Terraform modules

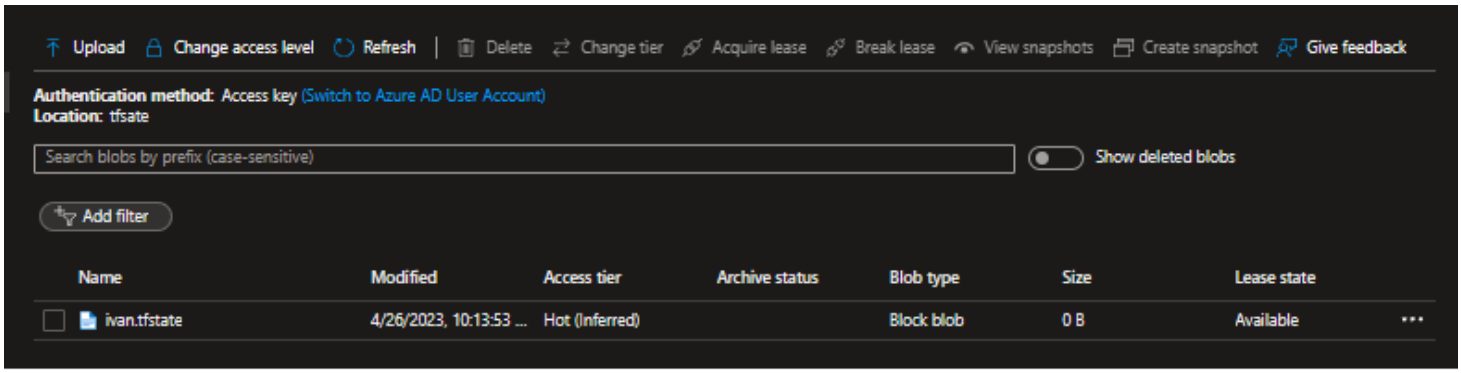
Notes

.tfvars will not be uploaded for secuirty 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. Succsessful 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 "enviorment" {
type = string
}

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

#Variable definition

my_name = "ivan"

enviorment = "secret"

location = "West Europe
```

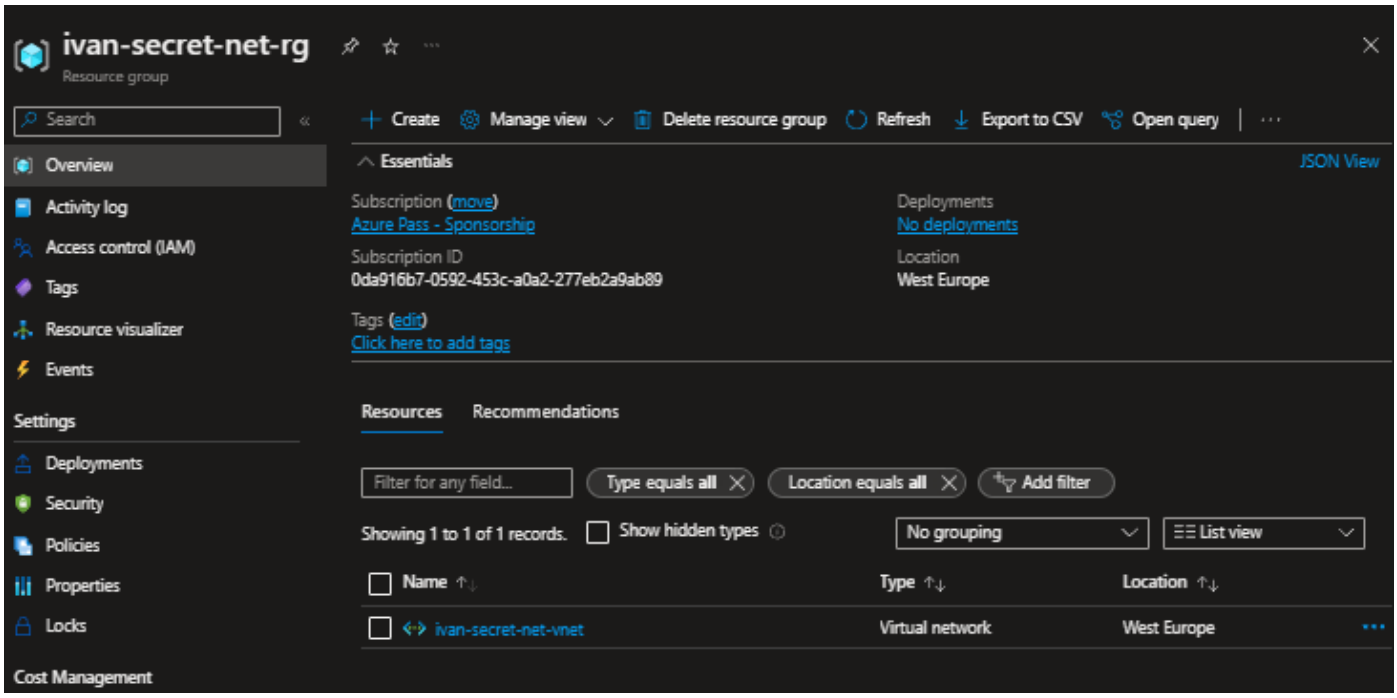
2. General network resources

```
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

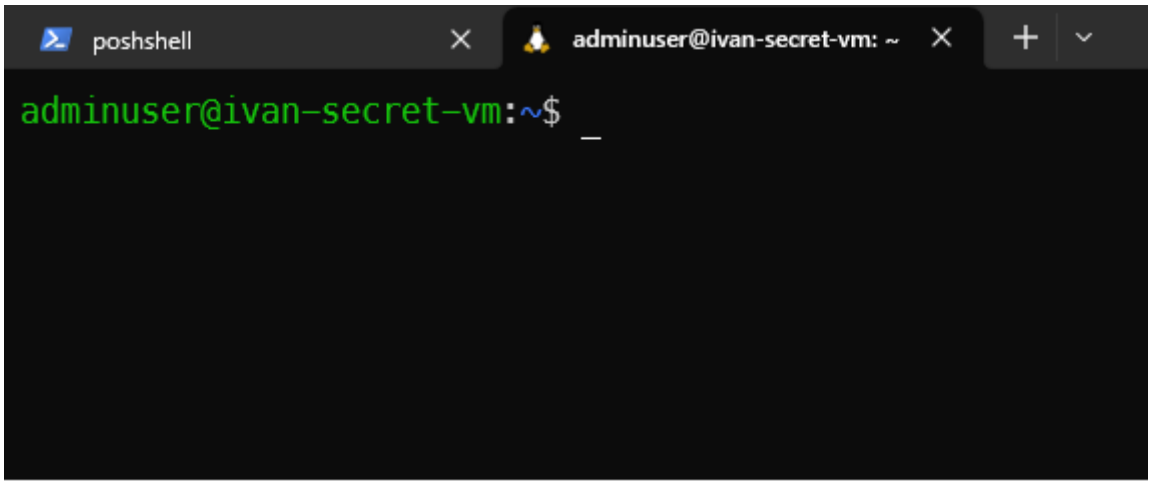
1. Module variables

```
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