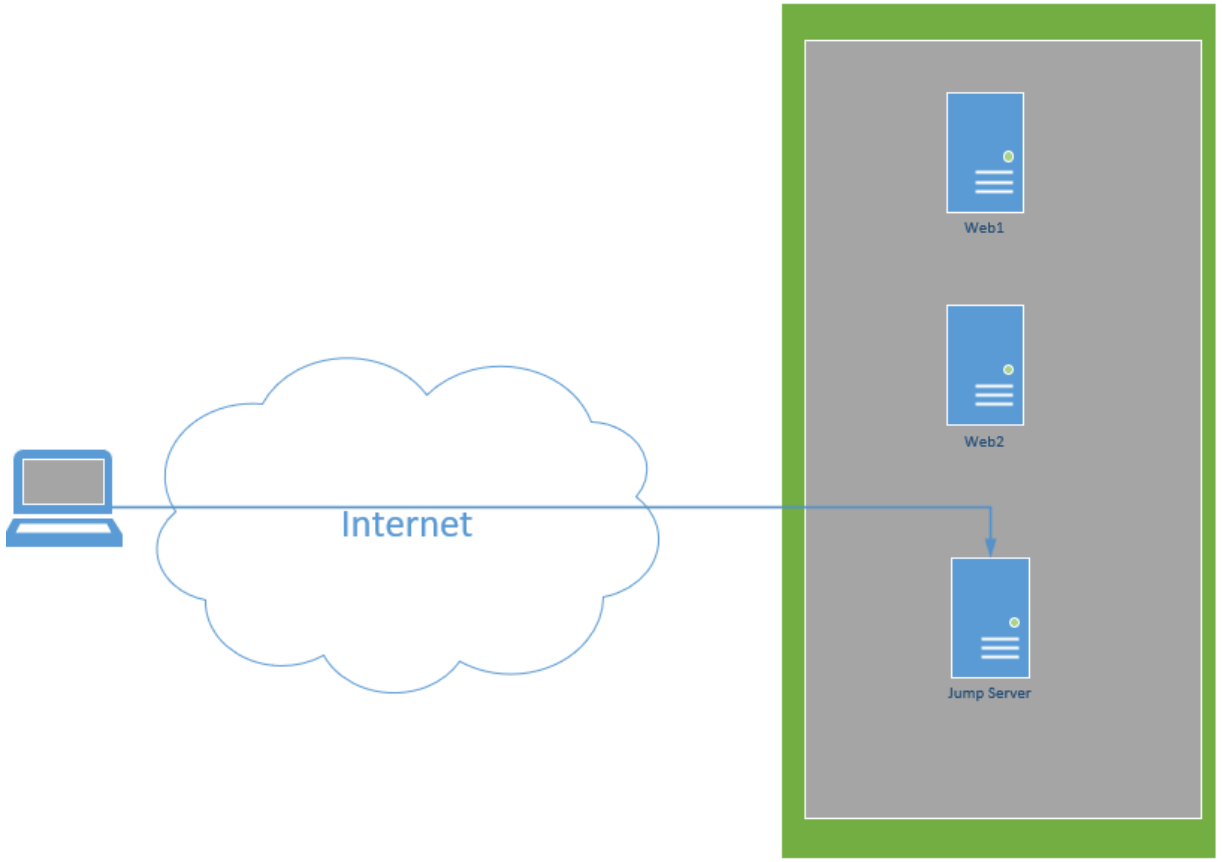
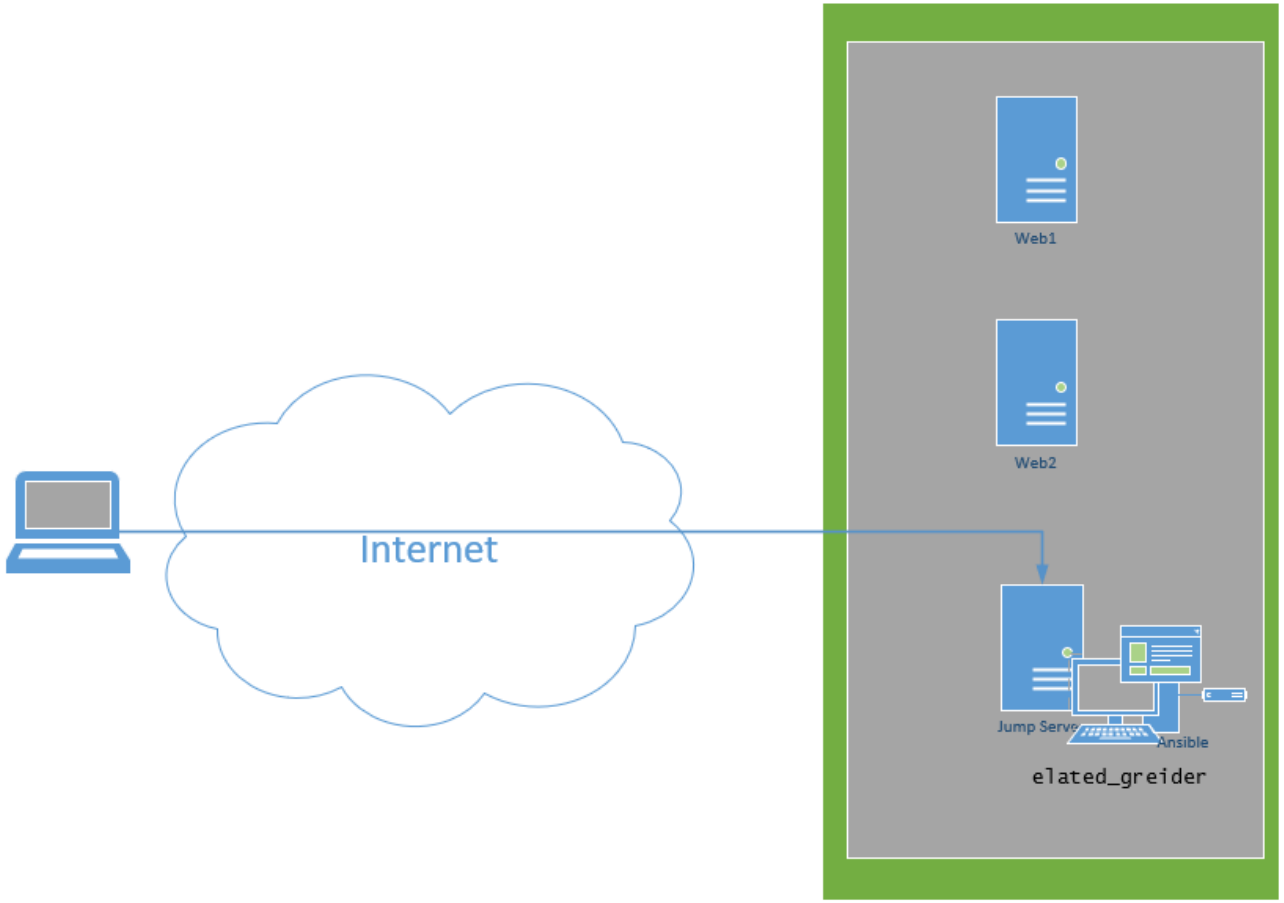
ELK Project

