Terraform - Hands-On - Practice Assessment 1

Part 1 - Multiple Choice Questions: (Highlight the correct answer in bold)

1. **What language is Terraform using?**

   b. HCL

2. **Terraform can be run on which of the following operating systems?**

   d. All of the above

3. **Is Terraform available as a single executable binary?**

   a. Yes

4. **What file extension is used for Terraform configuration file?**

   a. .tf

5. **Which of the following is NOT a text editor for creating Terraform files?**

   d. Microsoft Word

6. **Which of these is NOT a Terraform command?**

   b. Compile

7. **Which command is used to initialize a working directory containing Terraform configuration files?**

   a. terraform init

8. **Before running terraform apply, which command should be executed to see the planned actions?**

   b. terraform plan

9. **Terraform's plan command is used for what purpose?**

   c. To preview changes

10. **The command to find Terraform's version is:**

    b. terraform version

11. **What is the purpose of the terraform show command?**

    a. To display the current state or saved plan

12. Which of the following is a valid Terraform resource type?

d. All of the above

13. What is the terraform destroy command used for?

a. To remove all previously created infrastructure

14. What is Terraform mainly used for?

b. Infrastructure as Code

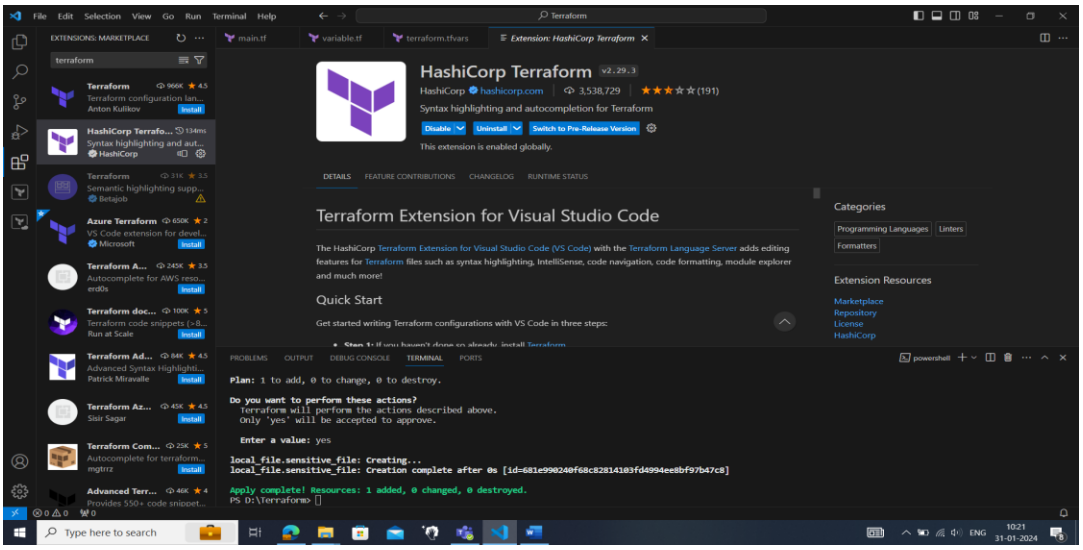
15. Which file is used by Terraform to track the current state of the infrastructure?

