🐧 /workspaces/CC_Shumail-zahra_-2023-BSE-061- (main) $
```

task2_terraform_dir_ls

```
] }
@23-22411-061-rgb 🐧 /workspaces/CC_Shumail-zahra_-2023-BSE-061- (main) $ ls .terraform/
providers
@23-22411-061-rgb 🐧 /workspaces/CC_Shumail-zahra_-2023-BSE-061- (main) $
```

Task 3 — VPC/Subnet Creation, Initialization, Verification

task3_main_tf_resource_add

```
Windows PowerShell
resource "aws_vpc" "development_vpc" {
  cidr_block = "19.0.0.0/16"
}

resource "aws_subnet" "dev_subnet_1" {
  vpc_id     = aws_vpc.development_vpc.id
  cidr_block = "19.0.10.0/24"
  availability_zone = "us-east-1a"
}
```

task3_terraform_apply_vpc_subnet

```

13:22:41 061.rgh [~/workspaces/CC_Shumail-zahra_-2023-BSE-061] (main) $ vim main.tf
aws_vpc.development_vpc: Refreshing state... [id=vpc-07247fc26abe28036]

Terraform used the selected providers to generate the following execution plan. Resource actions are indicated with the following symbols:
+ create

Terraform will perform the following actions:

  # aws_subnet.dev_subnet_1 will be created
+ resource "aws_subnet" "dev_subnet_1" {
    + arn
    + assign_ipv6_address_on_creation
    + availability_zone
    + availability_zone_id
    + cidr_block
    + enable_dns64
    + enable_resource_name_dns_a_record_on_launch
    + enable_resource_name_dns_aaaa_record_on_launch
    + id
    + ipv6_cidr_block_association_id
    + ipv6_native
    + map_public_ip_on_launch
    + owner_id
    + private_dns_hostname_type_on_launch
    + region
    + tags_all
    + vpc_id
  }

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

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_subnet.dev_subnet_1: Creating...
aws_subnet.dev_subnet_1: Creation complete after 1s [id=subnet-0c94fd37eeb79ea89]

Apply complete! Resources: 1 added, 0 changed, 0 destroyed.
03:22:411-061.rgh [~/workspaces/CC_Shumail-zahra_-2023-BSE-061] (main) $

```

task3_aws_cli_verify_subnet

```

13:22:411-061.rgh [~/workspaces/CC_Shumail-zahra_-2023-BSE-061] (main) $ aws ec2 describe-subnets --filter "Name=subnet-id,Values=subnet-0c94fd37eeb79ea89"
{
  "Subnets": [
    {
      "AvailabilityZoneId": "use1-az1",
      "MapCustomerOwnedIpOnLaunch": false,
      "OwnerId": "075006647027",
      "AssignIpv6AddressOnCreation": false,
      "Ipv6CidrBlockAssociationSet": [],
      "SubnetArn": "arn:aws:ec2:us-east-1:075006647027:subnet/subnet-0c94fd37eeb79ea89",
      "EnableDns64": false,
      "Ipv6Native": false,
      "PrivateDnsNameOptionsOnLaunch": {
        "HostnameType": "ip-name",
        "EnableResourceNameDnsARecord": false,
        "EnableResourceNameDnsAAAARecord": false
      },
      "BlockPublicAccessStates": {
        "InternetGatewayBlockMode": "off"
      },
      "SubnetId": "subnet-0c94fd37eeb79ea89",
      "State": "available",
      "VpcId": "vpc-07247fc26abe28036",
      "CidrBlock": "10.0.10.0/24",
      "AvailableIpAddressCount": 251
    }
  ]
}

```

task3_aws_cli_verify_vpc

```

03:22:411-061.rgh [~/workspaces/CC_Shumail-zahra_-2023-BSE-061] (main) $ aws ec2 describe-vpcs --filter "Name=vpc-id,Values=vpc-07247fc26abe28036"
{
  "Vpcs": [
    {
      "OwnerId": "075006647027",
      "InstanceTenancy": "default",
      "CidrBlockAssociationSet": [
        {
          "AssociationId": "vpc-cidr-assoc-089b2e5c3a01463de",
          "CidrBlock": "10.0.0.0/16",
          "CidrBlockState": {
            "State": "associated"
          }
        }
      ],
      "IsDefault": false,
      "BlockPublicAccessStates": {
        "InternetGatewayBlockMode": "off"
      },
      "VpcId": "vpc-07247fc26abe28036",
      "Tags": [
        {
          "Key": "Name",
          "Value": "development"
        }
      ]
    }
  ]
}

```

Task 4 — Data Source, Targeted Destroy, Tags

A. Data Source & Resource Creation

task4_main_tf_datasource_resource_add

```
Windows PowerShell
resource "aws_vpc" "development_vpc" {
  cidr_block = "10.0.0.0/16"
}

resource "aws_subnet" "dev_subnet_1" {
  vpc_id      = aws_vpc.development_vpc.id
  cidr_block = "10.0.10.0/24"
  availability_zone = "us-east-1a"
}
data "aws_vpc" "existing_vpc" {
default = true
}

resource "aws_subnet" "dev_subnet_1_existing" {
  vpc_id      = data.aws_vpc.existing_vpc.id
  cidr_block = "172.31.48.0/24"
  availability_zone = "us-east-1a"
}

:wq!
Windows PowerShell
resource "aws_vpc" "development_vpc" {
  cidr_block = "10.0.0.0/16"
}

resource "aws_subnet" "dev_subnet_1" {
  vpc_id      = aws_vpc.development_vpc.id
  cidr_block = "10.0.10.0/24"
  availability_zone = "us-east-1a"
}
data "aws_vpc" "existing_vpc" {
default = true
}

resource "aws_subnet" "dev_subnet_1_existing" {
  vpc_id      = data.aws_vpc.existing_vpc.id
  cidr_block = "172.31.240.0/24"
  availability_zone = "us-east-1a"
}

:wq!
```

task4_terraform_apply_datasource_resource

```

023-12-11-001.rgh ② /workspaces/CC_Shumail-zahra_-2023-BSE-001 (main) $ vim main.tf
023-12-11-001.rgh ② /workspaces/CC_Shumail-zahra_-2023-BSE-001 (main) $ terraform apply
data.aws_vpc.existing_vpc: Reading...
aws_vpc.development_vpc: Refreshing state... [id=vpc-07247fc26abe28036]
data.aws_vpc.existing_vpc: Read complete after 2s [id=vpc-0cc0868d02cdd5863]
aws_subnet.dev_subnet_1: Refreshing state... [id=subnet-0c94fd37eab79ea89]

Terraform used the selected providers to generate the following execution plan. Resource actions are indicated with the following symbols:
  + create
  Terraform will perform the following actions:

# aws_subnet.dev_subnet_1_existing will be created
resource "aws_subnet" "dev_subnet_1_existing" {
  + arn = "arn:aws:ec2:us-east-1:123456789012:subnet/0c94fd37eab79ea89"
  + assign_ipv6_address_on_creation = false
  + availability_zone = "us-east-1a"
  + availability_zone_id = "avz-172-31-48-0-24"
  + cidr_block = "172.31.48.0/24"
  + enable_dns64 = false
  + enable_resource_name_dns_a_record_on_launch = false
  + id = "subnet-0c94fd37eab79ea89"
  + ipv6_cidr_block_association_id = null
  + ipv6_native = false
  + map_public_ip_on_launch = false
  + owner_id = "123456789012"
  + private_dns_hostname_type_on_launch = "us-east-1"
  + region = "us-east-1"
  + tags_all = null
  + vpc_id = "vpc-0cc0868d02cdd5863"
}

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

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_subnet.dev_subnet_1_existing: Creating...

[ERRON] creating EC2 Subnet: operation error EC2: CreateSubnet, https response error StatusCode: 400, RequestID: B553c422-1bd8-4429-9e7f-6d486abb6d41, api error InvalidSubnet.Conflict: The CIDR '172.31.48.0/24' conflicts with another subnet
with aws_subnet.dev_subnet_1 existing,
on main.tf line 14, in resource "aws_subnet" "dev_subnet_1_existing":
 4: resource "aws_subnet" "dev_subnet_1_existing" {

023-12-11-001.rgh ② /workspaces/CC_Shumail-zahra_-2023-BSE-001 (main) $ vim main.tf
023-12-11-001.rgh ② /workspaces/CC_Shumail-zahra_-2023-BSE-001 (main) $ terraform apply
data.aws_vpc.existing_vpc: Reading...
aws_vpc.development_vpc: Refreshing state... [id=vpc-07247fc26abe28036]
data.aws_vpc.existing_vpc: Read complete after 2s [id=vpc-0cc0868d02cdd5863]
aws_subnet.dev_subnet_1: Refreshing state... [id=subnet-0c94fd37eab79ea89]

Terraform used the selected providers to generate the following execution plan. Resource actions are indicated with the following symbols:
+ create
Terraform will perform the following actions:

# aws_subnet.dev_subnet_1_existing will be created
resource "aws_subnet" "dev_subnet_1_existing" {
  + arn = "arn:aws:ec2:us-east-1:123456789012:subnet/0c94fd37eab79ea89"
  + assign_ipv6_address_on_creation = false
  + availability_zone = "us-east-1a"
  + availability_zone_id = "avz-172-31-240-0-24"
  + cidr_block = "172.31.240.0/24"
  + enable_dns64 = false
  + enable_resource_name_dns_a_record_on_launch = false
  + id = "subnet-0c94fd37eab79ea89"
  + ipv6_cidr_block_association_id = null
  + ipv6_native = false
  + map_public_ip_on_launch = false
  + owner_id = "123456789012"
  + private_dns_hostname_type_on_launch = "us-east-1"
  + region = "us-east-1"
  + tags_all = null
  + vpc_id = "vpc-0cc0868d02cdd5863"
}

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

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_subnet.dev_subnet_1_existing: Creating...
aws_subnet.dev_subnet_1_existing: Creation complete after 2s [id=subnet-0aeb798fc35b4eafa]

Apply complete! Resources: 1 added, 0 changed, 0 destroyed.
023-22-11-001.rgh ② /workspaces/CC_Shumail-zahra_-2023-BSE-001 (main) $

```

B. Targeted Destroy & Refresh

task4_terraform_destroy_targeted

```

Apply complete! Resources: 1 added, 0 changed, 0 destroyed.
@23-22411-061-rgb ~ /workspaces/CC_-Shumail-zahra-_-2023-BSE-061- (main) $ terraform destroy -target=aws_subnet.dev_subnet_1_existing
data.aws_vpc.existing_vpc: Reading...
data.aws_vpc.existing_vpc: Read complete after 2s [id=vpc-0cc0868d02cdd5863]
aws_subnet.dev_subnet_1_existing: Refreshing state... [id=subnet-0aeb798fc35b4eafa]

Terraform used the selected providers to generate the following execution plan. Resource actions are indicated with the following symbols:
  + create
  - destroy

Terraform will perform the following actions:

# aws_subnet.dev_subnet_1_existing will be destroyed
resource "aws_subnet" "dev_subnet_1_existing" {
  arn                                = "arn:aws:ec2:us-east-1:075006647027:subnet/subnet-0aeb798fc35b4eafa" -> null
  assign_ipv6_address_on_creation      = false -> null
  availability_zone                   = "us-east-1a" -> null
  availability_zone_id                = "use1-az1" -> null
  cidr_block                          = "172.31.240.0/24" -> null
  enable_ip_forwarding                = false -> null
  enable_dns64                       = 0 -> null
  enable_resource_name_dns_a_record_on_launch = false -> null
  enable_resource_name_dns_aaaa_record_on_launch = false -> null
  id                                  = "subnet-0aeb798fc35b4eafa" -> null
  ipv6_native                         = false -> null
  map_to_customer_owned_ip_on_launch   = false -> null
  map_public_ip_on_launch              = false -> null
  owner_id                            = "075006647027" -> null
  private_dns_hostname_type_on_launch = "ip-name" -> null
  region                             = "us-east-1" -> null
  tags                               = {} -> null
  tag_all                            = {} -> null
  vpc_id                             = "vpc-0cc0868d02cdd5863" -> null
}

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

Warning: Resource targeting is in effect

You are creating a plan with the -target option, which means that the result of this plan may not represent all of the changes requested by the current configuration.

The -target option is not for routine use, and is provided only for exceptional situations such as recovering from errors or mistakes, or when Terraform specifically suggests to use it as part of an error message.

Do you really want to destroy all resources?
Terraform will destroy all your managed infrastructure, as shown above.
There is no undo. Only 'yes' will be accepted to confirm.

Enter a value: yes

aws_subnet.dev_subnet_1_existing: Destroying... [id=subnet-0aeb798fc35b4eafa]
aws_subnet.dev_subnet_1_existing: Destruction complete after 1s

Warning: Applied changes may be incomplete
Warning: Resource targeting is in effect

You are creating a plan with the -target option, which means that the result of this plan may not represent all of the changes requested by the current configuration.

The -target option is not for routine use, and is provided only for exceptional situations such as recovering from errors or mistakes, or when Terraform specifically suggests to use it as part of an error message.

Do you really want to destroy all resources?
Terraform will destroy all your managed infrastructure, as shown above.
There is no undo. Only 'yes' will be accepted to confirm.

Enter a value: yes

aws_subnet.dev_subnet_1_existing: Destroying... [id=subnet-0aeb798fc35b4eafa]
aws_subnet.dev_subnet_1_existing: Destruction complete after 1s

Warning: Applied changes may be incomplete

The plan was created with the -target option in effect, so some changes requested in the configuration may have been ignored and the output values may not be fully updated. Run the following command to verify that no other changes are pending:
  terraform plan

Note that the -target option is not suitable for routine use, and is provided only for exceptional situations such as recovering from errors or mistakes, or when Terraform specifically suggests to use it as part of an error message.

Destroy complete! Resources: 1 destroyed.
@23-22411-061-rgb ~ /workspaces/CC_-Shumail-zahra-_-2023-BSE-061- (main) $

```

task4_terraform_refresh_state

```

Apply complete! Resources: 1 added, 0 changed, 0 destroyed.
@23-22411-061-rgb ~ /workspaces/CC_-Shumail-zahra-_-2023-BSE-061- (main) $ terraform refresh
data.aws_vpc.existing_vpc: Reading...
aws_vpc.development_vpc: Refreshing state... [id=vpc-07247fc26abe28036]
data.aws_vpc.existing_vpc: Read complete after 2s [id=vpc-0cc0868d02cdd5863]
aws_subnet.dev_subnet_1: Refreshing state... [id=subnet-0c94fd37eeb79ea89]
@23-22411-061-rgb ~ /workspaces/CC_-Shumail-zahra-_-2023-BSE-061- (main) $

```

task4_terraform_apply_after_refresh

```

y3-22411-061-rgb ~ /workspaces/CC_Shumail_zahra_-2023-BSE-061 (main) $ terraform apply
data.aws_vpc.existing_vpc: Reading...
aws.vpc.development_vpc: Refreshing state... [id=vpc-07247fc26abe28036]
data.aws_vpc.existing_vpc: Read complete after 2s [id=vpc-0c0868d02cdd5863]
aws_subnet.dev_subnet_1: Refreshing state... [id=subnet-0c94fd37eeb79ea89]

Terraform used the selected providers to generate the following execution plan. Resource actions are indicated with the following symbols:
+ create

Terraform will perform the following actions:

  # aws_subnet.dev_subnet_1_existing will be created
+ resource "aws_subnet" "dev_subnet_1_existing" {
    + arn
    + assign_ipv6_address_on_creation
    + availability_zone
    + availability_zone_id
    + cidr_block
    + enable_dns64
    + enable_resource_name_dns_a_record_on_launch
    + enable_resource_name_dns_aaaa_record_on_launch
    + id
    + ipv6_cidr_block_association_id
    + ipv6_native
    + map_public_ip_on_launch
    + owner_id
    + private_dns_hostname_type_on_launch
    + region
    + tags_all
    + vpc_id
  }

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

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_subnet.dev_subnet_1_existing: Creating...
aws_subnet.dev_subnet_1_existing: Creation complete after 2s [id=subnet-073e11ef6a14665a0]

Apply complete! Resources: 1 added, 0 changed, 0 destroyed.
y3-22411-061-rgb ~ /workspaces/CC_Shumail_zahra_-2023-BSE-061 (main) $

```

task4_terraform_destroy_all

```

apply complete! Resources: 0 added, 0 changed, 0 destroyed.
y3-22411-061-rgb ~ /workspaces/CC_Shumail_zahra_-2023-BSE-061 (main) $ terraform destroy
data.aws_vpc.existing_vpc: Reading...
aws.vpc.development_vpc: Refreshing state... [id=vpc-07247fc26abe28036]
data.aws_vpc.existing_vpc: Read complete after 2s [id=vpc-0c0868d02cdd5863]
aws_subnet.dev_subnet_1_existing: Refreshing state... [id=subnet-073e11ef6a14665a0]
aws_subnet.dev_subnet_1: Refreshing state... [id=subnet-0c94fd37eeb79ea89]

Terraform used the selected providers to generate the following execution plan. Resource actions are indicated with the following symbols:
destroy

Terraform will perform the following actions:

  # aws_subnet.dev_subnet_1 will be destroyed
- resource "aws_subnet" "dev_subnet_1" {
    - arn
    - assign_ipv6_address_on_creation
    - availability_zone
    - availability_zone_id
    - cidr_block
    - enable_dns64
    - enable_lni_at_device_index
    - enable_resource_name_dns_a_record_on_launch
    - enable_resource_name_dns_aaaa_record_on_launch
    - id
    - ipv6_native
    - map_customer_owned_ip_on_launch
    - map_public_ip_on_launch
    - owner_id
    - private_dns_hostname_type_on_launch
    - region
    - tags
    - tags_all
    - vpc_id
    # (4 unchanged attributes hidden)
  }

  # aws_subnet.dev_subnet_1_existing will be destroyed
- resource "aws_subnet" "dev_subnet_1_existing" {
    - arn
    - assign_ipv6_address_on_creation
    - availability_zone
    - availability_zone_id
    - cidr_block
    - enable_dns64
    - enable_lni_at_device_index
    - enable_resource_name_dns_a_record_on_launch
    - enable_resource_name_dns_aaaa_record_on_launch
    - id
    - ipv6_native
    - map_customer_owned_ip_on_launch
    - map_public_ip_on_launch
    - owner_id
  }

```