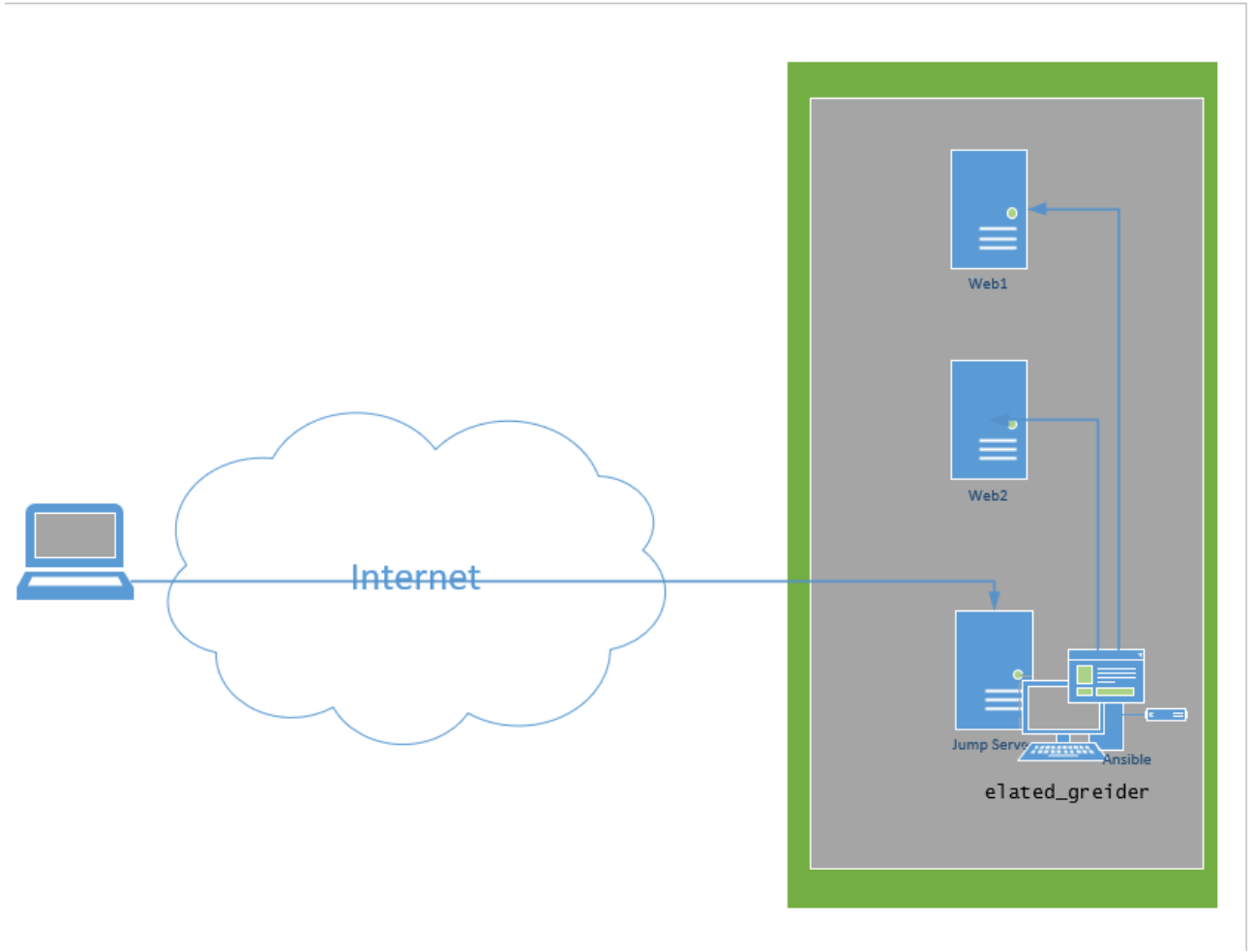
Last Class
Some of You Only Gained SSH Access



