

Terraform modules

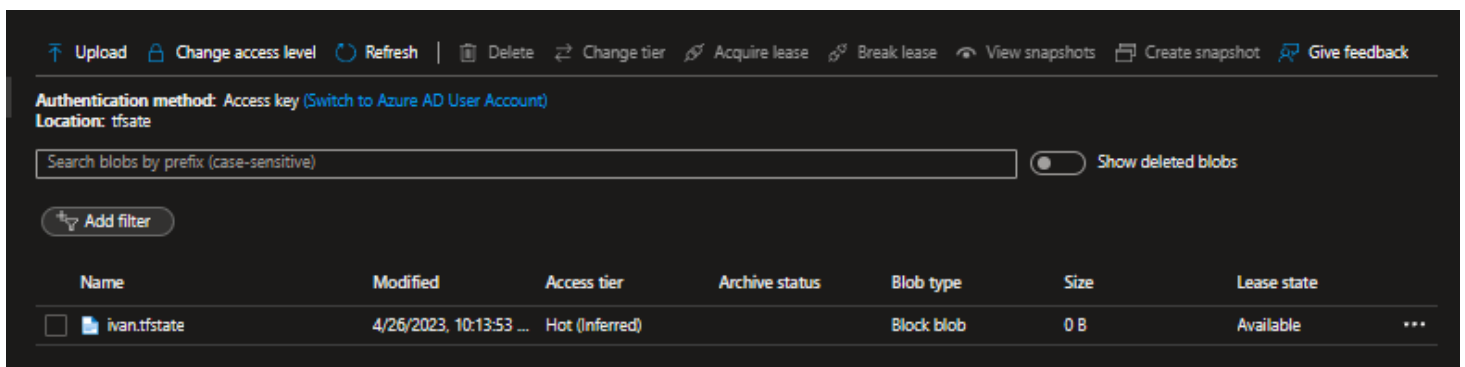
Notes

.tfvars will not be uploaded for security reasons

Sorry for the crappy pdf but conversion from markdown to pdf sucks

1. Setting up remote backend

1. Provision storage container for terraform state



2. Backend config

```
resource_group_name = "navihqb0kiw1-rg"
azurerm_storage_account = "navihqb0kiw1sa"
container_name = "tfstate"
key = "ivan.tfstate"
```

3. Successful backend initialization

```
terraform init -backend-config=backend/ivan_env_backend.tf
```

Initializing the backend...

Successfully configured the backend "azurerm"! Terraform will automatically use this backend unless the backend configuration changes.

Initializing provider plugins...

- Reusing previous version of hashicorp/azurerm from the dependency lock file
- Using previously-installed hashicorp/azurerm v3.53.0

Terraform has been successfully initialized!

2 Provision infra from midterm assignment

1. Local variables tf and tfvars

#Variable declaration

```
variable "my_name" {  
  type      = string  
  description = "user name for resource creation"  
}
```

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

```
variable "location" {  
  type      = string  
  description = "resource location"
```

#Variable definition

```
my_name = "ivan"
```

```
enviornment = "secret"
```

```
location = "West Europe"
```

2. General network resources

```
resource "azurerm_resource_group" "general_network" {  
  name      = "${local.network_base_name}-rg"  
  location  = var.location  
}
```

```
resource "azurerm_virtual_network" "general_network" {  
  name                = "${local.network_base_name}-vnet"  
  location             = azurerm_resource_group.general_network.location  
  resource_group_name = azurerm_resource_group.general_network.name  
  address_space       = ["10.0.0.0/16"]  
}
```

```
resource "azurerm_subnet" "general_network_vms" {  
  name                = "${azurerm_virtual_network.general_network.name}-vms-snet"  
  resource_group_name = azurerm_resource_group.general_network.name  
  virtual_network_name = azurerm_virtual_network.general_network.name  
  address_prefixes    = ["10.0.1.0/24"]  
}
```

3. Terraform plan

Terraform will perform the following actions:

