LAB 2 : GCP-Use variables, output values, implicit & explicit dependencies (Kavitha B)

Objective :

Use variables, output values, implicit & explicit dependencies

Provider.tf (sets the provider)

```
provider "google" {
  project = "qwiklabs-gcp-01-1cafc15cf0b8"
  region  = "us-east1"
  zone    = "us-east1-b"
}
```

Create IMPLICIT Resource Dependency

(Implicit dependencies: Dependencies known to Terraform)

Instance.tf (sets the instance)
A static IP is assigned to the VM instance using the vm_static_ip
Update the network_interface configuration for the instance by adding –
`nat_ip = google_compute_address.vm_static_ip.address`

```
resource google_compute_instance "vm_instance" {
name        = "${var.instance_name}"
zone        = "${var.instance_zone}"
machine_type = "${var.instance_type}"
boot_disk {
   initialize_params {
    image = "1ebian-cloud/1ebian-10"
    }
 }
resource google_compute_instance "vm_instance" {
name          = "${var.instance_name}"
zone          = "${var.instance_zone}"
machine_type = "${var.instance_type}"
boot_disk {
    initialize_params {
      image = "1ebian-cloud/1ebian-10"
      }
  }

 network_interface {
   network = "default"
```

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```
  access_config {
   # Allocate a one-to-one NAT IP to the instance
     nat_ip = google_compute_address.vm_static_ip.address

  }
 }
resource “google_compute_address” “vm_static_ip” {
 name = “terraform-static-ip”
}
}
```

Variables.tf (sets the variables-name/zone/instance_type)

```
variable “instance_name” {
 type       = string
 description = “Name for the Google Compute instance”
}
variable “instance_zone” {
 type       = string
 description = “Zone for the Google Compute instance”
}
variable “instance_type” {
 type       = string
 description = “Disk type of the Google Compute instance”
 default     = “n1-standard-1”
 }
```

Outputs.tf (sets the output values)

```
output “network_IP” {
 value = google_compute_instance.vm_instance.instance_id
 description = “The internal ip address of the instance”
}
output “instance_link” {
 value = google_compute_instance.vm_instance.self_link
 description = “The URI of the created resource.”
}
```

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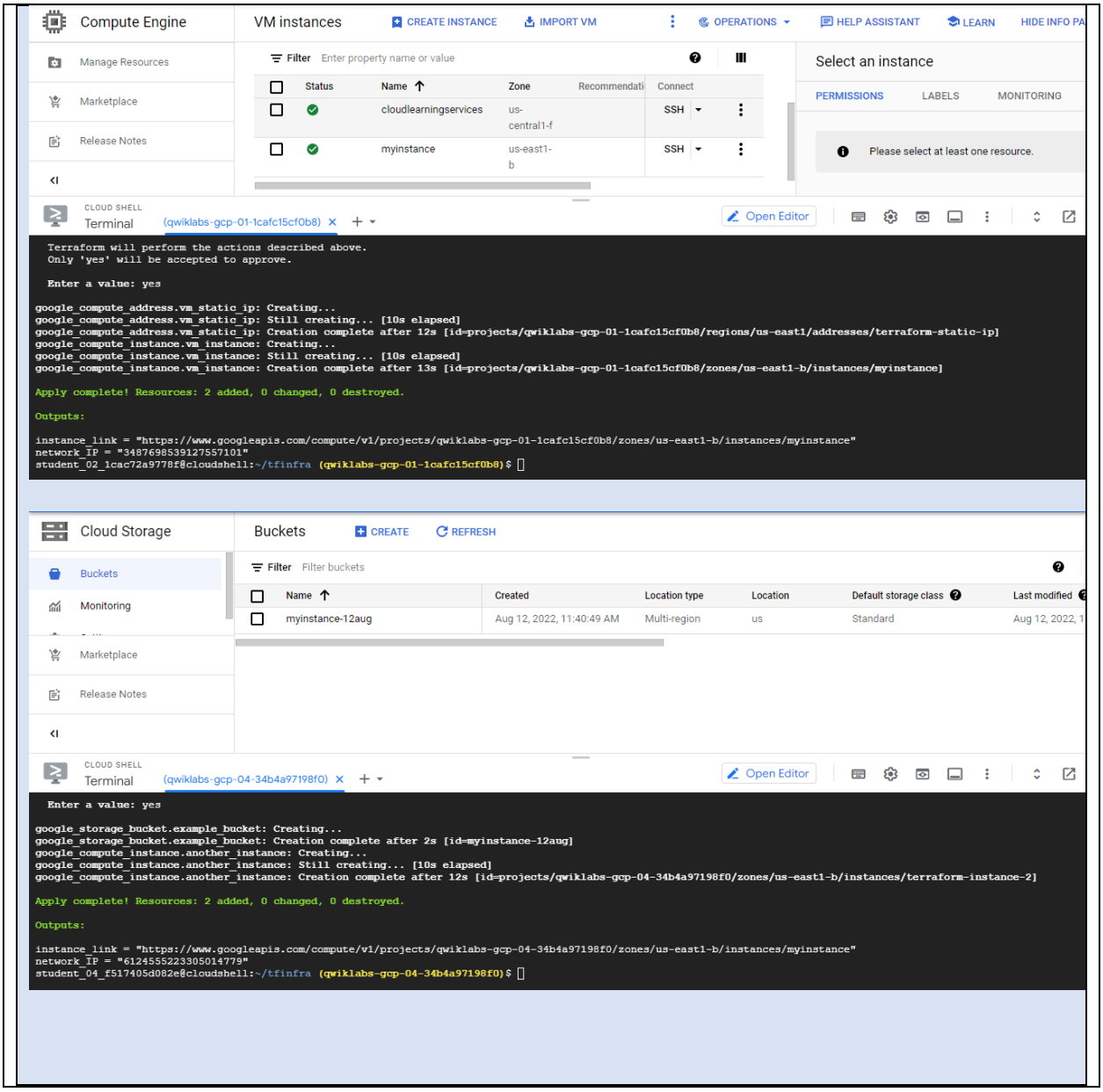

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Create EXPLICIT Resource Dependency

(Explicit dependencies: Dependencies unknown to Terraform)

Explicit dependencies are used to inform dependencies between resources that are not visible to Terraform. In this example, consider that you will run on your instance that expects to use a specific Cloud Storage bucket, but that dependency is configured inside the application code and thus not visible to Terraform. In that case, you can use `depends_on` to explicitly declare the dependency.

Exp.tf