A Few of You Set Up Ansible

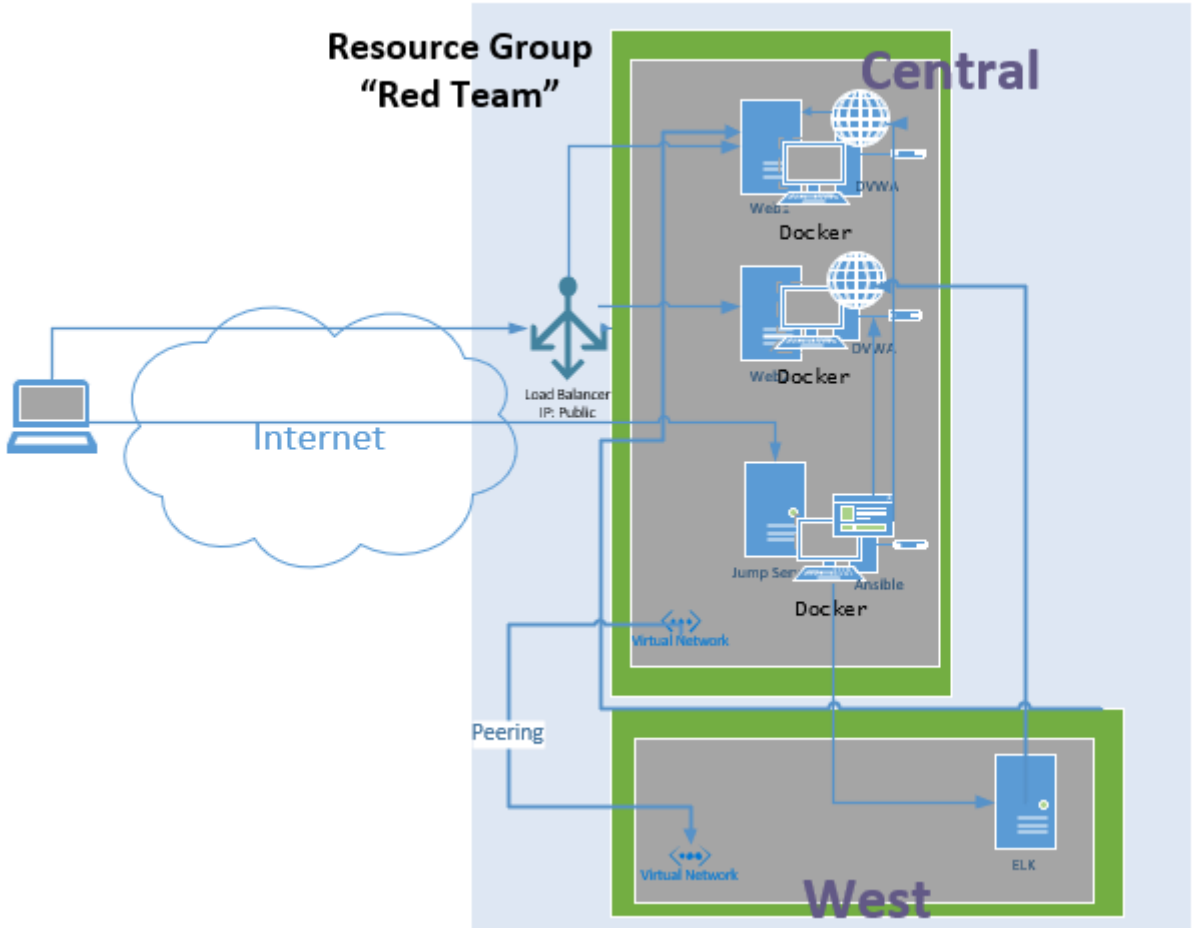


And Three of Us Connected Ansible to the Web Servers

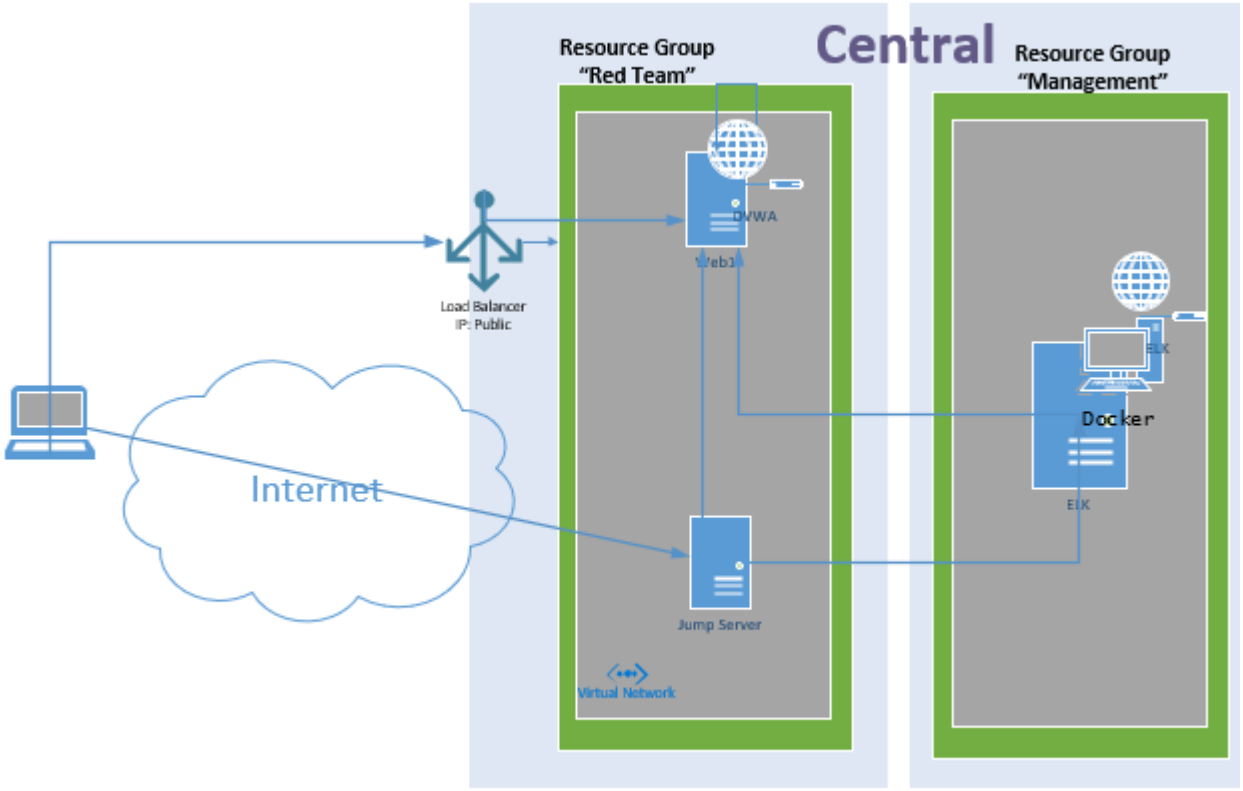


Day 1
Start

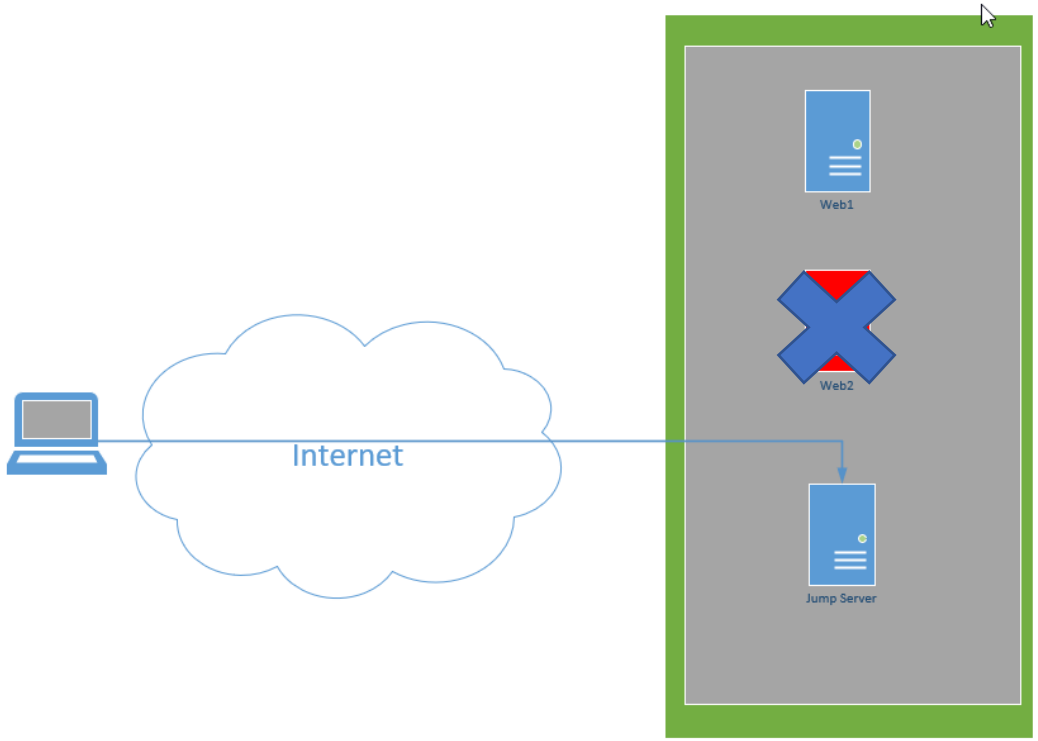
Original Project



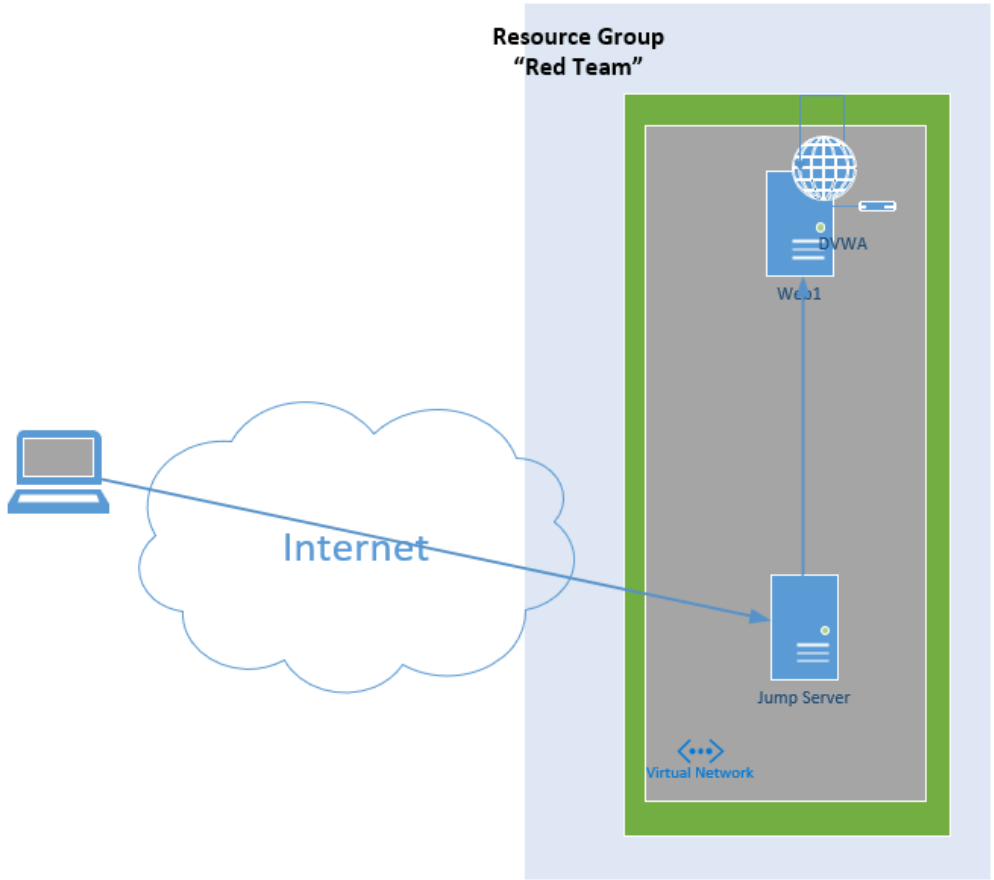
New Project


Central
Resource Group
"Red Team"
Resource Group
"Management"
DVWA
Web1
Load Balancer
IP: Public
Internet
Docker
ELK
Jump Server
Virtual Network

1. Forget About Ansible
2. Delete Any Containers on Web1
3. Delete VM Web 2
4. Create Usernames and Passwords for both VMs – Certs will not be used



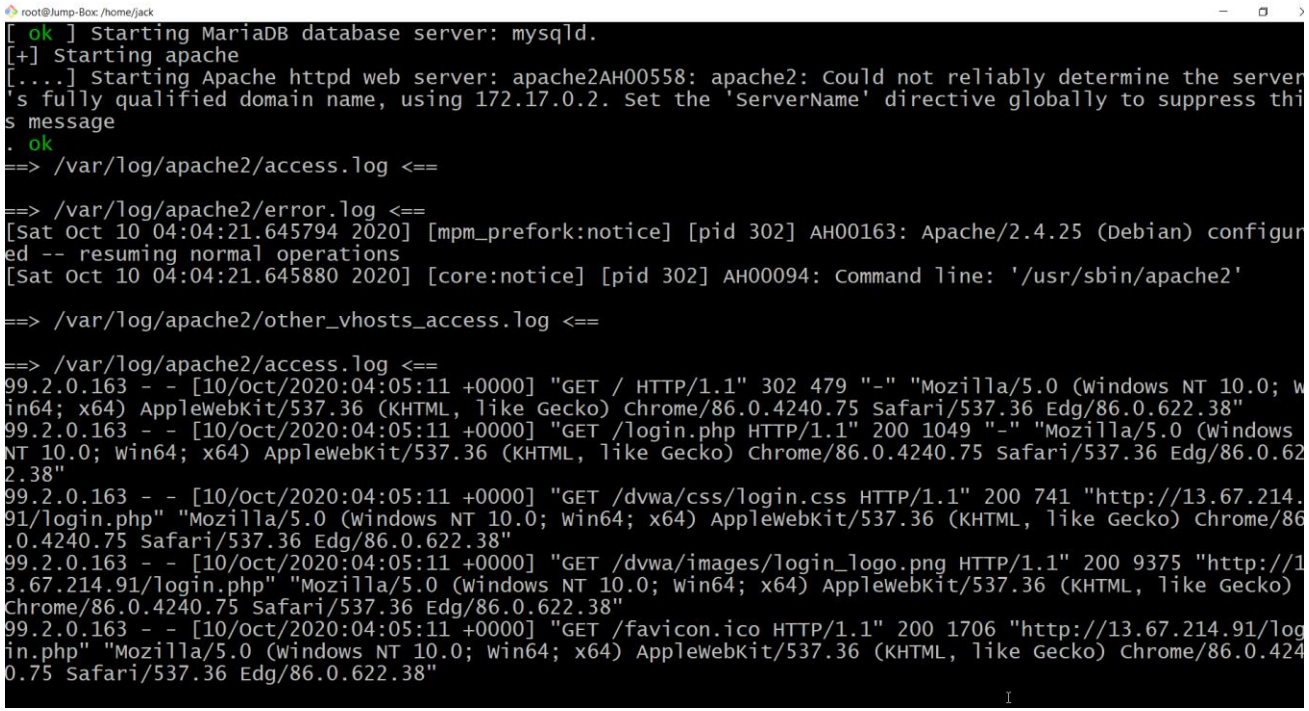
Setup DVWA


Resource Group
"Red Team"
DVWA
Jump Server
Virtual Network
Internet

1. SSH into the Jump Server and use it to SSH into the Web1