a. terraform.tfstate

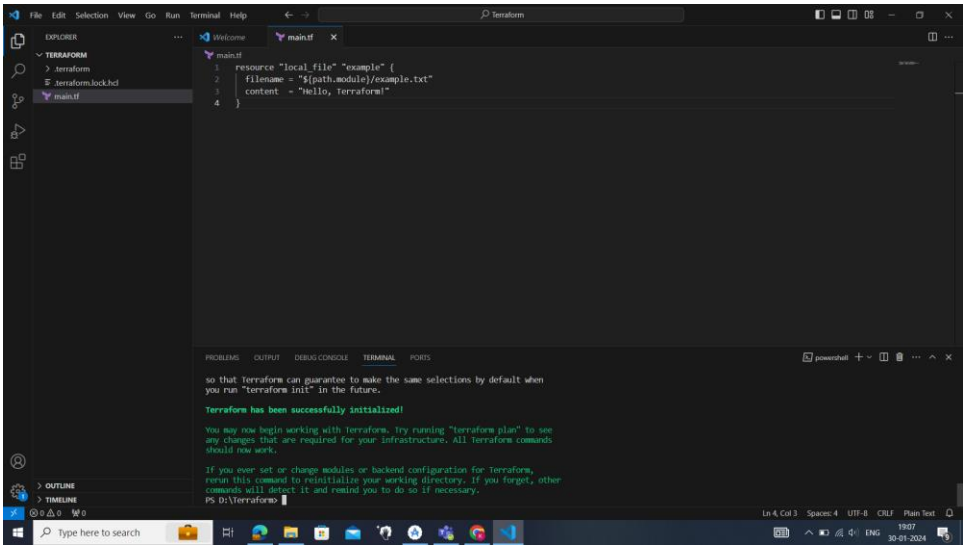
Part 2 – Hands-On Labs

Lab 1: Setting Up a Terraform Project in Visual Studio Code

- **Install Visual Studio Code**
  - If you do not already have Visual Studio Code, download and install it from the official website.
- **Install Terraform Extension in VS Code**
  - Open Visual Studio Code.
  - Go to Extensions
  - Search for "Terraform" and install the extension by HashiCorp.



- **Create a New Project Folder**
  - Create a new folder on your computer where you will store your Terraform files.
  - Open this folder in Visual Studio Code (File > Open Folder).
- **Initialize a New Terraform Configuration File**
  - Create a new file in the folder with the **`.tf`** extension, for example, **`main.tf`**.
  - Write a simple Terraform configuration or leave it blank for now.

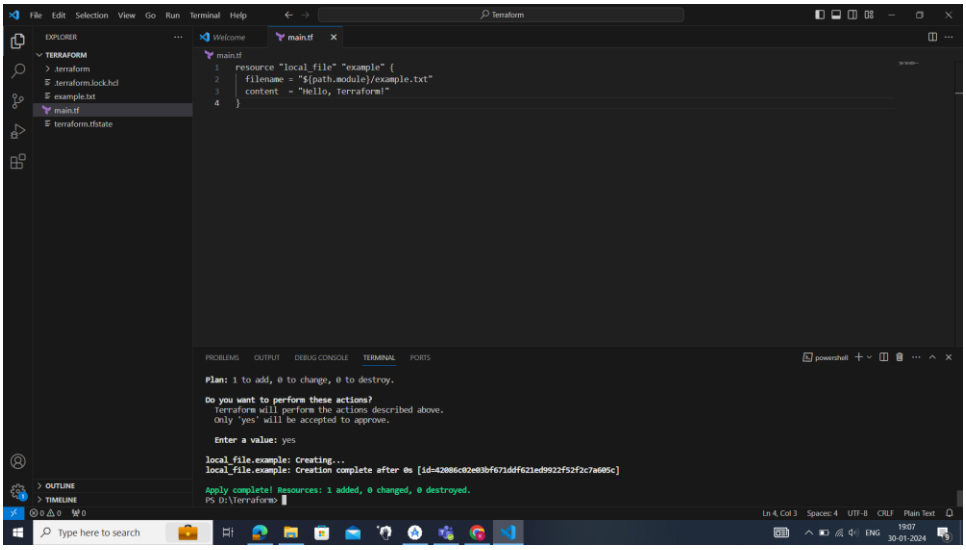


Lab 2: Basic Local File Operation

- **Define a Local File Resource**
  - In **`main.tf`**, start by defining a resource to create a local file. For example:

```
resource "local_file" "example" {
  filename = "${path.module}/example.txt"
  content  = "Hello, Terraform!"
}
```

- **Initialize Terraform**
  - Open the terminal in VS Code (Terminal > New Terminal).
  - Run **`terraform init`** to initialize the Terraform project. This command sets up Terraform to run your configuration.
- **Apply Configuration**
  - Run **`terraform apply`** to apply your configuration.
  - Confirm the action in the terminal when prompted.
  - This step will create a file named **`example.txt`** with the content "Hello, Terraform!" in your project directory.