```

  ipv6_native          = false -> null
  map_customer_owned_ip_on_launch = false -> null
  map_public_ip_on_launch   = false -> null
  owner_id              = "075006647027" -> null
  private_dns_hostname_type_on_launch = "ip-name" -> null
  region                = "us-east-1" -> null
  tags                  = {} -> null
  tags_all              = {} -> null
  vpc_id                = "vpc-0cc8868d02cdd5863" -> null
}
# aws_vpc.development_vpc will be destroyed
resource "aws_vpc" "development_vpc" {
  assign_generated_ipv6_cidr_block = false -> null
  cidr_block                      = "10.0.0.0/16" -> null
  default_network_acl_id          = "acl-0b11e583c5ad1c3" -> null
  default_route_table_id          = "rtb-0ed043ce7674474dd" -> null
  default_security_group_id        = "sg-06a613c667ba1d775" -> null
  dhcp_options_id                 = "dopt-03cb4818fb45a2df" -> null
  enable_dns_hostnames            = false -> null
  enable_dns_support              = true -> null
  enable_network_address_usage_metrics = false -> null
  id                             = "vpc-07247fc26abe28036" -> null
  instance_tenancy                = "default" -> null
  ipv6_subnet_length               = 0 -> null
  main_route_table_id             = "rtb-0ed043ce7674474dd" -> null
  owner_id                         = "075006647027" -> null
  region                           = "us-east-1" -> null
  tags                            = {} -> null
  tags_all                         = {} -> null
}
# (4 unchanged attributes hidden)

Plan: 0 to add, 0 to change, 3 to destroy.

Do you really want to destroy all resources?
Terraform will destroy all your managed infrastructure, as shown above.
There is no undo. Only 'yes' will be accepted to confirm.

Enter a value: yes

aws_subnet.dev_subnet_1: Destroying... [id=subnet-0c94fd37eeb79ea89]
aws_subnet.dev_subnet_1_existing: Destroying... [id=subnet-07311ef6a14665a0]
aws_subnet.dev_subnet_1: Destruction complete after 2s
aws_vpc.development_vpc: Destroying... [id=vpc-07247fc26abe28036]
aws_subnet.dev_subnet_1_existing: Destruction complete after 2s
aws_vpc.development_vpc: Destruction complete after 2s

Destroy complete! Resources: 3 destroyed.
[23:22:41+00:00] [root@ip-172-31-248-8 ~] % terraform destroy -auto-approve -main $ 

```

task4_terraform_plan_output

```

Destroy complete! Resources: 3 destroyed.
[23:22:41+00:00] [root@ip-172-31-248-8 ~] % terraform plan
data.aws_vpc.existing_vpc: Reading...
data.aws_vpc.existing_vpc: Read complete after 2s [id=vpc-0cc8868d02cdd5863]

Terraform used the selected providers to generate the following execution plan. Resource actions are indicated with the following symbols:
+ create
Terraform will perform the following actions:

# aws_subnet.dev_subnet_1 will be created
resource "aws_subnet" "dev_subnet_1" {
  + arn                                = (known after apply)
  + assign_ipv6_address_on_creation      = false
  + availability_zone                   = "us-east-1a"
  + availability_zone_id                = (known after apply)
  + cidr_block                          = "10.0.10.0/24"
  + enable_dns64                        = false
  + enable_resource_name_dns_a_record_on_launch = false
  + enable_resource_name_dns_aaaa_record_on_launch = false
  + id                                 = (known after apply)
  + ipv6_cidr_block_association_id     = (known after apply)
  + ipv6_native                         = false
  + map_public_ip_on_launch             = (known after apply)
  + private_dns_hostname_type_on_launch = (known after apply)
  + region                            = "us-east-1"
  + tags_all                           = (known after apply)
  + vpc_id                            = (known after apply)
}

# aws_subnet.dev_subnet_1_existing will be created
resource "aws_subnet" "dev_subnet_1_existing" {
  + arn                                = (known after apply)
  + assign_ipv6_address_on_creation      = false
  + availability_zone                   = "us-east-1a"
  + availability_zone_id                = (known after apply)
  + cidr_block                          = "172.31.248.0/24"
  + enable_dns64                        = false
  + enable_resource_name_dns_a_record_on_launch = false
  + enable_resource_name_dns_aaaa_record_on_launch = false
  + id                                 = (known after apply)
  + ipv6_cidr_block_association_id     = (known after apply)
  + ipv6_native                         = false
  + map_public_ip_on_launch             = (known after apply)
  + owner_id                           = (known after apply)
  + private_dns_hostname_type_on_launch = (known after apply)
  + region                            = "us-east-1"
  + tags_all                           = (known after apply)
  + vpc_id                            = (known after apply)
}

# aws_vpc.development_vpc will be created
resource "aws_vpc" "development_vpc" {

```

```

+ owner_id          = (known after apply)
+ private_dns_hostname_type_on_launch = "us-east-1"
+ region            = (known after apply)
+ tags_all          = "vpc-0cc0868d02cdd5863"
+ vpc_id             = (known after apply)

# aws_vpc.development_vpc will be created
resource "aws_vpc" "development_vpc" {
+ arn                = "10.0.0.0/16"
+ cidr_block         = (known after apply)
+ 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                 = "default"
+ instance_tenancy   = (known after apply)
+ 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_all           = (known after apply)
}

Plan: 3 to add, 0 to change, 0 to destroy.

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

```

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

task4_terraform_apply_after_destroy

```

Note: You didn't use the -out option to save this plan, so Terraform can't guarantee to take exactly these actions if you run "terraform apply" now.
git3-22411-061-rgb @ /workspaces/CC_Shumail-Zahra--2023-RSE-061- [main] $ terraform apply
data.aws_vpc.existing_vpc: Reading...
data.aws_vpc.existing_vpc: Read complete after 2s [id=vpc-0cc0868d02cdd5863]

Terraform used the selected providers to generate the following execution plan. Resource actions are indicated with the following symbols:
+ create

Terraform will perform the following actions:

# aws_subnet.dev_subnet_1 will be created
resource "aws_subnet" "dev_subnet_1" {
+ arn                = (known after apply)
+ assign_ipv6_address_on_creation = false
+ availability_zone   = "us-east-1a"
+ availability_zone_id = (known after apply)
+ cidr_block          = "10.0.10.0/24"
+ enable_dns64        = false
+ enable_resource_name_dns_a_record_on_launch = false
+ enable_resource_name_dns_aaaa_record_on_launch = false
+ id                 = (known after apply)
+ ipv6_cidr_block_association_id = (known after apply)
+ ipv6_native          = false
+ map_public_ip_on_launch = false
+ owner_id            = (known after apply)
+ private_dns_hostname_type_on_launch = (known after apply)
+ region              = "us-east-1"
+ tags_all            = (known after apply)
+ vpc_id              = (known after apply)
}

# aws_subnet.dev_subnet_1_existing will be created
resource "aws_subnet" "dev_subnet_1_existing" {
+ arn                = (known after apply)
+ assign_ipv6_address_on_creation = false
+ availability_zone   = "us-east-1a"
+ availability_zone_id = (known after apply)
+ cidr_block          = "172.31.240.0/24"
+ enable_dns64        = false
+ enable_resource_name_dns_a_record_on_launch = false
+ enable_resource_name_dns_aaaa_record_on_launch = false
+ id                 = (known after apply)
+ ipv6_cidr_block_association_id = (known after apply)
+ ipv6_native          = false
+ map_public_ip_on_launch = false
+ owner_id            = (known after apply)
+ private_dns_hostname_type_on_launch = (known after apply)
+ region              = "us-east-1"
+ tags_all            = (known after apply)
+ vpc_id              = "vpc-0cc0868d02cdd5863"
}

# aws_vpc.development_vpc will be created
resource "aws_vpc" "development_vpc" {
+ 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)

```

```

+ map_public_ip_on_launch          = false
+ owner_id                         = (known after apply)
+ private_dns_hostname_type_on_launch = (known after apply)
+ region                           = "us-east-1"
+ tags_all                          = (known after apply)
+ vpc_id                            = "vpc-0cc0868d02cdd5863"
}

# aws_vpc.development_vpc will be created
resource "aws_vpc" "development_vpc" {
    + 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_all                          = (known after apply)
}

Plan: 3 to add, 0 to change, 0 to destroy.