2. Run the DVWA Script that Terrace and Steve Created and Thank Them

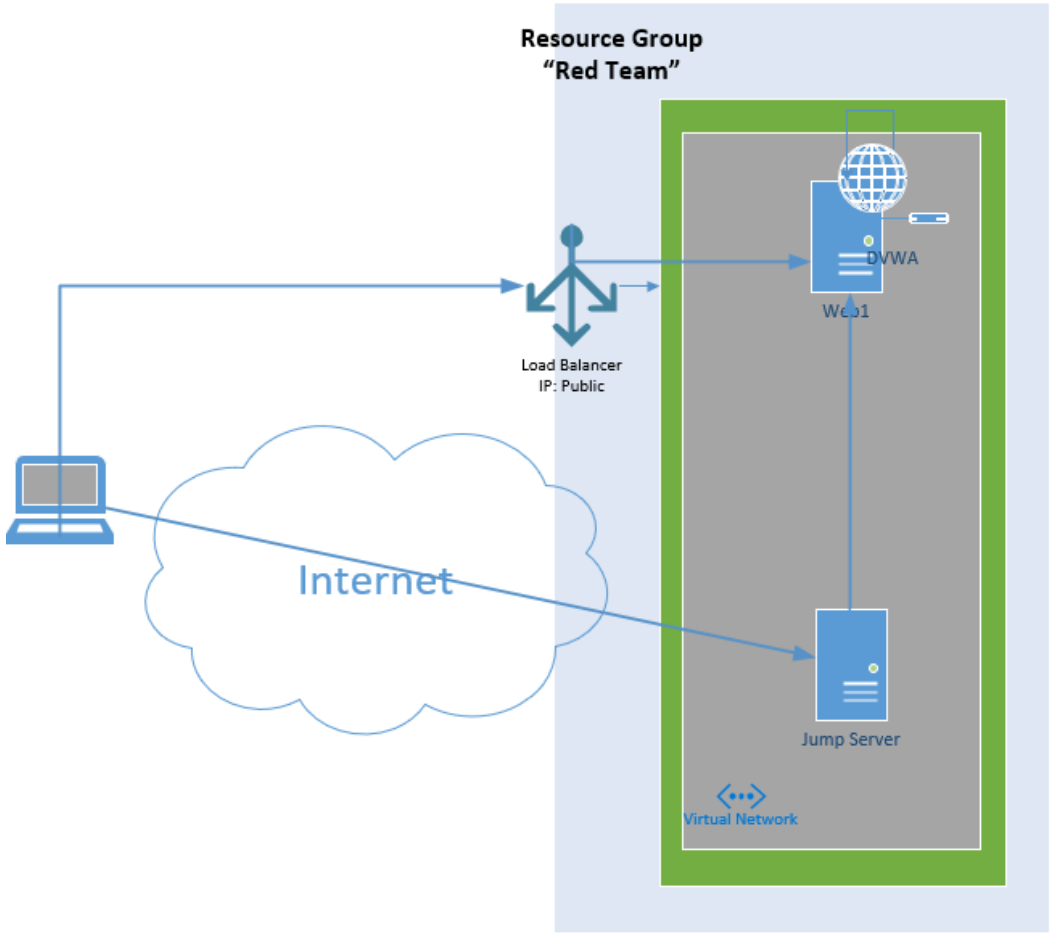
```
#!/bin/bash

if ! [ $(id -u) = 0 ]; then
   echo "The script need to be run as root." >&2
   exit 1
fi

if [ $SUDO_USER ]; then
    real_user=$SUDO_USER
else
    real_user=$(whoami)
fi
#Check to see if user is Root
#
echo apt update && apt upgrade
#Update and upgrade Current VM
#
apt install docker.io
#installs docker to box
#
apt install python3-pip
#installs python
#
apt install docker
#installs docker python module
#
sysctl -w vm.max_map_count=262144
#increase virtual memory
systemctl start docker
#starts docker
#
docker pull sebp/elk
#pulls docker Elk
#
docker run --rm -it -p 80:80 docker pull sebp/elk
#Create Image
#
```

