

Apply Lab 1.4

We will Apply your configuration to create resources and then examine the state file.

Overview

In this lab you will

- apply your configuration
- create the resource group
- view the state file

Starting point

Your files should currently look like this:

- provider.tf
 - terraform {
 - required_providers {
 - azurerm = {
 - source = "hashicorp/azurerm"
 - version = "~>3.1"
 - }
 - }
 - }
 -
 - provider "azurerm" {
 - features {}
 -
 - storage_use_azuread = true
 - }
- variables.tf
 - variable "resource_group_name" {
 - description = "Name for the resource group"
 - type = string
 - default = "terraform-basics"
 - }
 -
 - variable "location" {
 - description = "Azure region"
 - type = string
 - default = "West Europe"
 - }
 -

- main.tf
 - resource "azurerm_resource_group" "basics" {
 - name = var.resource_group_name
 - location = var.location
 - }
 - terraform.tfvars
 - location = "UK South"
 -
- You may have set a different value for **location**.

terraform apply

1. Apply the configuration
2. terraform apply

Running terraform apply will repeat the output of the terraform plan command.

Type yes when prompted for approval.

Example output:

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:

```
# azurerm_resource_group.basics will be created
+ resource "azurerm_resource_group" "basics" {
  + id          = (known after apply)
  + location    = "uksouth"
  + name        = "terraform-basics"
}
```

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
```

```
azurerm_resource_group.basics: Creating...
```

```
azurerm_resource_group.basics: Creation complete after 0s  
[id=/subscriptions/2ca40be1-7e80-4f2b-92f7-  
06b2123a68cc/resourceGroups/terraform-basics]
```

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

The resource group has been successfully created.

State files

Once Terraform has applied changes then it stores the current state as JSON in a file called terraform.tfstate.

1. List the resources in the state file
2. terraform state list

Expected output:

```
azurerm_resource_group.basics
```

Note that the ident used for the Terraform resources is based in the resource type and the chosen name, i.e. azurerm_resource_group.basics. This needs to be unique for all resources in the state file.

3. Display the attributes for a resource
4. terraform state show azurerm_resource_group.basics

Example output:

```
# azurerm_resource_group.basics:  
resource "azurerm_resource_group" "basics" {
```

```

    id      = "/subscriptions/2ca40be1-7e80-4f2b-92f7-
06b2123a68cc/resourceGroups/terraform-basics"

    location = "uksouth"

    name     = "terraform-basics"

    tags     = {
        "source" = "terraform"
    }
}

```

5. View the state file

6. `jq . < terraform.tfstate`

Example output:

```

{
  "version": 4,
  "terraform_version": "1.1.7",
  "serial": 3,
  "lineage": "cc8db995-1d56-819c-9245-347f393a6ee1",
  "outputs": {},
  "resources": [
    {
      "mode": "managed",
      "type": "azurerm_resource_group",
      "name": "basics",
      "provider": "provider[\"registry.terraform.io/hashicorp/azurerm\"]",
      "instances": [
        {
          "schema_version": 0,
          "attributes": {
            "id": "/subscriptions/2ca40be1-7e80-4f2b-92f7-
06b2123a68cc/resourceGroups/terraform-basics",
            "location": "uksouth",
            "name": "terraform-basics",
            "tags": null,
            "timeouts": null
          },
          "sensitive_attributes": [],
          "private":
            "eyJ1MmJmYjczMC1lY2FhLTExZTYtOGY4OC0zNDM2M2JjN2M0YzAiOnsiY3JlYXRlIjo1NDAwMDAwMDAwMDAwLCJkZWxldGUiojU0MDAwMDAwMDAwMDAwInJlYWQiojMwMDAwMDAwMDAwMCwidXBkYXRlIjo1NDAwMDAwMDAwMDAwfX0="
        }
      ]
    }
  ]
}

```

The state file is in JSON format and includes more information used by Terraform to version resources and maintain dependencies.