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_subnet.dev_subnet_1_existing: Creating...
aws_vpc.development_vpc: Creating...
aws_subnet.dev_subnet_1_existing: Creation complete after 2s [id=subnet-003896b7c0fc729fd]
aws_vpc.development_vpc: Creation complete after 3s [id=vpc-0de3a57dc315b6a5]
aws_subnet.dev_subnet_1: Creating...
aws_subnet.dev_subnet_1: Creation complete after 1s [id=subnet-0f289c8b436bf2012]

Apply complete! Resources: 3 added, 0 changed, 0 destroyed.
[23:22:41] - 061-rgb [~/workspaces/CC_Shumail-Zahra-...-2023-BSE-061- (main)] $
```

C. Tagging Resources

task4_main_tf_tagging

```

Windows PowerShell
resource "aws_vpc" "development_vpc" {
    cidr_block = "10.0.0.0/16"

    tags = [
        { Name = "development"
        vpc_env = "dev"
        }
    ]

resource "aws_subnet" "dev_subnet_1" {
    vpc_id      = aws_vpc.development_vpc.id
    cidr_block  = "10.0.10.0/24"
    availability_zone = "us-east-1a"

    tags = [
        { Name = "subnet-1-dev"
        }
    ]

resource "aws_subnet" "dev_subnet_1_existing" {
    vpc_id      = data.aws_vpc.existing_vpc.id
    cidr_block  = "172.31.240.0/24"
    availability_zone = "us-east-1a"

    tags = [
        { Name = "subnet-1-default"
        }
    ]
}
```

```
Windows PowerShell
data "aws_vpc" "existing_vpc" {
  default = true
}
resource "aws_vpc" "development_vpc" {
  cidr_block = "10.0.0.0/16"
  tags = {
    Name      = "development"
    vpc_env   = "dev"
  }
}

resource "aws_subnet" "dev_subnet_1" {
  vpc_id       = aws_vpc.development_vpc.id
  cidr_block   = "10.0.10.0/24"
  availability_zone = "us-east-1a"
  tags = {
    Name = "subnet-1-dev"
  }
}

resource "aws_subnet" "dev_subnet_1_existing" {
  vpc_id       = data.aws_vpc.existing_vpc.id
  cidr_block   = "172.31.240.0/24"
  availability_zone = "us-east-1a"
  tags = {
    Name = "subnet-1-default"
  }
}

#
```

task4_terraform_apply_tagging

```
[23:22411-061-rgb] /workspaces/CC_Shumail-zahra-_-2023-BSE-061-(main) $ vim main.tf
[23:22411-061-rgb] /workspaces/CC_Shumail-zahra-_-2023-BSE-061-(main) $ [23:22411-061-rgb] /workspaces/CC_Shumail-zahra-_-2023-BSE-061-(main) $ vim main.tf
[23:22411-061-rgb] /workspaces/CC_Shumail-zahra-_-2023-BSE-061-(main) $ terraform refresh
Error: Reference to undeclared resource

  on main.tf line 21, in resource "aws_subnet" "dev_subnet_1_existing":
  21:   vpc_id      = data.aws_vpc.existing_vpc.id

A data resource "aws_vpc" "existing_vpc" has not been declared in the root module.

[23:22411-061-rgb] /workspaces/CC_Shumail-zahra-_-2023-BSE-061-(main) $ vim main.tf
[23:22411-061-rgb] /workspaces/CC_Shumail-zahra-_-2023-BSE-061-(main) $ terraform refresh
aws_vpc.development_vpc: Refreshing state... [id=vpc-0de3a57dc315b6a5]
data.aws_vpc.existing_vpc: Reading...
data.aws_vpc.existing_vpc: Read complete after 2s [id=vpc-0cc0868d02cdd5863]
aws_subnet.dev_subnet_1_existing: Refreshing state... [id=subnet-003896b7cbfc729fd]
aws_subnet.dev_subnet_1: Refreshing state... [id=subnet-0f289c8b436bf2012]
[23:22411-061-rgb] /workspaces/CC_Shumail-zahra-_-2023-BSE-061-(main) $
```

```

aws_vpc.development_vpc: Refreshing state... [id=vpc-0de3a57dc315b6a5]
data.aws_vpc.existing_vpc: Reading...
data.aws_vpc.existing_vpc: Read complete after 2s [id=vpc-0cc0868d02dd5863]
aws_subnet.dev_subnet_1_existing: Refreshing state... [id=subnet-003896b7c0fc729fd]
aws_subnet.dev_subnet_1: Refreshing state... [id=subnet-0f289c8b436bf2012]
zsh:22$ tail -n 100 ./workspaces/CC_Shumail-zahra_-2023-BSE-061_(main) $ terraform apply -auto-approve
aws_vpc.development_vpc: Refreshing state... [id=vpc-0de3a57dc315b6a5]
data.aws_vpc.existing_vpc: Read complete after 2s [id=vpc-0cc0868d02dd5863]
aws_subnet.dev_subnet_1_existing: Refreshing state... [id=subnet-003896b7c0fc729fd]
aws_subnet.dev_subnet_1: Refreshing state... [id=subnet-0f289c8b436bf2012]

Terraform used the selected providers to generate the following execution plan. Resource actions are indicated with the following symbols:
  ~ update in-place

Terraform will perform the following actions:

# aws_subnet.dev_subnet_1 will be updated in-place
~ resource "aws_subnet" "dev_subnet_1" {
    id                      = "subnet-0f289c8b436bf2012"
    ~ tags                   = {}
    + "Name"                = "subnet-1-dev"
}
~ tags_all                = {
    + "Name"                = "subnet-1-dev"
}
# (20 unchanged attributes hidden)
}

# aws_subnet.dev_subnet_1_existing will be updated in-place
~ resource "aws_subnet" "dev_subnet_1_existing" {
    id                      = "subnet-003896b7c0fc729fd"
    ~ tags                   = {}
    + "Name"                = "subnet-1-default"
}
~ tags_all                = {
    + "Name"                = "subnet-1-default"
}
# (20 unchanged attributes hidden)
}

# aws_vpc.development_vpc will be updated in-place
~ resource "aws_vpc" "development_vpc" {
    id                      = "vpc-0de3a57dc315b6a5"
    ~ tags                   = {}
    + "Name"                = "development"
    + "vpc_env"              = "dev"
}
~ tags_all                = {
    + "Name"                = "development"
    + "vpc_env"              = "dev"
}
# (19 unchanged attributes hidden)
}

~ tags_all                = {
    + "Name"                = "subnet-1-default"
}
# (20 unchanged attributes hidden)
}

# aws_vpc.development_vpc will be updated in-place
~ resource "aws_vpc" "development_vpc" {
    id                      = "vpc-0de3a57dc315b6a5"
    ~ tags                   = {}
    + "Name"                = "development"
    + "vpc_env"              = "dev"
}
~ tags_all                = {
    + "Name"                = "development"
    + "vpc_env"              = "dev"
}
# (19 unchanged attributes hidden)
}

Plan: 0 to add, 3 to change, 0 to destroy.
aws_subnet.dev_subnet_1_existing: Modifying... [id=subnet-003896b7c0fc729fd]
aws_vpc.development_vpc: Modifying... [id=vpc-0de3a57dc315b6a5]
aws_subnet.dev_subnet_1_existing: Modifications complete after 2s [id=subnet-003896b7c0fc729fd]
aws_vpc.development_vpc: Modifications complete after 3s [id=vpc-0de3a57dc315b6a5]
aws_subnet.dev_subnet_1: Modifying... [id=subnet-0f289c8b436bf2012]
aws_subnet.dev_subnet_1: Modifications complete after 1s [id=subnet-0f289c8b436bf2012]

Apply complete! Resources: 0 added, 3 changed, 0 destroyed.
zsh:22$ tail -n 100 ./workspaces/CC_Shumail-zahra_-2023-BSE-061_(main) $

```

task4_terraform_plan_remove_tag

```

data.aws_vpc.existing_vpc: Reading...
aws_vpc.development_vpc: Refreshing state... [id=vpc-0de3a57dc315b6a5]
data.aws_vpc.existing_vpc: Read complete after 2s [id=vpc-0cc0868d02cdd5863]
aws_subnet.dev_subnet_1_existing: Refreshing state... [id=subnet-003896b7c0fc729fd]
aws_subnet.dev_subnet_1: Refreshing state... [id=subnet-0f289c8b436bf2012]

Terraform used the selected providers to generate the following execution plan. Resource actions are indicated with the following symbols:
~ update in-place

Terraform will perform the following actions:

# aws_vpc.development_vpc will be updated in-place
~ resource "aws_vpc" "development_vpc" {
    id                      = "vpc-0de3a57dc315b6a5"
    ~ tags                  = {
        "Name"      = "development"
        "vpc_env"   = "dev" -> null
    }
    ~ tags_all              = {
        "vpc_env"   = "dev" -> null
        # (1 unchanged element hidden)
    }
    # (19 unchanged attributes hidden)
}

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

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

```

task4_terraform_apply_remove_tag

```

data.aws_vpc.existing_vpc: Reading...
aws_vpc.development_vpc: Refreshing state... [id=vpc-0de3a57dc315b6a5]
data.aws_vpc.existing_vpc: Read complete after 2s [id=vpc-0cc0868d02cdd5863]
aws_subnet.dev_subnet_1_existing: Refreshing state... [id=subnet-003896b7c0fc729fd]
aws_subnet.dev_subnet_1: Refreshing state... [id=subnet-0f289c8b436bf2012]

Terraform used the selected providers to generate the following execution plan. Resource actions are indicated with the following symbols:
~ update in-place

Terraform will perform the following actions:

# aws_vpc.development_vpc will be updated in-place
~ resource "aws_vpc" "development_vpc" {
    id                      = "vpc-0de3a57dc315b6a5"
    ~ tags                  = {
        "Name"      = "development"
        "vpc_env"   = "dev" -> null
    }
    ~ tags_all              = {
        "vpc_env"   = "dev" -> null
        # (1 unchanged element hidden)
    }
    # (19 unchanged attributes hidden)
}