If It’s Working……



1. Create a Load Balancer and add Web01 into it

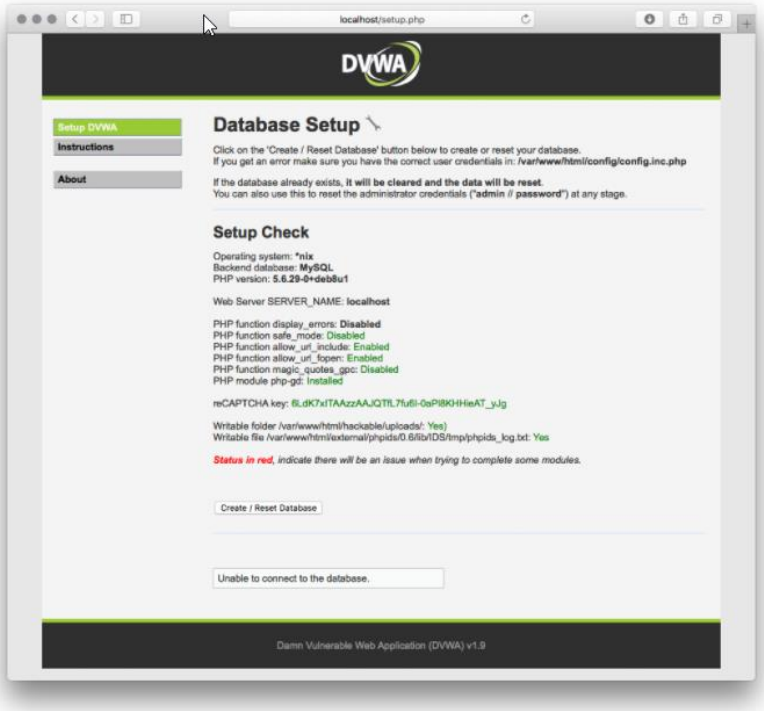
https://www.youtube.com/watch?v=-VMPzVoo5Nk



1. Test Connecting to the DVWA Using the Public IP of the Load Balancer
2. Log in following the below Instructions – Start reading where the images start, ignore everything before it

https://hub.docker.com/r/vulnerables/web-dvwa

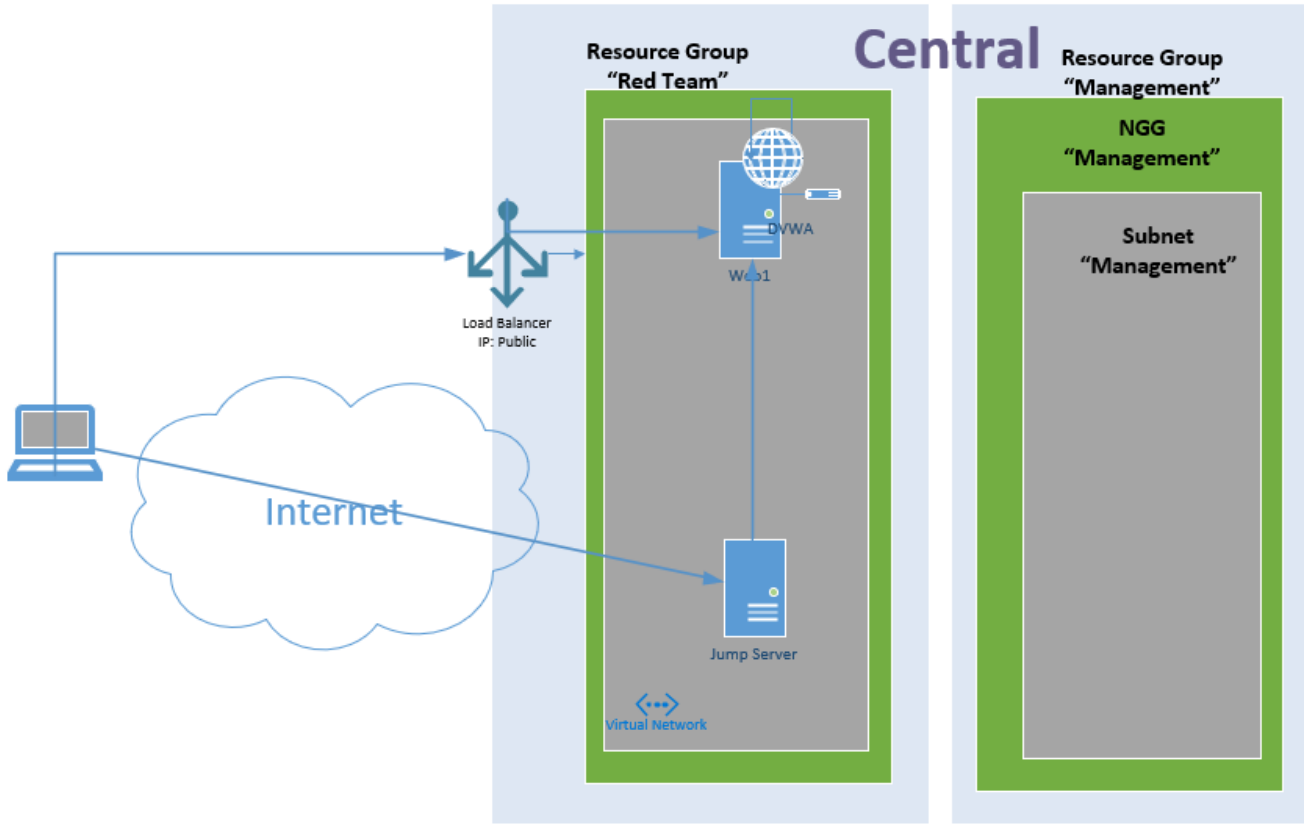
machine:



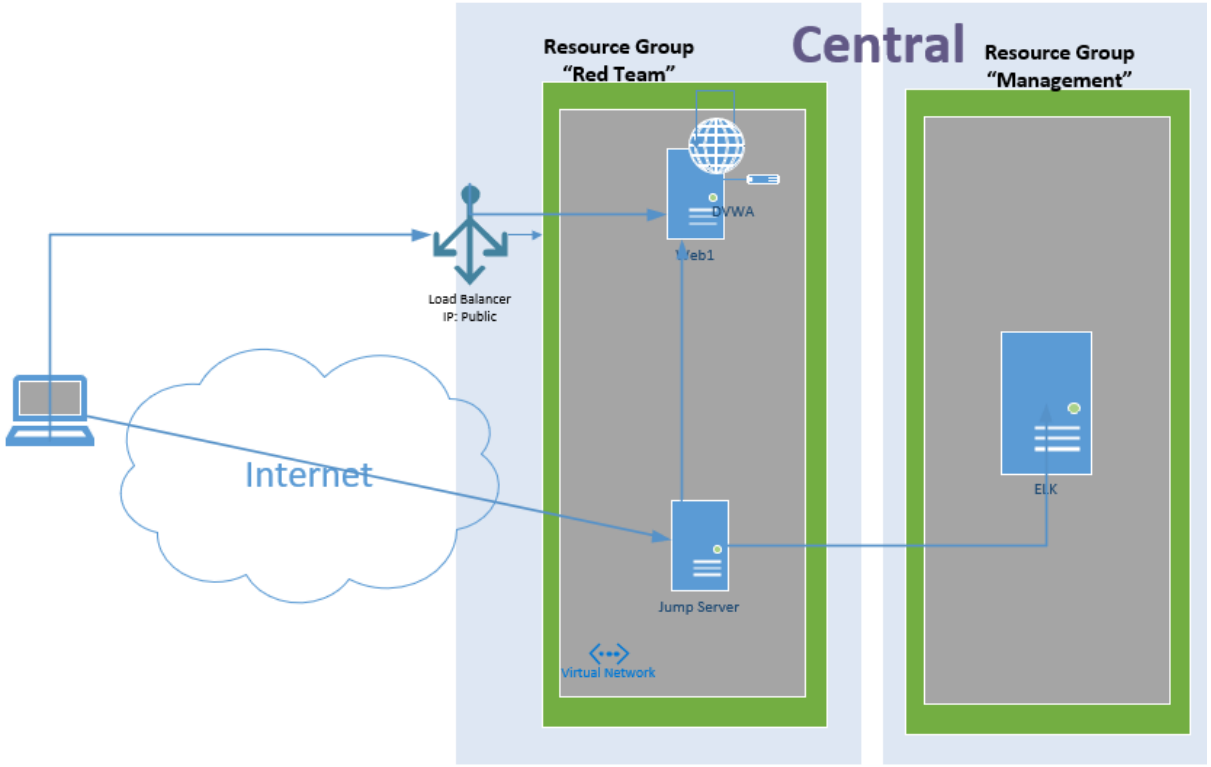
Just click on the `Create / Reset database` button and it will generate any aditional configuration needed.

Login with default credentials

1. Create New Resource Group – “Management”
2. Create New Subnet in Existing Virtual Network
3. Create New NSG - “Management” in Management Resource Group
4. Associate NSG to “Management” Subnet
5. Move Existing VNET to New Resource Group



1. Create a Simple New VM, in Resource Group “Management”, Called “ELK”.
Create a username and password and make sure the B series VM has 2 CPUs and 4gb of Memory
Make Sure you Don’t Create a NEW NSG as part of the Setup
Give it a Public IP
2. Verify you can SSH into it the new VM

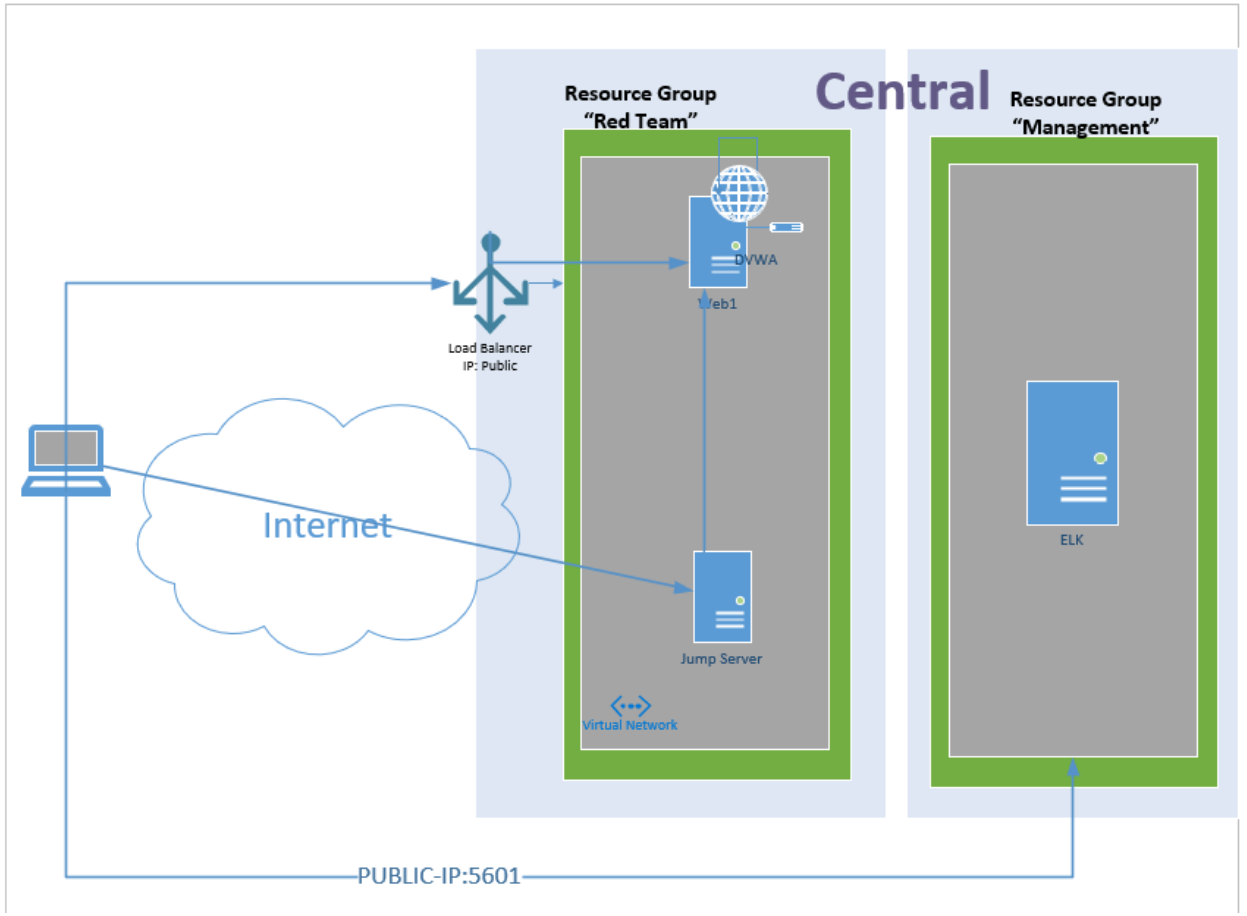


Install ELK

```
#!/bin/bash

if ! [ $(id -u) = 0 ]; then
   echo "The script need to be run as root." >&2
   exit 1
fi

if [ $SUDO_USER ]; then
    real_user=$SUDO_USER
else
    real_user=$(whoami)
fi
#Check to see if user is Root
#
echo apt update && apt upgrade
#Update and upgrade Current VM
#
apt install docker.io
#installs docker to box
#
apt install python3-pip
#installs python
#
apt install docker
#installs docker python module
#
sysctl -w vm.max_map_count=262144
#increases virtual memory
#
systemctl start docker
#starts docker
#
docker pull sebp/elk
#pulls docker elk
#
docker run -p 5601:5601 -p 9200:9200 -p 5044:5044 -it sebp/elk
#Create Image
#
```

