Steps:

1. Installing terraform on windows desktop
2. Creating an aws account.
3. Create tf-user and tf-group, assign full access --- **must be chaned**
4. Create access key.
5. Use access key ID and secret key in terraform provider configuration.
6. Create vpc and 2 subnets in each Availability zone, one public and one private.
7. Create Dockerfile consists of nginx base image, "yo this is nginx" text was inserted into the index.html file.
8. Pushed the container image to my public dockerhub repository 'sagitur100/nginx'
9. The EC2 instance is on private subnet 1.
10. Create ELB for forwarding traffic from public internet into the private instance on port 80 (including listener, lb target group and target group attachment.

* The container image saved in sagitur100/nginx dockerhub public repository
* The installation of docker and running the nginx container is as a bootstrap script of the EC2 instance.

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| --- | --- | --- | --- |
| Resource type | Terraform resource name | Aws resource name | Description |
| aws\_vpc | Main | Nginx-vpc | 10.0.0.0/16 |
| aws\_subnet | Public\_subnets | Public subnet 1 | 10.0.1.0/24, us-west-2a |
| aws\_subnet | Public\_subnets | Public subnet 2 | 10.0.2.0/24,  us-west-2b |
| aws\_subnet | Private\_subnets | Private subnet 1 | 10.0.3.0/24,  us-west-2a |
| aws\_subnet | Private\_subnets | Private subnet 2 | 10.0.4.0/24,  us-west-2b |
| aws\_internet\_gateway | gw | Nginx VPC IG |  |
| aws\_route\_table | second\_rt | 2nd Route Table | Public route table |
| aws\_route\_table\_association | public\_subnet\_asso |  |  |
| aws\_lb | nginx-docker-host-lb | nginx-docker-host-lb |  |
| aws\_lb\_listener | lb\_listener |  |  |
| aws\_lb\_target\_group | lb\_target\_group |  |  |
| aws\_lb\_target\_group\_attachment | tgr\_attachment |  |  |

|  |  |  |
| --- | --- | --- |
| variable | values | Type |
| Region | Us-west-2 | string |
| azs | us-west-2a, us-west-2b | List(string) |
| public\_subnet\_cidrs | 10.0.1.0/24, 10.0.2.0/24 | list(string) |
| private\_subnet\_cidrs | 10.0.3.0/24, 10.0.4.0/24 | list(string) |

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| --- | --- | --- |
| Output | value |  |
| lb\_public\_dns\_name | Dynamic |  |