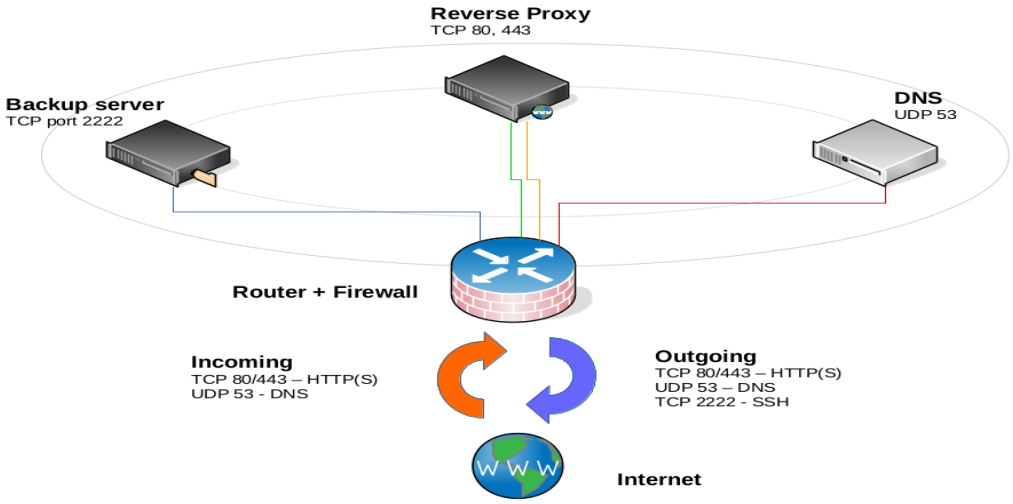
Router

1. Introduction

This server is the only access interface between the different nodes like DNS (private & public) and reverse-proxy in the network infrastructure with the external networks. A router is a networking device that forwards data packets between computer networks. It acts as a gateway to and for all other servers. The external requests from the different lab users would have to pass through the router server to reach the internal network nodes.The router could be seen as device which functions to lock the internet away from your internal network infrastrucutre. This means that if your internal nodes need to ask for something from the internet, they ask the router and vice versa.

2. Diagram



3. Implementation

- main Following script does
  - Creates a password for router and configures so that this container will be active with internet.
  - Also adds some firewall rules in iptables
  - A temporary NATing rule to get internet in private network containers is included and This rule will be used to run playbooks of private and public dns nodes and router nodes smoothly

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- name: Setting root password for router
  command: vzctl set 1001 --userpasswd root:{{container_root_password}}

- name: copying interface ifcfg-eth0 file
```

```
  template: src=ifcfg-eth0 dest=/vz/private/1001/etc/sysconfig/network-
scripts/

- name: copying interface ifcfg-eth1 file
  template: src=ifcfg-eth1 dest=/vz/private/1001/etc/sysconfig/network-
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- name: Router's Network restarting
  command: vzctl exec 1001 service network restart

- name: Setting iptable rule to router
  command: vzctl exec 1001 iptables -t nat -A POSTROUTING ! -d {{subnet}}
-o eth0 -j SNAT --to-source {{ipaddress.router}}

- name: Saving iptables
  command: vzctl exec 1001 iptables-save > /etc/sysconfig/iptables

- name: ipv4 forwarding in router
  replace:
     path: /vz/private/1001/etc/sysctl.conf
     regexp: 'net.ipv4.ip_forward = 0'
     replace: 'net.ipv4.ip_forward = 1'

- name: rebooting router
  command: vzctl restart 1001
  register: out
- debug: var=out.stdout_lines
```

- dependenciesThis file includes common-vars role which contains all variables that are mentioned

```
dependencies:
    - common-vars
```

- Router's Public Network This template contains public network configuration of router with public ipaddress,net-mask,gateway and dns.

```
DEVICE=eth0
TYPE=Ethernet
BOOTPROTO=static
ONBOOT=yes
NM_CONTROLLED=no
IPADDR={{ipaddress.router}}
NETMASK={{net_mask}}
GATEWAY={{internet_gateway}}
DNS1={{dnsaddress.dns1}}
DNS2={{dnsaddress.dns2}}
```

- Router's Private networkThis template contains private network configuration of router with private ip and net-mask contained in common-vars

```
DEVICE=eth1
BOOTPROTO=static
ONBOOT=yes
NM_CONTROLLED=no
IPADDR=10.100.1.1
NETMASK={{net_mask}}
```

It means, the container is created with two interfaces eth0 and eth1. eth0 of the router is connected to br0 of host machine and eth1 of the router is connected to br1