Terraform, conditionals, state and VM

azure public ip

- public IP = external access to resources
- SND
- Estáticas/Dinámicas
- Acceso a recursos

```
resource "azurerm_network_interface" "web_server_nic" {
  name                = "${var.web_server_name}-nic"
  location            = "${var.web_server_location}"
  resource_group_name = "${azurerm_resource_group.web_server_rg.name}"

  ip_configuration {
    name                          = "${var.web_server_name}-ip"
    subnet_id                     = "${azurerm_subnet.web_server_subnet.id}"
    private_ip_address_allocation = "dynamic"
    public_ip_address_id         = "${azurerm_public_ip.web_server_public_ip.id}"
  }
}

resource "azurerm_public_ip" "web_server_public_ip" {
  name                         = "${var.web_server_name}-public-ip"
  location                     = "${var.web_server_location}"
  resource_group_name          = "${azurerm_resource_group.web_server_rg.name}"
  public_ip_address_allocation = "dynamic"
}
```

conditionals

```
"web_server_location"       = "westus2"
"web_server_rg"             = "web-rg"
"resource_prefix"           = "web-server"
"web_server_address_space"  = "1.0.0.0/22"
"web_server_address_prefix" = "1.0.1.0/24"
"web_server_name"           = "web-01"
"environment"               = "production"
```

```
variable "environment" {}

resource "azurerm_public_ip" "web_server_public_ip" {
  name                         = "${var.web_server_name}-public-ip"
  location                     = "${var.web_server_location}"
  resource_group_name          = "${azurerm_resource_group.web_server_rg.name}"
  public_ip_address_allocation = "${var.environment == "production" ? "static" :
"dynamic" }"
```

```
}
```

azure Network Security Group

- traffic control
    - like firewall
- default rules
- own rules
- scope (network, subnets, resources)

```
resource "azurerm_network_interface" "web_server_nic" {
  name                      = "${var.web_server_name}-nic"
  location                  = "${var.web_server_location}"
  resource_group_name       = "${azurerm_resource_group.web_server_rg.name}"
  network_security_group_id = "${azurerm_network_security_group.web_server_nsg.id}"

  ip_configuration {
    name                          = "${var.web_server_name}-ip"
    subnet_id                     = "${azurerm_subnet.web_server_subnet.id}"
    private_ip_address_allocation = "dynamic"
    public_ip_address_id          = "${azurerm_public_ip.web_server_public_ip.id}"
  }
}

resource "azurerm_network_security_rule" "web_server_nsg_rule_rdp" {
  name                        = "RDP Inbound"
  priority                    = 100
  direction                   = "Inbound"
  access                      = "Allow"
  protocol                    = "TCP"
  source_port_range           = "*"
  destination_port_range      = "3389"
  source_address_prefix       = "*"
  destination_address_prefix  = "*"
  resource_group_name         = "${azurerm_resource_group.web_server_rg.name}"
  network_security_group_name =
"${azurerm_network_security_group.web_server_nsg.name}"
}
```

azure Terraform state

- track and map deployed resources
- **terraform.tfstate**, **terraform.tfstate.backup**
- metadata
- stored locally o remotely (to be shared, more security)
- sensitive data!
- don't edit this file, IMPORT
- Azure Resource Explorer

azure Market Place Images

- como obtener datos de las VM
  - desde el template, en un RG en el que ya tenemos desplegada una máquina
  - `az vm image list-publishers -l <LOCATION> -o table`
  - `az vm image list-offers -l <LOCATION> -p MicrosoftWindowsServer -o table`
    - **MicrosoftWindowsServer** lo hemos sacado del comando anterior
  - `az vm image list-skus -l <LOCATION> -p MicrosoftWindowsServer -f WindowsServer -o Table`
    - **WindowsServer** lo hemos sacado del listado anterior
    - esto nos devuelve un listado con las versiones específicas

azure Hardware Models

- https://docs.microsoft.com/en-us/azure/virtual-machines/sizes-general
- https://azure.microsoft.com/en-us/pricing/calculator/
- `az vm list-sizes -l <LOCATION> -o table`

Azure Virtual Machine

- Hardware model
- Image
- Networking
- Disks
- Availability and Scale Sets

```
resource "azurerm_virtual_machine" "vm" {
  name                  = "${var.web_server_name}-vm"
  location              = "${var.web_server_location}"
  resource_group_name   = "${azurerm_resource_group.web_server_rg.name}"
  network_interface_ids = ["${azurerm_network_interface.web_server_nic.id}"]
  vm_size               = "Standard_B1s"

  storage_image_reference {
    publisher = "MicrosoftWindowsServer"
    offer     = "WindowsServer"
    sku       = "2016-Datacenter-Server-Core-smalldisk"
    version   = "latest"
  }

  storage_os_disk {
    name              = "${var.web_server_name}-osdisk"
    caching           = "ReadWrite"
    create_option     = "FromImage"
    managed_disk_type = "Standard_LRS"
  }

  os_profile {
    computer_name  = "${var.web_server_name}-os"
    admin_username = "webserver"
    admin_password = "password"
  }
```

```
  os_profile_windows_config {

  }
}
```