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

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_vpc.development_vpc: Modifying... [id=vpc-0de3a57dc315b6a5]
aws_vpc.development_vpc: Modifications complete after 3s [id=vpc-0de3a57dc315b6a5]

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

```

Task 5 — State File Inspection & Terraform State Commands

task5_terraform_destroy

```

@23-22411-061-rgb eworkspaces/CC_Shumail-zahra_-2023-BSE-061- (main) $ terraform destroy
data.aws_vpc.existing_vpc: Reading...
aws_vpc.development_vpc: Refreshing state... [id=vpc-0de3a57dc315b6a5]
data.aws_vpc.existing_vpc: Read complete after 2s [id=vpc-0cc0868d02dd5863]
aws_subnet.dev_subnet_1_existing: Refreshing state... [id=subnet-003896b7c0fc729fd]
aws_subnet.dev_subnet_1: Refreshing state... [id=subnet-0f289c8b436bf2012]

Terraform used the selected providers to generate the following execution plan. Resource actions are indicated with the following symbols:
- : destroy

Terraform will perform the following actions:

# aws_subnet.dev_subnet_1 will be destroyed
- resource "aws_subnet" "dev_subnet_1" {
    arn = "arn:aws:ec2:us-east-1:075006647027:subnet/subnet-0f289c8b436bf2012" -> null
    assign_ipv6_address_on_creation = false -> null
    availability_zone = "us-east-1a" -> null
    availability_zone_id = "use1-az1" -> null
    cidr_block = "10.0.10.0/24" -> null
    enable_dns64 = false -> null
    enable_lni_at_device_index = 0 -> null
    enable_resource_name_dns_a_record_on_launch = false -> null
    id = "subnet-0f289c8b436bf2012" -> null
    ipv6_native = false -> null
    map_customer_owned_ip_on_launch = false -> null
    map_public_ip_on_launch = false -> null
    owner_id = "075006647027" -> null
    private_dns_hostname_type_on_launch = "ip-name" -> null
    region = "us-east-1" -> null
    tags = {
        "Name" = "subnet-1-dev"
    } -> null
    tags_all = {
        "Name" = "subnet-1-dev"
    } -> null
    vpc_id = "vpc-0de3a57dc315b6a5" -> null
    # (4 unchanged attributes hidden)
}

# aws_subnet.dev_subnet_1_existing will be destroyed
- resource "aws_subnet" "dev_subnet_1_existing" {
    arn = "arn:aws:ec2:us-east-1:075006647027:subnet/subnet-003896b7c0fc729fd" -> null
    assign_ipv6_address_on_creation = false -> null
    availability_zone = "us-east-1a" -> null
    availability_zone_id = "use1-az1" -> null
    cidr_block = "172.31.240.0/24" -> null
    enable_dns64 = false -> null
    enable_lni_at_device_index = 0 -> null
    enable_resource_name_dns_a_record_on_launch = false -> null
    tags = {
        "Name" = "subnet-1-default"
    } -> null
    tags_all = {
        "Name" = "subnet-1-default"
    } -> null
    vpc_id = "vpc-0cc0868d02dd5863" -> null
    # (4 unchanged attributes hidden)
}

# aws_vpc.development_vpc will be destroyed
resource "aws_vpc" "development_vpc" {
    arn = "arn:aws:ec2:us-east-1:075006647027:vpc/vpc-0de3a57dc315b6a5" -> null
    assign_generated_ipv6_cidr_block = false -> null
    cidr_block = "10.0.0.0/16" -> null
    default_network_acl_id = "acl-0498bd7ff83c3fa" -> null
    default_route_table_id = "rtb-0262e4d7eeca0e6ac" -> null
    default_security_group_id = "sg-0faafed8804acb2b" -> null
    dhcp_options_id = "dopt-030481ff45a2df" -> null
    enable_dns_hostnames = false -> null
    enable_dns_support = true -> null
    enable_network_address_usage_metrics = false -> null
    id = "vpc-0de3a57dc315b6a5" -> null
    instance_tenancy = "default" -> null
    ipv6_maximum_length = 0 -> null
    main_route_table_id = "rtb-0262e4d7eeca0e6ac" -> null
    owner_id = "075006647027" -> null
    region = "us-east-1" -> null
    tags = {
        "Name" = "development"
    } -> null
    tags_all = {
        "Name" = "development"
    } -> null
    # (4 unchanged attributes hidden)
}

Plan: 0 to add, 0 to change, 3 to destroy.

Do you really want to destroy all resources?
Terraform will destroy all your managed infrastructure, as shown above.
There is no undo. Only 'yes' will be accepted to confirm.

Enter a value: yes

aws_subnet.dev_subnet_1: Destroying... [id=subnet-0f289c8b436bf2012]
aws_subnet.dev_subnet_1_existing: Destroying... [id=subnet-003896b7c0fc729fd]
aws_subnet.dev_subnet_1: Destruction complete after 1s
aws_subnet.dev_subnet_1_existing: Destruction complete after 1s
aws_vpc.development_vpc: Destroying... [id=vpc-0de3a57dc315b6a5]
aws_vpc.development_vpc: Destruction complete after 1s

```

task5_terraform_state_file_empty

```

@23-22411-061-rgb eworkspaces/CC_Shumail-zahra_-2023-BSE-061- (main) $ cat terraform.tfstate
{
  "version": 4,
  "terraform_version": "1.14.3",
  "serial": 43,
  "lineage": "b2bbb1dc-152e-02bb-6bcd-9bfdeb3e4f0a",
  "outputs": {},
  "resources": [],
  "check_results": null
}
@23-22411-061-rgb eworkspaces/CC_Shumail-zahra_-2023-BSE-061- (main) $

```

task5_terraform_state_backup_prev

```

}
/v3_22411-061-rgb ~ /workspaces/CC_Shumail-zahra-_-2023-BSE-061- (main) $ cat terraform.tfstate.backup
{
  "version": 4,
  "terraform_version": "1.14.3",
  "serial": 38,
  "lineage": "b2bbb1dc-152e-02bb-6bcd-9bfdeb3e4f0a",
  "outputs": {},
  "resources": [
    {
      "mode": "data",
      "type": "aws_vpc",
      "name": "existing_vpc",
      "provider": "provider[\"registry.terraform.io/hashicorp/aws\"]",
      "instances": [
        {
          "schema_version": 0,
          "attributes": {
            "arn": "arn:aws:ec2:us-east-1:075006647027:vpc/vpc-0cc0868d02cdd5863",
            "cidr_block": "172.31.0.0/16",
            "cidr_block_associations": [
              {
                "association_id": "vpc-cidr-assoc-0fc958c81ad4ea610",
                "cidr_block": "172.31.0.0/16",
                "state": "associated"
              }
            ],
            "default": true,
            "dhcp_options_id": "dopt-03c04818ffb45a2df",
            "enable_dns_hostnames": true,
            "enable_dns_support": true,
            "enable_network_address_usage_metrics": false,
            "filter": null,
            "id": "vpc-0cc0868d02cdd5863",
            "instance_tenancy": "default",
            "ipv6_association_id": "",
            "ipv6_cidr_block": "",
            "main_route_table_id": "rtb-0dd69f9eeaffa80ff",
            "owner_id": "075006647027",
            "region": "us-east-1",
            "state": null,
            "tags": {},
            "timeouts": null
          },
          "sensitive_attributes": [],
          "identity_schema_version": 0
        }
      ]
    },
    {
      "mode": "managed",
      "type": "aws_subnet",
      "name": "subnet-0cc0868d02cdd5863",
      "provider": "provider[\"registry.terraform.io/hashicorp/aws\"]",
      "instances": [
        {
          "schema_version": 1,
          "attributes": {
            "arn": "arn:aws:ec2:us-east-1:075006647027:subnet/subnet-0f289c8b436bf2012",
            "assign_ipv6_address_on_creation": false,
            "availability_zone": "us-east-1a",
            "availability_zone_id": "us-east-1a",
            "cidr_block": "10.0.10.0/24",
            "customer_owned_ipv4_pool": "",
            "enable_dns64": false,
            "enable_lni_at_device_index": 0,
            "enable_resource_name_dns_a_record_on_launch": false,
            "enable_resource_name_dns_aaaa_record_on_launch": false,
            "id": "subnet-0f289c8b436bf2012",
            "ipv6_cidr_block": "",
            "ipv6_cidr_block_association_id": "",
            "ipv6_native": false,
            "map_customer_owned_ip_on_launch": false,
            "map_public_ip_on_launch": false,
            "outpost_arn": "",
            "owner_id": "075006647027",
            "private_dns_hostname_type_on_launch": "ip-name",
            "region": "us-east-1",
            "tags": {
              "Name": "subnet-1-dev"
            },
            "tags_all": {
              "Name": "subnet-1-dev"
            },
            "timeouts": null,
            "vpc_id": "vpc-0de3a57dcfd315b6a5"
          },
          "sensitive_attributes": [],
          "identity_schema_version": 0,
          "identity": {
            "account_id": "075006647027",
            "id": "subnet-0f289c8b436bf2012",
            "region": "us-east-1"
          },
          "private": "eyJlMmJmYjczMClY2FhLTExZTYtOGY4OC0zNDM2M2jN2M0YzAiOnsiY3J1YXR1Ijo2MDAwMDAwMDAwMDAsImRlbGV0ZS16MTIwMDAwMDAwMH0sInNjaGVtYV92ZXJzaW9uIjoiMSJ9",
          "dependencies": [
            "aws_vpc.development_vpc"
          ]
        }
      ],
      "check_result": null
    }
  ]
}

```