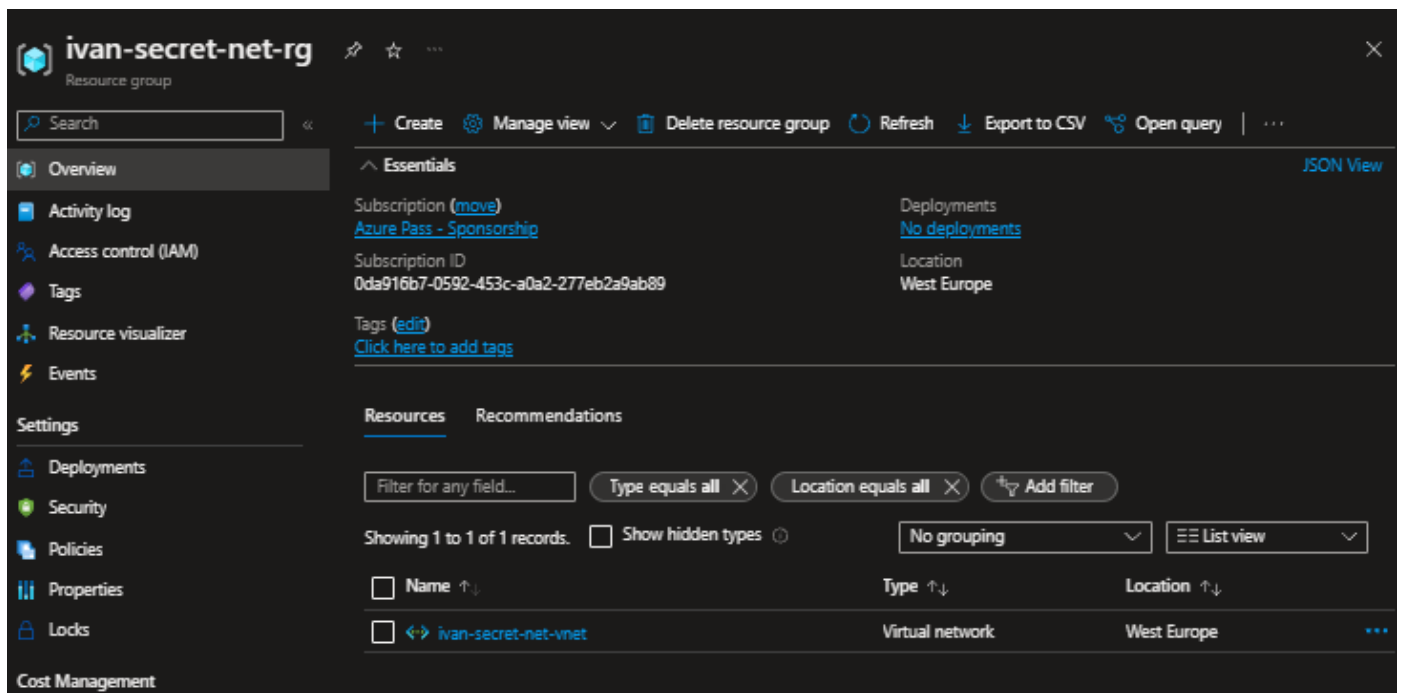
```
# azurerm_resource_group.general_network will be created
+ resource "azurerm_resource_group" "general_network" {
  + id          = (known after apply)
  + location    = "westeurope"
  + name        = "ivan-secret-net-rg"
}

# azurerm_subnet.general_network_vms will be created
+ resource "azurerm_subnet" "general_network_vms" {
  + address_prefixes = [
    + "10.0.1.0/24",
  ]
  + enforce_private_link_endpoint_network_policies = (known after apply)
  + enforce_private_link_service_network_policies = (known after apply)
  + id                                              = (known after apply)
  + name                                            = "ivan-secret-net-vnet-vms-snet"
  + private_endpoint_network_policies_enabled      = (known after apply)
  + private_link_service_network_policies_enabled = (known after apply)
  + resource_group_name                          = "ivan-secret-net-rg"
  + virtual_network_name                        = "ivan-secret-net-vnet"
}

# azurerm_virtual_network.general_network will be created
+ resource "azurerm_virtual_network" "general_network" {
  + address_space = [
    + "10.0.0.0/16",
  ]
  + dns_servers   = (known after apply)
  + guid          = (known after apply)
  + id            = (known after apply)
  + location      = "westeurope"
  + name          = "ivan-secret-net-vnet"
  + resource_group_name = "ivan-secret-net-rg"
  + subnet        = (known after apply)
}
```

