

Deploying an Always On availability group with an internal network load balancer

#CloudIL #ComputeCloud #VM #WindowsServer #Powershell #Terraform
#Images #MSSQLServer #ActiveDirectory #DNS #FailoverCluster #AvailabilityGroup
#AlwaysOn

1. Download the archive `terraform.zip` and extract it
2. Run `powershell` if used on windows OS or `terminal` if used on Linux or MacOS
3. Run command

```
cd terraform
```

5. Open the file `main.tf` with a text editor and replace the values listed below

1. OAUTH_TOKEN
2. CLOUD_ID
3. FOLDER_ID

```
terraform {  
  required_providers {  
    yandex = {  
      source = "yandex-cloud/yandex"  
    }  
  }  
  required_version = ">= 0.13"  
}  
  
provider "yandex" {  
  endpoint = "api.cloudil.com:443"  
  #service_account_key_file = "/Users/karpenko-p-n/yc-keys/arch-karpenko-p-n-il-account-authorized_key.json"  
  token = "<ENTER_OAUTH_TOKEN>"  
  cloud_id = "<ENTER_CLOUD_ID>"  
  folder_id = "<ENTER_FOLDER_ID>"  
  zone = "il1-b"
```

6. Open the file `terraform.tfvars` with a text editor and replace the values listed below

1. FOLDER_ID

```

image-id = "alkt03uv4c4to3jlt059"
folder-id = "<ENTER_FOLDER_ID>"
zone = "il1-b"
zone-a = "il1-b"
zone-b = "il1-b"
zone-c = "il1-b"
region_id = "il1"
platform_id = "standard-v3"

vm-ya-ad-internal-ipv4 = "10.0.0.3"
vm-ya-mssql1-internal-ipv4 = "192.168.1.3"
vm-ya-mssql2-internal-ipv4 = "192.168.1.19"
vm-ya-mssql3-internal-ipv4 = "192.168.1.35"

ps1-scripts= {
  "windows-admin-password" = "YaQWErtY123",
  "sql-server-iso-link" = "https://storage.cloudil.com/karpenko-p-n-public/SQLServer2022-x64-ENU-Dev.iso"
}

```

7. Run command

```
terraform init
```

7. Run command

```
terraform apply
```

8. Wait for `terraform` to finish its job. 16 resources should be added

```

yandex_compute_instance.ya-mssql3: Still creating... [30s elapsed]
yandex_compute_instance.ya-jump1: Still creating... [40s elapsed]
yandex_compute_instance.ya-ad: Still creating... [40s elapsed]
yandex_compute_instance.ya-mssql2: Still creating... [40s elapsed]
yandex_compute_instance.ya-mssql1: Still creating... [40s elapsed]
yandex_compute_instance.ya-mssql3: Still creating... [40s elapsed]
yandex_compute_instance.ya-ad: Still creating... [50s elapsed]
yandex_compute_instance.ya-jump1: Still creating... [50s elapsed]
yandex_compute_instance.ya-ad: Creation complete after 51s [id=frt4vmct3gae5ua8sbfe]
yandex_compute_instance.ya-jump1: Creation complete after 53s [id=frtcfnfmba7apkct8dr4p]
yandex_compute_instance.ya-mssql2: Creation complete after 48s [id=frti0gedji0omf978kv4]
yandex_compute_instance.ya-mssql1: Still creating... [50s elapsed]
yandex_compute_instance.ya-mssql3: Still creating... [50s elapsed]
yandex_compute_instance.ya-mssql3: Creation complete after 55s [id=frtod2ba04meno6eq5mj]
yandex_compute_instance.ya-mssql1: Creation complete after 58s [id=frt0ua4g9tf5mmrdr66j]

```

Apply complete! Resources: 16 added, 0 changed, 0 destroyed.

```
karpenko-p-n-os:terraform karpenko-p-n$
```

9. Open in your web browser the Inlink with documentation <https://server-yfm.website.yandexcloud.net/server-yfm-alwayson-ms-il/il/en/microsoft/tutorials/mssql-alwayson-lb.html#install-ad>

And start sequentially following all instructions in powershell in the documentation from the section **Install and configure Active Directory**

Install and configure Active Directory

1. Connect to `ya-jump1` using RDP. Enter `Administrator` as the username and then your password.
2. From `ya-jump1`, connect to the `ya-ad` VM using RDP under the same account.

10. When you get to section **Install and configure SQL Server** <https://server-yfm.website.yandexcloud.net/server-yfm-alwayson-ms-il/il/en/microsoft/tutorials/mssql-alwayson-lb.html#install-mssql> and **point 8** you can use the iso image of Windows SQL Server 2022 uploaded to a public bucket in CloudIL <https://storage.cloudil.com/karpenko-p-n-public/SQLServer2022-x64-ENU-Dev.iso> or use the official image on the Microsoft page <https://www.microsoft.com/en-us/sql-server/sql-server-downloads>
11. If you have any questions, write to the appropriate group in MS Teams