```
{
  "mode": "managed",
  "type": "aws_subnet",
  "name": "dev_subnet_1_existing",
  "provider": "provider[\"registry.terraform.io/hashicorp/aws\"]",
  "instances": [
    {
      "schema_version": 1,
      "attributes": {
        "arn": "arn:aws:ec2:us-east-1:075006647027:subnet/subnet-003896b7c0fc729fd",
        "assign_ipv6_address_on_creation": false,
        "availability_zone": "us-east-1",
        "availability_zone_id": "subnet-003896b7c0fc729fd",
        "cidr_block": "172.31.240.0/24",
        "customer_owned_ipv4_pool": "",
        "enable_dns64": false,
        "enable_lni_at_device_index": 0,
        "enable_resource_name_dns_a_record_on_launch": false,
        "enable_resource_name_dns_aaaa_record_on_launch": false,
        "id": "subnet-003896b7c0fc729fd",
        "ipv6_cidr_block": "",
        "ipv6_cidr_block_association_id": "",
        "ipv6_native": false,
        "map_customer_owned_ip_on_launch": false,
        "map_public_ip_on_launch": false,
        "output_port": null,
        "owner_id": "075006647027",
        "private_dns_hostname_type_on_launch": "ip-name",
        "region": "us-east-1",
        "tags": [
          {
            "Name": "subnet-1-default"
          },
          "tags_all": [
            "Name": "subnet-1-default"
          ],
          "timedouts": null,
          "vpc_id": "vpc-0cc0868d02cd5863"
        ],
        "sensitive_attributes": [],
        "identity_schema_version": 0,
        "identity": {
          "account_id": "075006647027",
          "id": "subnet-003896b7c0fc729fd",
          "region": "us-east-1"
        },
        "private": "eyJlMmMwYjczMC1Y2FhLTExZIYtOGY4OC9zNDM2J3jn2M0YzA1OnsiY3J1YXR1Ijo2MDAwMDAwMDAwMDAwH0sInNjaGvtYV9ZXJzaW9uIjoiMSJ9",
        "dependences": [
          "data.aws_vpc.existing_vpc"
        ]
      }
    }
  ]
}
```

Windows PowerShell

```

{
  "type": "aws_vpc",
  "name": "development_vpc",
  "provider": "provider[\"registry.terraform.io/hashicorp/aws\"]",
  "instances": [
    {
      "schema_version": 1,
      "attributes": {
        "arn": "arn:aws:ec2:us-east-1:075006647027:vpc/vpc-0de3a57cd315b6a5",
        "assign_generated_ipv6_cidr_block": false,
        "cidr_block": "10.0.0.0/16",
        "default_network_acl_id": "acl-0d98db77ff83c3fe",
        "default_route_table_id": "rtb-0262e4d7eeca0e6ac",
        "default_security_group_id": "sg-0faaffe8804acb2b0",
        "dhcp_options_id": "dopt-03c04818ffb45a2df",
        "enable_dns_hostnames": false,
        "enable_dns_support": true,
        "enable_network_address_usage_metrics": false,
        "id": "vpc-0de3a57cd315b6a5",
        "instance_tenancy": "default",
        "ipv4_ipam_pool_id": null,
        "ipv4_netmask_length": null,
        "ipv6_association_id": "",
        "ipv6_cidr_block": "",
        "ipv6_cidr_block_network_border_group": "",
        "ipv6_ipam_pool_id": "",
        "ipv6_netmask_length": 0,
        "main_route_table_id": "rtb-0262e4d7eeca0e6ac",
        "owner_id": "075006647027",
        "region": "us-east-1",
        "tags": [
          {
            "Name": "development"
          },
          "tags_all": [
            "Name": "development"
          ]
        ],
        "sensitive_attributes": [],
        "identity_schema_version": 0,
        "identity": {
          "account_id": "075006647027",
          "id": "vpc-0de3a57cd315b6a5",
          "region": "us-east-1"
        },
        "private": "eyJzY2hlbWFfdmVyc2lvbiI6IjEifQ=="
      }
    }
  ],
  "check_results": null
}

```

task5_terraform_apply_recreated

```

(j3-22411-061-rgb) /workspaces/CC_Shumail-zahra--2023-BSE-061- (main) $ terraform apply
data.aws_vpc.existing_vpc: Reading...
data.aws_vpc.existing_vpc: Read complete after 2s [id=vpc-0cc0868d02cdd5863]

Terraform used the selected providers to generate the following execution plan. Resource actions are indicated with the following symbols:
+ create

Terraform will perform the following actions:

# aws_subnet.dev_subnet_1 will be created
+ resource "aws_subnet" "dev_subnet_1" {
  + arn = (known after apply)
  + assign_ipv6_address_on_creation = false
  + availability_zone = "us-east-1a"
  + availability_zone_id = (known after apply)
  + cidr_block = "10.0.10.0/24"
  + enable_dns64 = false
  + enable_resource_name_dns_a_record_on_launch = false
  + enable_resource_name_dns_aaaa_record_on_launch = false
  + id = (known after apply)
  + ipv6_cidr_block_association_id = (known after apply)
  + ipv6_native = false
  + map_public_ip_on_launch = false
  + owner_id = (known after apply)
  + private_dns_hostname_type_on_launch = (known after apply)
  + region = "us-east-1"
  + tags = {
    + "Name" = "subnet-1-dev"
  }
  + tags_all = {
    + "Name" = "subnet-1-dev"
  }
  + vpc_id = (known after apply)
}

# aws_subnet.dev_subnet_1_existing will be created
+ resource "aws_subnet" "dev_subnet_1_existing" {
  + arn = (known after apply)
  + assign_ipv6_address_on_creation = false
  + availability_zone = "us-east-1a"
  + availability_zone_id = (known after apply)
  + cidr_block = "172.31.240.0/24"
  + enable_dns64 = false
  + enable_resource_name_dns_a_record_on_launch = false
  + enable_resource_name_dns_aaaa_record_on_launch = false
  + id = (known after apply)
  + ipv6_cidr_block_association_id = (known after apply)
  + ipv6_native = false
  + map_public_ip_on_launch = false
  + owner_id = (known after apply)
  + private_dns_hostname_type_on_launch = (known after apply)
}
Only 'yes' will be accepted to approve.

+ resource "aws_vpc" "development_vpc" {
  + 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" = "development"
  }
  + tags_all = {
    + "Name" = "development"
  }
}

Plan: 3 to add, 0 to change, 0 to destroy.

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_vpc.development_vpc: Creating...
aws_subnet.dev_subnet_1_existing: Creating...
aws_subnet.dev_subnet_1_existing: Creation complete after 2s [id=subnet-087bb9ce4639b318e]
aws_vpc.development_vpc: Creation complete after 4s [id=vpc-06707647cde717658]
aws_subnet.dev_subnet_1: Creating...
aws_subnet.dev_subnet_1: Creation complete after 1s [id=subnet-0bd212b6a8a657171]

Apply complete! Resources: 3 added, 0 changed, 0 destroyed.
(j3-22411-061-rgb) /workspaces/CC_Shumail-zahra--2023-BSE-061- (main) $

```

task5_terraform_state_file_populated