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

4. Successful provision



Task 3 Virtual machines and modules

1. Module variables

```
variable "base_name" {  
  type      = string  
  description = "vm based name"  
}  
variable "vms_subnet_id" {  
  type      = string  
  description = "subnet id "  
}  
variable "my_public_ip" {  
  type = string  
}  
description = "my public ip"  
  
variable "my_password" {  
  type      = string  
  description = "password"  
}  
variable "location" {  
  type      = string  
  description = "azure region"  
}
```

2. Module definitions

```

locals {}

resource "azurerm_resource_group" "vm-rg" {}

resource "azurerm_public_ip" "vm-pip" {}

resource "azurerm_network_interface" "vm-nic" {}

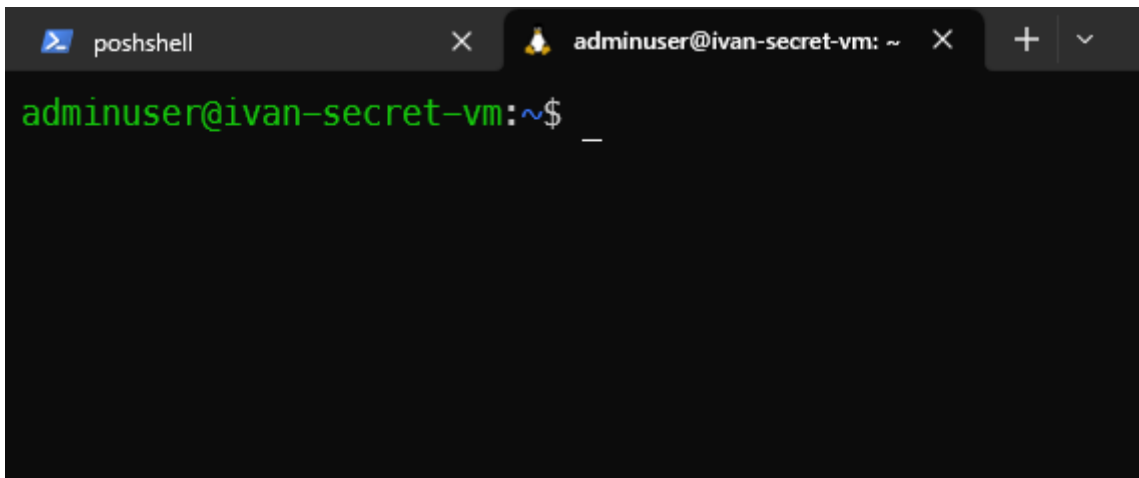
resource "azurerm_network_security_group" "vm-nsg" {}

resource "azurerm_network_interface_security_group_association" "vm_nsg_to_vm_nic" {}

resource "azurerm_linux_virtual_machine" "web_srv" {}

```

3. Hello from the VM



4. Overview of AZ reousrces

The image shows the 'All resources' page in the Azure portal. It displays a list of resources for the subscription 'Azure Pass - Sponsorship'. The resources are filtered by 'Subscription equals all', 'Resource group equals all', 'Type equals all', and 'Location equals all'. The table below lists the resources:

Name	Type	Resource group	Location	Subscription
ivan-secret-net-vnet	Virtual network	ivan-secret-net-rg	West Europe	Azure Pass - Sponsorship
ivan-secret-vm	Virtual machine	ivan-secret-vm-vm	West Europe	Azure Pass - Sponsorship
ivan-secret-vm-nic	Network Interface	ivan-secret-vm-vm	West Europe	Azure Pass - Sponsorship
ivan-secret-vm-nic-nsg	Network security group	ivan-secret-vm-vm	West Europe	Azure Pass - Sponsorship
ivan-secret-vm-pip	Public IP address	ivan-secret-vm-vm	West Europe	Azure Pass - Sponsorship
ivan-secret-vm_disk1_5f9c2bd93eb84b9ab140a214bbf575e9	Disk	IVAN-SECRET-VM-VM	West Europe	Azure Pass - Sponsorship
navihqb0kdw1sa	Storage account	navihqb0kdw1-rg	West Europe	Azure Pass - Sponsorship
NetworkWatcher_westeurope	Network Watcher	NetworkWatcherRG	West Europe	Azure Pass - Sponsorship