```
# Create a new instance that uses the bucket
resource "google_compute_instance" "another_instance" {
  name         = "terraform-instance-2"
  machine_type = "f1-micro"
  boot_disk {
    initialize_params {
      image = "debian-cloud/debian-10"
    }
  }
  network_interface {
    network = "default"
    access_config {
    }
  }
  # Tells Terraform that this VM instance must be created only after
the
  # storage bucket has been created.
  depends_on = [google_storage_bucket.example_bucket]
}
# New resource for the storage bucket our application will use.
resource "google_storage_bucket" "example_bucket" {
  name     = "myinstance-12aug"
  location = "US"
  website {
    main_page_suffix = "index.html"
    not_found_page   = "404.html"
  }
}
```

Run –
Terraform plan
Terraform apply

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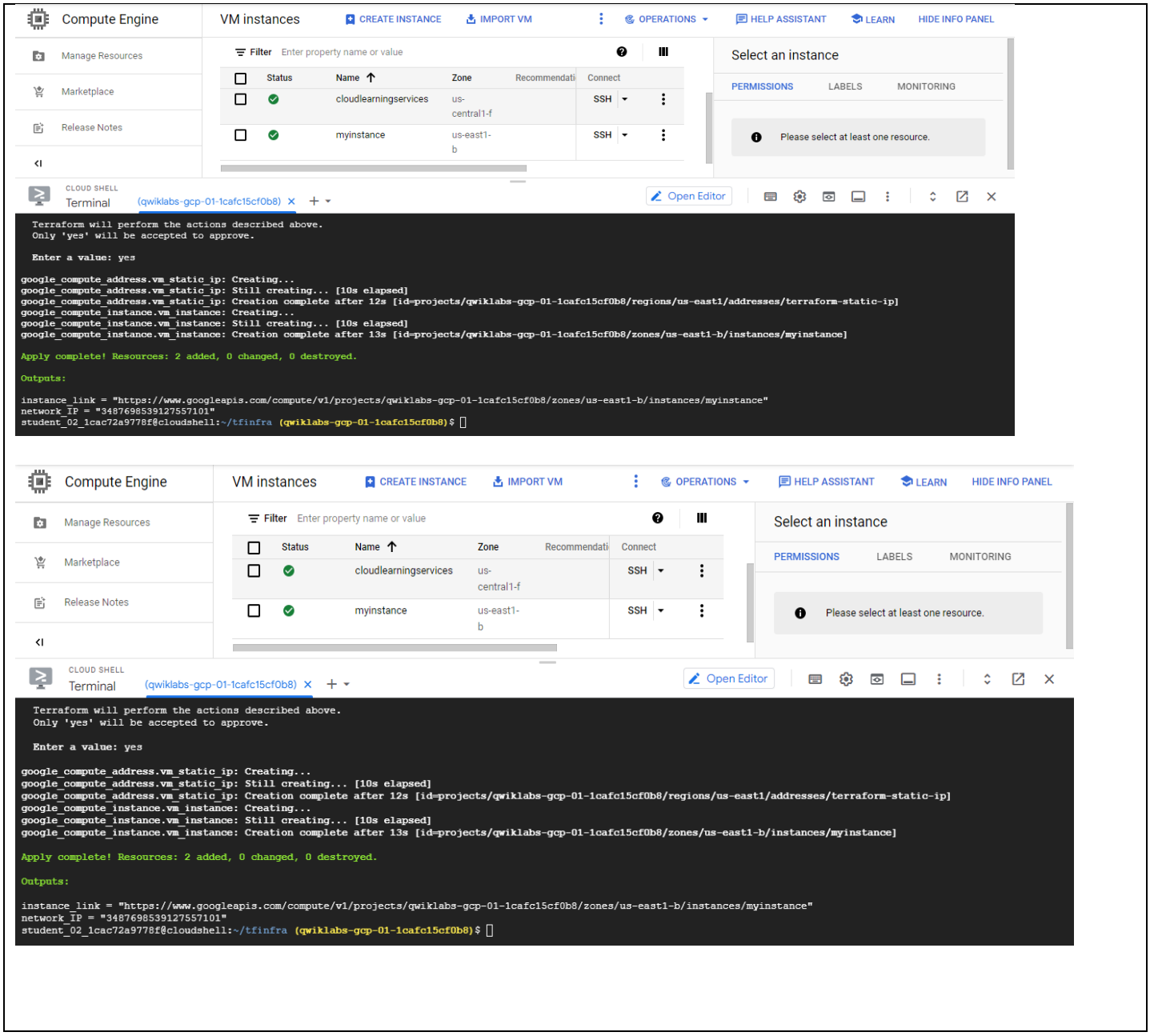