Connect to ELK and Login

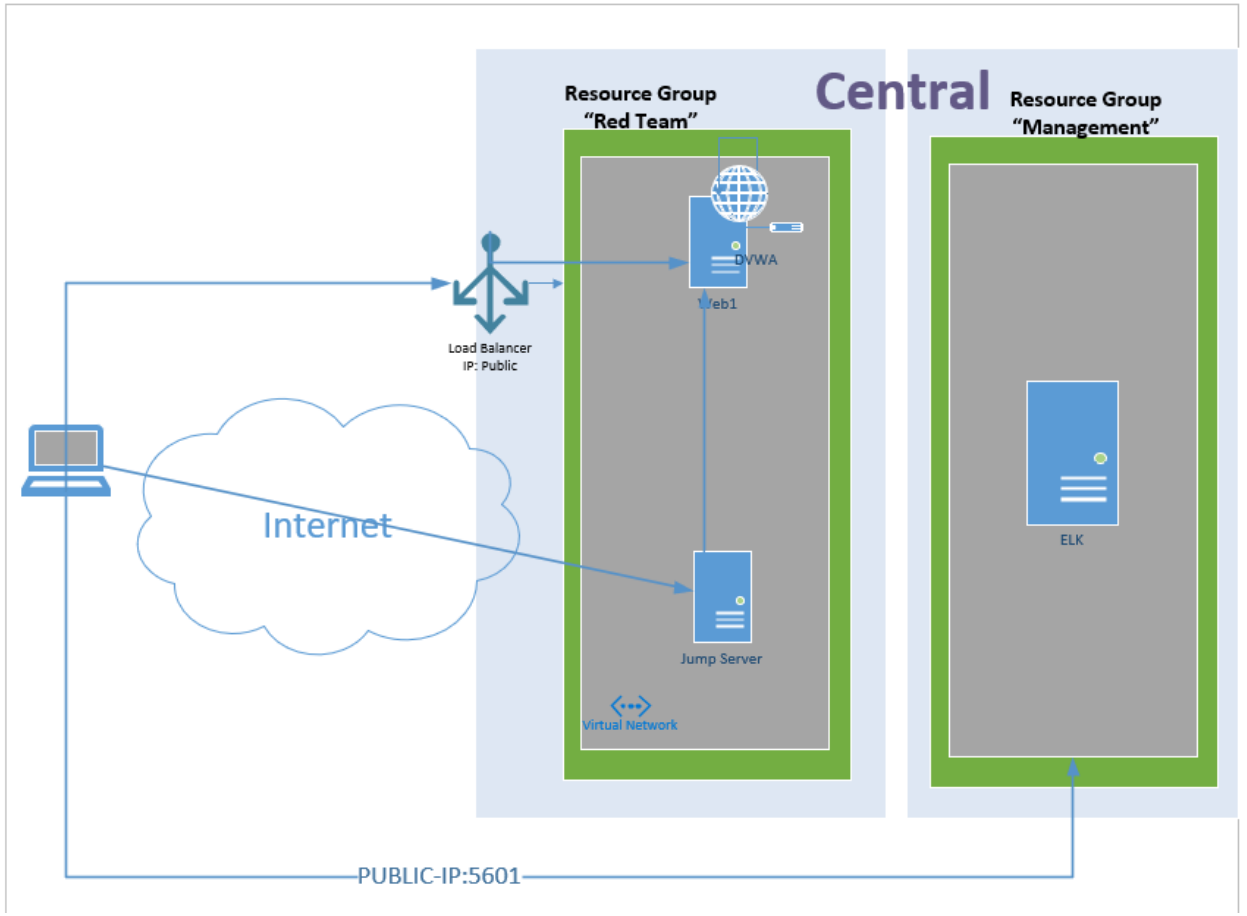
1. Modify the “management” NSG to Allow your Home IP to connect to the Elk Internal IP on port 5601
2. Browse to http://Your_IP:5601/app/kibana and Login to change the default password