```

$ terraform completion resources > ./tf-completion.vim
033-22411-061-rgb eworkspace:CC_Shumail-zahra_2023-BSE-061-(main) $ cat terraform.tfstate
{
  "version": 4,
  "terraform_version": "1.14.3",
  "serial": 47,
  "lineage": "b2bbb1dc-152e-02bb-6bcd-9bfdeb3e4f0a",
  "outputs": {},
  "resources": [
    {
      "mode": "data",
      "type": "aws_vpc",
      "name": "existing_vpc",
      "provider": "provider[\"registry.terraform.io/hashicorp/aws\"]",
      "instances": [
        {
          "schema_version": 0,
          "attributes": {
            "arn": "arn:aws:ec2:us-east-1:075006647027:vpc/vpc-0cc0868d02cdd5863",
            "cidr_block": "172.31.0.0/16",
            "cidr_block_associations": [
              {
                "association_id": "vpc-cidr-assoc-0fc958c81ad4ea610",
                "cidr_block": "172.31.0.0/16",
                "state": "associated"
              }
            ],
            "default": true,
            "dhcp_options_id": "dopt-03c04818ffb45a2df",
            "enable_dns_hostnames": true,
            "enable_dns_support": true,
            "enable_network_address_usage_metrics": false,
            "filter": null,
            "id": "vpc-0cc0868d02cdd5863",
            "instance_tenancy": "default",
            "ipv6_association_id": "",
            "ipv6_cidr_block": "",
            "main_route_table_id": "rtb-0dd69f9eeaffa80ff",
            "owner_id": "075006647027",
            "region": "us-east-1",
            "state": null,
            "tags": {},
            "timeouts": null
          },
          "sensitive_attributes": [],
          "identity_schema_version": 0
        }
      ]
    },
    {
      "mode": "managed",
      "type": "aws_subnet",
      "name": "dev_subnet_1",
      "provider": "provider[\"registry.terraform.io/hashicorp/aws\"]",
      "instances": [
        {
          "schema_version": 1,
          "attributes": {
            "arn": "arn:aws:ec2:us-east-1:075006647027:subnet/subnet-0bd212b6a8a657171",
            "assign_ipv6_address_on_creation": false,
            "availability_zone": "us-east-1a",
            "availability_zone_id": "use1-az1",
            "cidr_block": "10.10.0.0/24",
            "customer_owned_ip4_pool": "",
            "enable_dns64": false,
            "enable_lni_at_device_index": 0,
            "enable_resource_name_dns_a_record_on_launch": false,
            "enable_resource_name_dns_aaaa_record_on_launch": false,
            "id": "subnet-0bd212b6a8a657171",
            "ipv6_cidr_block": "",
            "ipv6_cidr_block_association_id": "",
            "ipv6_native": false,
            "map_customer_owned_ip_on_launch": false,
            "map_public_ip_on_launch": false,
            "outpost_arn": "",
            "owner_id": "075006647027",
            "private_dns_hostname_type_on_launch": "ip-name",
            "region": "us-east-1",
            "tags": {
              "Name": "subnet-1-dev"
            },
            "tags_all": [
              {
                "Name": "subnet-1-dev"
              }
            ],
            "timeouts": null,
            "vpc_id": "vpc-06707647cde717658"
          },
          "sensitive_attributes": [],
          "identity_schema_version": 0,
          "identity": {
            "account_id": "075006647027",
            "id": "subnet-0bd212b6a8a657171",
            "region": "us-east-1"
          },
          "private": "eyJlMmJmYjczMC1lY2FlTExZTYtOGY4OC0zNDM2M2JjN2M0YzAiOnsiY3JlYXRlIjo2MDAwMDAwMDAwMDAsImRlbGV0ZSI6MTIwMDAwMDAwMH0sInNjaGVtYV92ZXJzaW9uIjoimS39",
          "dependencies": [
            "aws_vpc.development_vpc"
          ]
        }
      ]
    }
  ]
}

```

```

"mode": "managed",
"type": "aws_vpc",
"name": "development_vpc",
"provider": "provider[\"registry.terraform.io/hashicorp/aws\"]",
"instances": [
{
  "schema_version": 1,
  "attributes": {
    "arn": "arn:aws:ec2:us-east-1:075006647027:vpc/vpc-06707647cde717658",
    "assign_generated_ipv6_cidr_block": false,
    "cidr_block": "10.0.0.0/16",
    "default_network_acl_id": "acl-0fa6be3ca9b02b734",
    "default_route_table_id": "rtb-0bb4dd2adbc0d2a7e",
    "default_security_group_id": "sg-019401c1b86d6f94e",
    "dhcp_options_id": "dopt-0c04818fb45a2df",
    "enable_dns_hostnames": false,
    "enable_dns_support": true,
    "enable_network_address_usage_metrics": false,
    "id": "vpc-06707647cde717658",
    "instance_tenancy": "default",
    "ip4_ipam_pool_id": null,
    "ip4_netmask_length": null,
    "ip6_association_id": "",
    "ip6_cidr_block": "",
    "ip6_cidr_block_network_border_group": "",
    "ip6_ipam_pool_id": "",
    "ip6_netmask_length": 0,
    "main_route_table_id": "rtb-0bb4dd2adbc0d2a7e",
    "owner_id": "075006647027",
    "region": "us-east-1",
    "tags": {
      "Name": "development"
    },
    "tags_all": {
      "Name": "development"
    }
  },
  "sensitive_attributes": [],
  "identity_schema_version": 0,
  "identity": {
    "account_id": "075006647027",
    "id": "vpc-06707647cde717658",
    "region": "us-east-1"
  },
  "private": "eyJzY2hlbWFfdmVyc2lvbiI6IjEifQ=="
}
],
"check_results": null
}
@23-22411-061-rgb eworkspaces/CC_Shumail-zahra_-2023-BSE-061- (main) $ "check_results": null

```

task5_terraform_state_backup_empty

```

@23-22411-061-rgb eworkspaces/CC_Shumail-zahra_-2023-BSE-061- (main) $ cat terraform.tfstate.backup
{
  "version": 4,
  "terraform_version": "1.14.3",
  "serial": 43,
  "lineage": "b2bbb1dc-152e-02bb-6bcd-9bfdeb3e4f0a",
  "outputs": {},
  "resources": [],
  "check_results": null
}
@23-22411-061-rgb eworkspaces/CC_Shumail-zahra_-2023-BSE-061- (main) $

```

task5_terraform_state_list

```

@23-22411-061-rgb eworkspaces/CC_Shumail-zahra_-2023-BSE-061- (main) $ terraform state list
data.aws_vpc.existing_vpc
aws_subnet.dev_subnet_1
aws_subnet.dev_subnet_1_existing
aws_vpc.development_vpc
@23-22411-061-rgb eworkspaces/CC_Shumail-zahra_-2023-BSE-061- (main) $

```

task5_terraform_state_show_resource

```

aws_vpc.development_vpc
└─ 22411_061-rgb ┌ /workspaces/CC_Shumaile_zahra_- 2023-BSE-001: (main) $ terraform state show aws_vpc.development_vpc
# aws_vpc_development_vpc:
resource "aws_vpc" "development_vpc" {
    arn                                = "arn:aws:ec2:us-east-1:075006647027:vpc/vpc-06707647cde717658"
    assign_generated_ipv6_cidr_block     = false
    cidr_block                         = "10.0.0.0/16"
    default_network_acl_id             = "acl-0fa6be3ca9b02b734"
    default_route_table_id             = "rtb-0bb4dd2adbcd0d2a7e"
    default_security_group_id          = "sg-019401c1b86d6f94e"
    dhcp_options_id                   = "dopt-03c04818ffb45a2df"
    enable_dns_hostnames              = false
    enable_dns_support                 = true
    enable_network_address_usage_metrics = false
    id                                 = "vpc-06707647cde717658"
    instance_tenancy                  = "default"
    ipv6_association_id               = null
    ipv6_cidr_block                   = null
    ipv6_cidr_block_network_border_group = null
    ipv6_ipam_pool_id                = null
    ipv6_netmask_length               = 0
    main_route_table_id               = "rtb-0bb4dd2adbcd0d2a7e"
    owner_id                           = "075006647027"
    region                            = "us-east-1"
    tags                               = [
        "Name" = "development"
    }
    tags_all                           = {
        "Name" = "development"
    }
}
└─ 22411_061-rgb ┌ /workspaces/CC_Shumaile_zahra_- 2023-BSE-001: (main) $

```

Task 6 — Terraform Outputs & Attributes Reporting

task6_terraform_outputs_basic

```

powershell
provider "aws" {
    region = "us-east-1"
}
data "aws_vpc" "existing_vpc" {
    default = true
}
resource "aws_vpc" "development_vpc" {
    cidr_block = "10.0.0.0/16"

    tags = [
        Name = "development"
    ]
}

resource "aws_subnet" "dev_subnet_1" {
    vpc_id      = aws_vpc.development_vpc.id
    cidr_block  = "10.0.10.0/24"
    availability_zone = "us-east-1a"

    tags = [
        Name = "subnet-1-dev"
    ]
}

resource "aws_subnet" "dev_subnet_1_existing" {
    vpc_id      = data.aws_vpc.existing_vpc.id
    cidr_block  = "172.31.240.0/24"
    availability_zone = "us-east-1a"

    tags = [
        Name = "subnet-1-default"
    ]
}

output "dev-vpc-id" {
    value = aws_vpc.development_vpc.id
}

output "dev-subnet-id" {
    value = aws_subnet.dev_subnet_1.id
}

output "dev-vpc-arn" {
    value = aws_vpc.development_vpc.arn
}

output "dev-subnet-arn" {
    value = aws_subnet.dev_subnet_1.arn
}

"main.tf" 49L, 895B

```

```
[23-22011-001-rgb] @ /workspaces/CC_Shumail-zahra_-2023-BSE-061-(main) $ terraform apply
data.aws_vpc.existing_vpc: Reading...
aws_vpc.development_vpc: Refreshing state... [id=vpc-06707647cde717658]
data.aws_vpc.existing_vpc: Read complete after 2s [id=vpc-0cc0868d02cdd5863]
aws_subnet.dev_subnet_1_existing: Refreshing state... [id=subnet-087bb9ce4639b318e]
aws_subnet.dev_subnet_1: Refreshing state... [id=subnet-0bd212b6a8a657171]

Changes to Outputs:
+ dev-subnet-arn = "arn:aws:ec2:us-east-1:075006647027:subnet/subnet-0bd212b6a8a657171"
+ dev-subnet-id = "subnet-0bd212b6a8a657171"
+ dev-vpc-arn = "arn:aws:ec2:us-east-1:075006647027:vpc/vpc-06707647cde717658"
+ dev-vpc-id = "vpc-06707647cde717658"

You can apply this plan to save these new output values to the Terraform state, without changing any real infrastructure.