Compute Engine
VM instances
CREATE INSTANCE
IMPORT VM
OPERATIONS
HELP ASSISTANT
LEARN
HIDE INFO PANEL
Manage Resources
Marketplace
Release Notes
Filter
Enter property name or value
Status
Name
Zone
Recommendati
Connect
cloudlearningservices
us-central1-f
myinstance
us-east1-b
SSH
Select an instance
PERMISSIONS
LABELS
MONITORING
Please select at least one resource.
CLOUD SHELL
Terminal
(qwiklabs-gcp-01-1cafc15cf0b8)
Open Editor
Terraform will perform the actions described above.
Only 'yes' will be accepted to approve.
Enter a value: yes
google_compute_address.vm_static_ip: Creating...
google_compute_address.vm_static_ip: Still creating... [10s elapsed]
google_compute_address.vm_static_ip: Creation complete after 12s [id=projects/qwiklabs-gcp-01-1cafc15cf0b8/regions/us-east1/addresses/terraform-static-ip]
google_compute_instance.vm_instance: Creating...
google_compute_instance.vm_instance: Still creating... [10s elapsed]
google_compute_instance.vm_instance: Creation complete after 13s [id=projects/qwiklabs-gcp-01-1cafc15cf0b8/zones/us-east1-b/instances/myinstance]
Apply complete! Resources: 2 added, 0 changed, 0 destroyed.
Outputs:
instance_link = "https://www.googleapis.com/compute/v1/projects/qwiklabs-gcp-01-1cafc15cf0b8/zones/us-east1-b/instances/myinstance"
network_IP = "3487698539127557101"
student_02_1cac72a9778f@cloudshell:~/tfinfra (qwiklabs-gcp-01-1cafc15cf0b8)$

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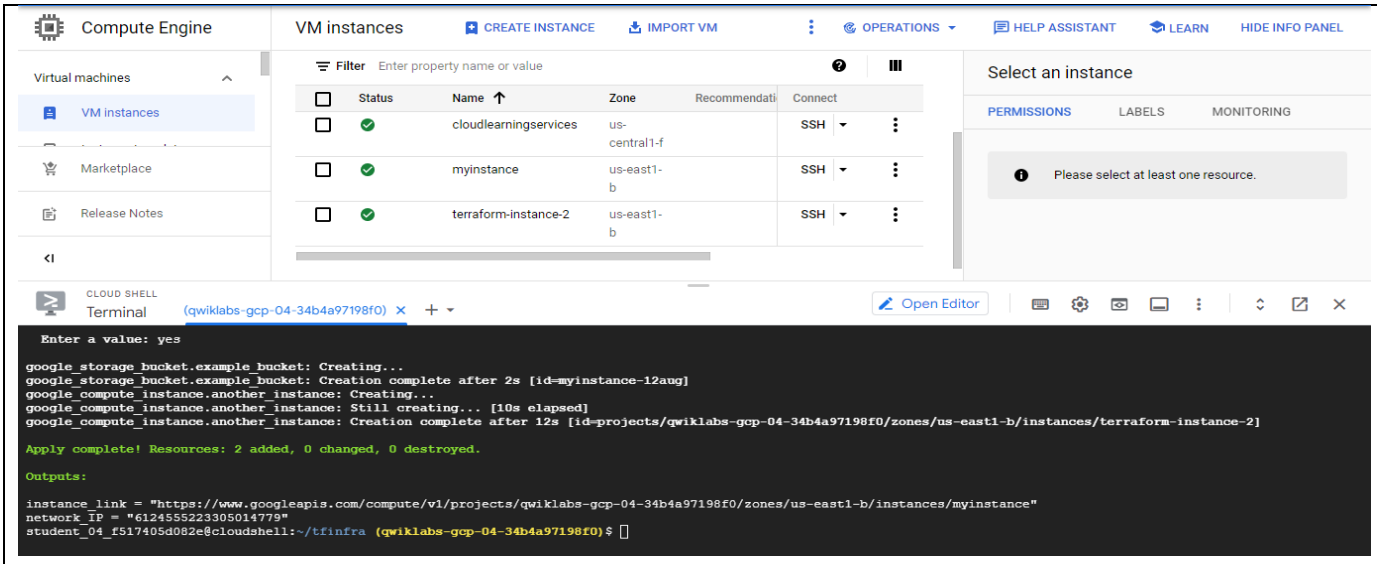

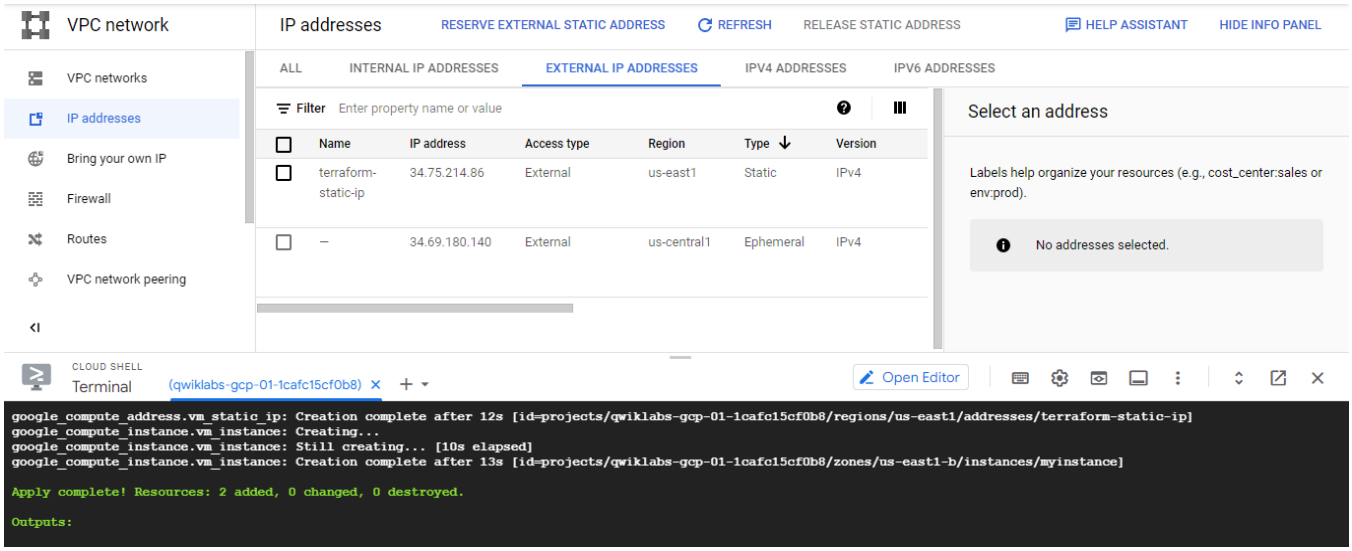

Dependency graph can be generated and viewed:
Terraform graph | dot -Tsvg > graph.svg

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