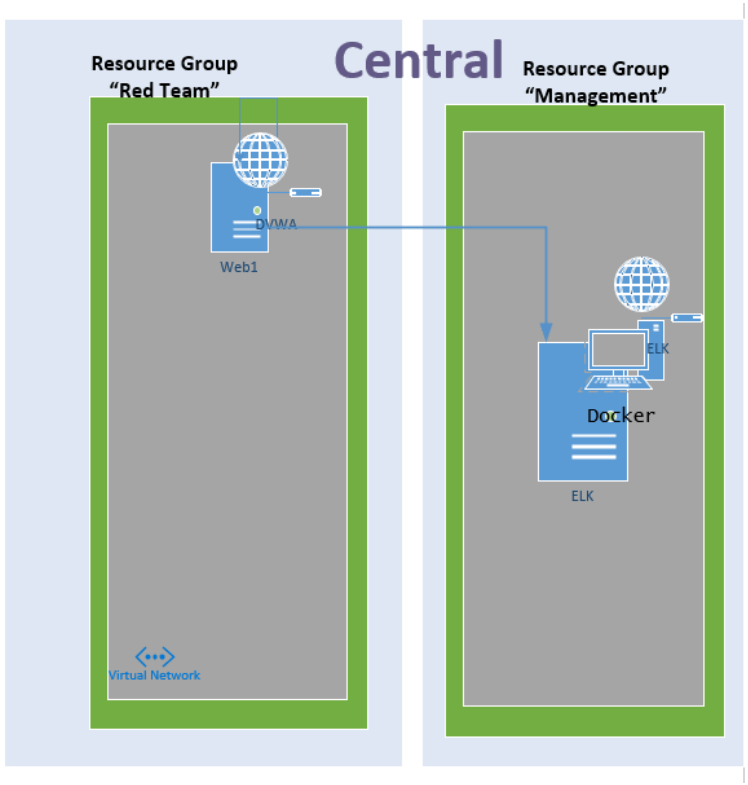
Day 1
Complete

Day 2
Start

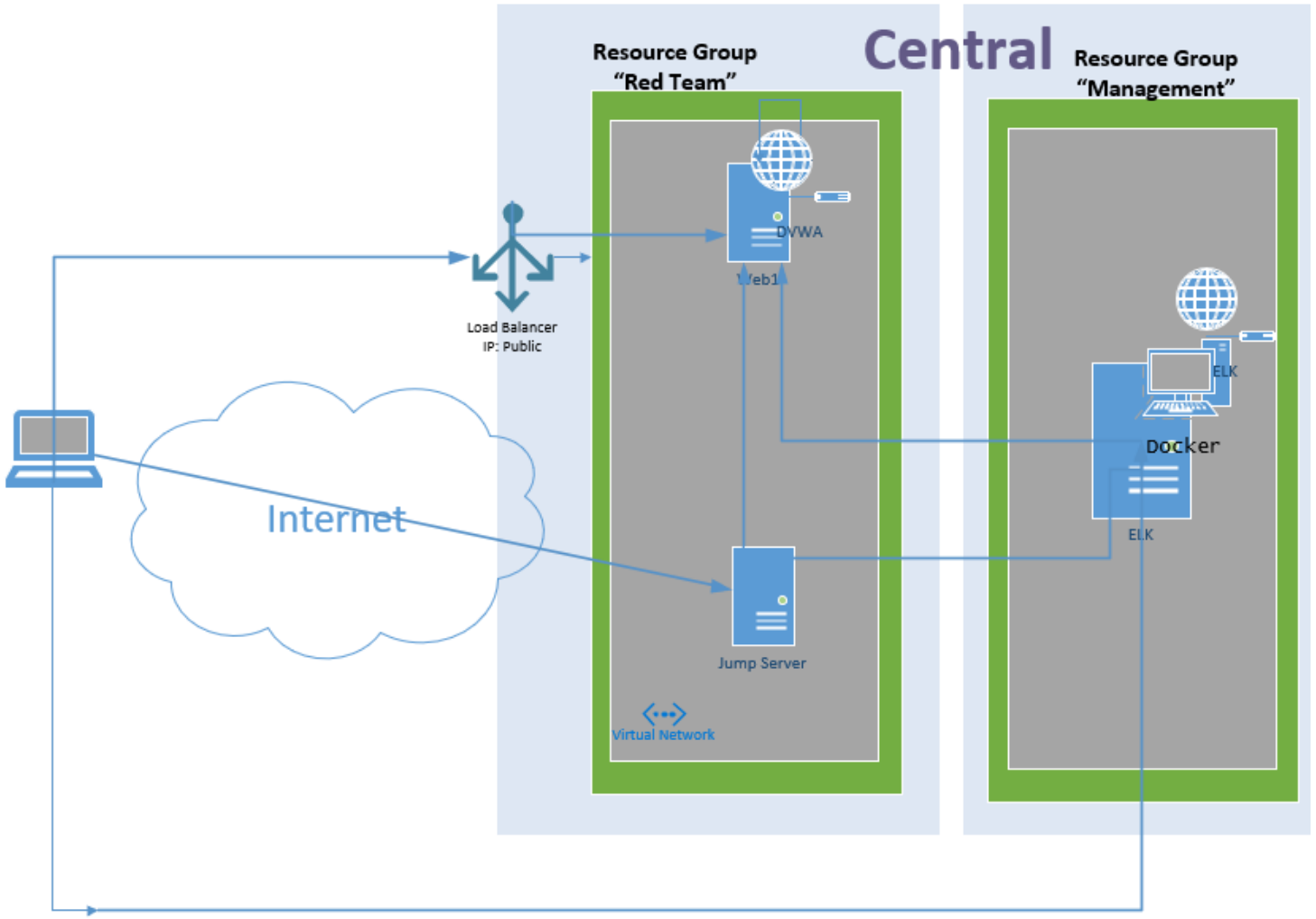
Where We Left Off



Goal
Push Logs from Web01 to ELK



By the End of Today You Should Have



Install File Beat on Web Server

1. SSH into the Web Server through the Jumpbox

```
curl -L -O https://ln2.sync.com/dl/18aa05e60/zkc82r7a-adqnqwrk-9in3s62h-3yyj7kug
sudo dpkg -i filebeat-6.8.12-amd64.deb
```

ref: https://www.elastic.co/guide/en/beats/filebeat/6.8/filebeat-installation.html

Download the Config File, Move it, and Add Dest Server

#download
curl -O –L https://gist.githubusercontent.com/slape/5cc350109583af6cbe577bbcc0710c93/raw/eca603b72586fbe148c11f9c87bf96a63cb25760/Filebeat
#move
mv Filebeat /etc/filebeat/filebeat.yml
#open
Nano /etc/filebeat/filebeat.yml
#update Config to Point to ELK Server

Scroll to line #1106 and replace the IP address with the IP address of your ELK machine. And Update Password.

```
output.elasticsearch:
hosts: ["10.1.0.4:9200"]
username: "elastic"
password: "changeme"
```

Scroll to line #1806 and replace the IP address with the IP address of your ELK machine.

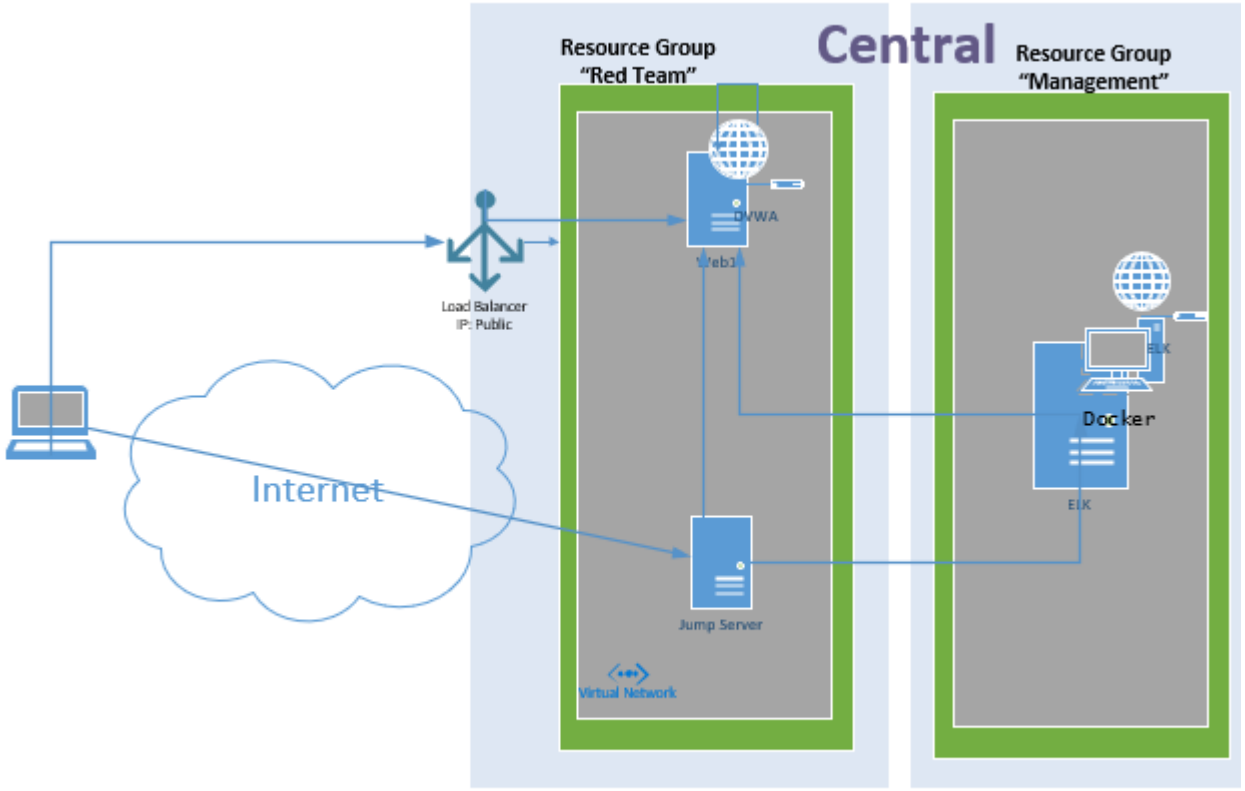
```
setup.kibana:
host: "10.1.0.4:5601"
```

Open Port On Management NSG and Start Service

1. In Azure, navigate to the Management NSG and Open the needed port from Web Server to ELK = *9200*
2. After, Start the Filebeat on the Web Server

```
filebeat modules enable system
filebeat setup
service filebeat start
```

Final Elk Project



Day 2
End

Day 3
Start

Home Work

- Create a Github Repository - https://www.youtube.com/watch?v=XtCcoMd6U_4

- Create and Add a Network Diagram
- The Firewall Spreadsheet with access rules
- The “why”

Day 3
End