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

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

Outputs:

dev-subnet-arn = "arn:aws:ec2:us-east-1:075006647027:subnet/subnet-0bd212b6a8a657171"
dev-subnet-id = "subnet-0bd212b6a8a657171"
dev-vpc-arn = "arn:aws:ec2:us-east-1:075006647027:vpc/vpc-06707647cde717658"
dev-vpc-id = "vpc-06707647cde717658"
[23-22011-001-rgb] @ /workspaces/CC_Shumail-zahra_-2023-BSE-061-(main) $
```

task6_expanded_outputs

```

provider "aws" {
  region = "us-east-1"
}
data "aws_vpc" "existing_vpc" {
  default = true
}
resource "aws_vpc" "development_vpc" {
  cidr_block = "10.0.0.0/16"

  tags = {
    Name     = "development"
  }
}

resource "aws_subnet" "dev_subnet_1" {
  vpc_id      = aws_vpc.development_vpc.id
  cidr_block   = "10.0.10.0/24"
  availability_zone = "us-east-1a"

  tags = {
    Name = "subnet-1-dev"
  }
}

resource "aws_subnet" "dev_subnet_1_existing" {
  vpc_id      = data.aws_vpc.existing_vpc.id
  cidr_block   = "172.31.240.0/24"
  availability_zone = "us-east-1a"

  tags = {
    Name = "subnet-1-default"
  }
}
output "dev-vpc-cidr_block" {
  value = aws_vpc.development_vpc.cidr_block
}
output "dev-vpc-region" {
  value = aws_vpc.development_vpc.region
}
output "dev-vpc-tags_name" {
  value = aws_vpc.development_vpc.tags["Name"]
}
output "dev-vpc-tags_all" {
  value = aws_vpc.development_vpc.tags_all
}
output "dev-subnet-cidr_block" {
  value = aws_subnet.dev_subnet_1.cidr_block
}
output "dev-subnet-region" {
  value = aws_subnet.dev_subnet_1.availability_zone
}
:wq!

023-22411-061-rgb eworkspaces/CC_Shumail-zahra--2023-BSE-061- (main) $ vim main.tf
023-22411-061-rgb eworkspaces/CC_Shumail-zahra--2023-BSE-061- (main) $ terraform apply
data.aws_vpc.existing_vpc: Reading...
aws_vpc.development_vpc: Refreshing state... [id=vpc-06707647cde717658]
data.aws_vpc.existing_vpc: Read complete after 2s [id=vpc-0cc808d02cd5863]
aws_subnet.dev_subnet_1_existing: Refreshing state... [id=subnet-087bb9ce4639b318e]
aws_subnet.dev_subnet_1: Refreshing state... [id=subnet-0bd212b6a8a657171]

Changes to Outputs:
- dev-subnet-arn      = "arn:aws:ec2:us-east-1:075006647027:subnet/subnet-0bd212b6a8a657171" -> null
+ dev-subnet-cidr_block = "10.0.10.0/24"
- dev-subnet-id       = "subnet-0bd212b6a8a657171" -> null
+ dev-subnet-region   = "us-east-1a"
+ dev-subnet-tags_all = {
    + Name = "subnet-1-dev"
  }
+ dev-subnet-tags_name = "subnet-1-dev"
- dev-vpc-arn         = "arn:aws:ec2:us-east-1:075006647027:vpc/vpc-06707647cde717658" -> null
+ dev-vpc-cidr_block  = "10.0.0.0/16"
- dev-vpc-id          = "vpc-06707647cde717658" -> null
+ dev-vpc-region      = "us-east-1"
+ dev-vpc-tags_all    = {
    + Name = "development"
  }
+ dev-vpc-tags_name   = "development"

You can apply this plan to save these new output values to the Terraform state, without changing any real infrastructure.

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

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

Outputs:

dev-subnet-cidr_block = "10.0.10.0/24"
dev-subnet-region = "us-east-1a"
dev-subnet-tags_all = tomap({
  "Name" = "subnet-1-dev"
})
dev-subnet-tags_name = "subnet-1-dev"
dev-vpc-cidr_block = "10.0.0.0/16"
dev-vpc-region = "us-east-1"
dev-vpc-tags_all = tomap(
  "Name" = "development"
)
dev-vpc-tags_name = "development"
023-22411-061-rgb eworkspaces/CC_Shumail-zahra--2023-BSE-061- (main) $

```

Cleanup — Delete Resources & State Verification

cleanup_destroy_resources

```

dev_vpc_tags_name = "development"
03:22:41+06:00 [rgb] eworkspaces/CC_Shumail-zahra_-2023-BSE-061-(main) $ terraform destroy
data.aws_vpc.existing_vpc: Reading...
aws_vpc.development_vpc: Refreshing state... [id=vpc-06707647cd717658]
data.aws_vpc.existing_vpc: Read complete after 2s [id=vpc-0cc0868d02cdd5863]
aws_subnet.dev_subnet_1_existing: Refreshing state... [id=subnet-087bb9ce4639b318e]
aws_subnet.dev_subnet_1: Refreshing state... [id=subnet-0bd212b6a8a657171]

Terraform used the selected providers to generate the following execution plan. Resource actions are indicated with the following symbols:
- destroy

Terraform will perform the following actions:

# aws_subnet.dev_subnet_1 will be destroyed
- resource "aws_subnet" "dev_subnet_1" {
    - arn
    - assign_ipv6_address_on_creation
    - availability_zone
    - availability_zone_id
    - cidr_block
    - enable_dns64
    - enable_lni_at_device_index
    - enable_resource_name_dns_a_record_on_launch
    - enable_resource_name_dns_aaaa_record_on_launch
    - id
    - ipv6_native
    - map_customer_owned_ip_on_launch
    - map_public_ip_on_launch
    - owner_id
    - private_dns_hostname_type_on_launch
    - region
    - tags
        - "Name" = "subnet-1-dev"
    } -> null
- tags_all
    - "Name" = "subnet-1-dev"
} -> null
- vpc_id
    = "vpc-06707647cd717658" -> null
    # (4 unchanged attributes hidden)
}

# aws_subnet.dev_subnet_1_existing will be destroyed
- resource "aws_subnet" "dev_subnet_1_existing" {
    - arn
    - assign_ipv6_address_on_creation
    - availability_zone
    - availability_zone_id
    - cidr_block
    - enable_dns64
}

```

cleanup_state_files

```

Destroy complete! Resources: 3 destroyed.
03:22:41+06:00 [rgb] eworkspaces/CC_Shumail-zahra_-2023-BSE-061-(main) $ cat terraform.tfstate
{
  "version": 4,
  "terraform_version": "1.14.3",
  "serial": 54,
  "lineage": "b2bbb1dc-152e-02bb-6bcd-9bfdeb3e4f0a",
  "outputs": {},
  "resources": [],
  "check_results": null
}
03:22:41+06:00 [rgb] eworkspaces/CC_Shumail-zahra_-2023-BSE-061-(main) $ cat terraform.tfstate.backup
{
  "version": 4,
  "terraform_version": "1.14.3",
  "serial": 49,
  "lineage": "b2bbb1dc-152e-02bb-6bcd-9bfdeb3e4f0a",
  "outputs": {
    "dev-subnet-cidr_block": {
      "value": "10.0.10.0/24",
      "type": "string"
    },
    "dev-subnet-region": {
      "value": "us-east-1a",
      "type": "string"
    },
    "dev-subnet-tags_all": {
      "value": {
        "Name": "subnet-1-dev"
      },
      "type": [
        "map",
        "string"
      ]
    },
    "dev-subnet-tags_name": {
      "value": "subnet-1-dev",
      "type": "string"
    }
  }
}
```

```
Windows PowerShell
schema_version": 1,
"attributes": {
    "arn": "arn:aws:ec2:us-east-1:075006647027:vpc/vpc-06707647cde717658",
    "assign_generated_ipv6_cidr_block": false,
    "cidr_block": "10.0.0.0/16",
    "default_network_acl_id": "acl-0fa6be3ca9b02b734",
    "default_route_table_id": "rtb-0bb4dd2adbc0d2a7e",
    "default_security_group_id": "sg-019401c1b86d6f94e",
    "dhcp_options_id": "dopt-03c04818ffb45a2df",
    "enable_dns_hostnames": false,
    "enable_dns_support": true,
    "enable_network_address_usage_metrics": false,
    "id": "vpc-06707647cde717658",
    "instance_tenancy": "default",
    "ipv4_ipam_pool_id": null,
    "ipv4_netmask_length": null,
    "ipv6_association_id": "",
    "ipv6_cidr_block": "",
    "ipv6_cidr_block_network_border_group": "",
    "ipv6_ipam_pool_id": "",
    "ipv6_netmask_length": 0,
    "main_route_table_id": "rtb-0bb4dd2adbc0d2a7e",
    "owner_id": "075006647027",
    "region": "us-east-1",
    "tags": {
        "Name": "development"
    },
    "tags_all": {
        "Name": "development"
    }
},
"sensitive_attributes": [],
"identity_schema_version": 0,
"identity": {
    "account_id": "075006647027",
    "id": "vpc-06707647cde717658",
    "region": "us-east-1"
},
"private": "eyJzY2h1bWFdmVyc2lvbiI6IjEifQ=="
}
],
"check_results": null
23-22411-061.rgt ④ /workspaces/CC_-Shumail-zahra_-_2023-BSE-061-(main) $
```