Lab 3: Handling Sensitive File Operations

- **Create a Sensitive File Resource**
  - Now, let us handle a sensitive file operation. For example, you might want to create a file that contains sensitive information.
  - In **`main.tf`**, add a new resource block:

```
resource "local_file" "sensitive_file" {
  filename = "${path.module}/sensitive.txt"
  content  = var.sensitive_content

}
```

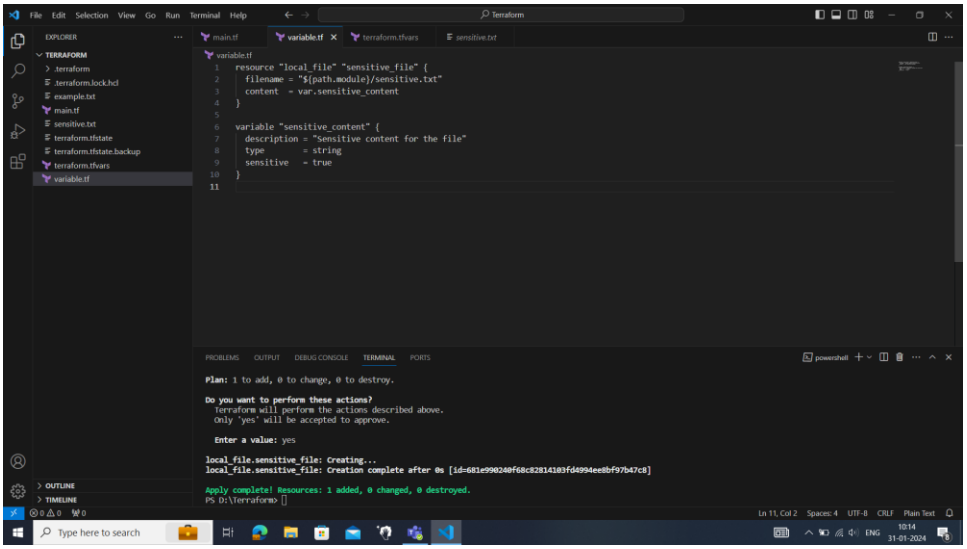
- **Define Variables**
  - Create a new file named **`variables.tf`** and define a variable for the sensitive content:

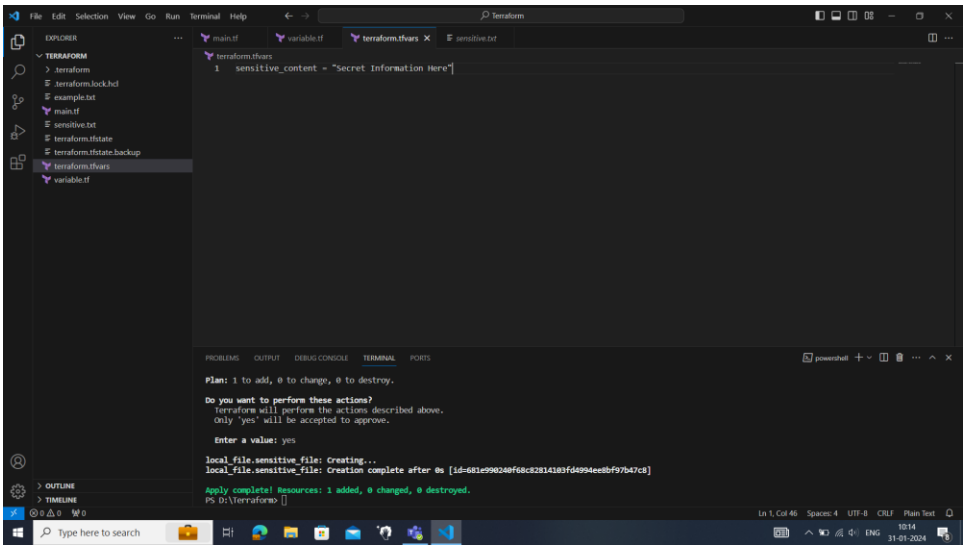
    ```
    variable "sensitive_content" {
      description = "Sensitive content for the file"
      type        = string
      sensitive   = true
    }
    ```

- **Add Sensitive Content**
  - Create a **`terraform.tfvars`** file to store the value of the sensitive content.
  - Add your sensitive content in **`terraform.tfvars`**, like:

    ```
    sensitive_content = "Secret Information Here"
    ```

- **Re-run Terraform Apply**
  - Run **`terraform apply`** again in your terminal.
  - Confirm the action when prompted.
  - Terraform will now create another file named **`sensitive.txt`** with the sensitive content, and it will treat the content as sensitive in its output.
- **Verify the Files**
  - Check your project directory. You should see two new files: **`example.txt`** and **`sensitive.txt`**, each with the specified content.




File Edit Selection View Go Run Terminal Help
Terraform
EXPLORER
TERRAFORM
.terraform
.terraform.lock.hcl
example.txt
main.tf
sensitive.txt
terraform.tfstate
terraform.tfstate.backup
terraform.tfvars
variable.tf
main.tf
variable.tf
terraform.tfvars
sensitive.txt
terraform.tfvars
1 sensitive_content = "Secret Information Here"
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS
powershell
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
local_file.sensitive_file: Creating...
local_file.sensitive_file: Creation complete after 0s [id=681e990240f68c82814103fd4994ee8bf97b47c8]
Apply complete! Resources: 1 added, 0 changed, 0 destroyed.
PS D:\Terraform>
OUTLINE
TIMELINE
Ln 1, Col 46 Spaces: 4 UTF-8 CRLF Plain Text
Type here to search
ENG
10:14
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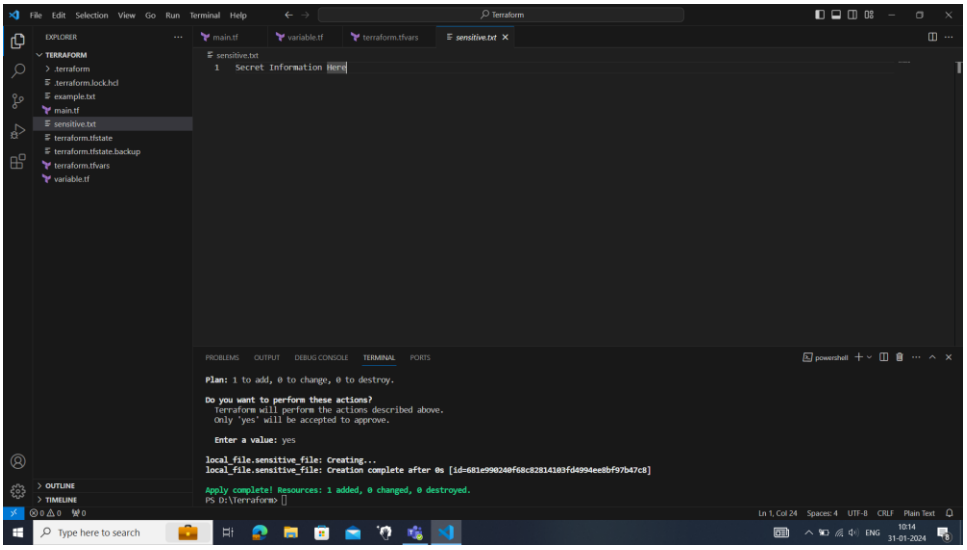
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terraform.tfvars
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