

1=>

First setup EC2 instance through GUI of AWS website. Then, run following commands.

Commands to connect to sushil_devops ec2 instance with ssh are:

a. `chmod 400 key_pair_sushil_khadka.pem`

b. `ssh -i "key_pair_sushil_khadka.pem" ubuntu@ec2-3-85-42-49.compute-1.amazonaws.com`

```

C:\Users\Acer\Downloads>ssh
usage: ssh [-G GAcFgGkKMnqStTvVxYy] [-B bind_interface]
          [-b bind_address] [-c cipher_spec] [-D [bind_address:]port]
          [-E log_file] [-e escape_char] [-F configfile] [-I pkcs11]
          [-i identity_file] [-J [user@]host[:port]] [-L address]
          [-l login_name] [-m mac_spec] [-O ctl_cmd] [-o option] [-p port]
          [-Q query_option] [-R address] [-S ctl_path] [-W host:port]
          [-w local_tun[:remote_tun]] destination [command]

C:\Users\Acer\Downloads>ssh -i "key_pair_file.pem" ubuntu@ec2-54-156-48-173.compute-1.amazonaws.com
ssh: connect to host ec2-54-156-48-173.compute-1.amazonaws.com port 22: Connection timed out

C:\Users\Acer\Downloads>chmod 400 key_pair_file.pem

C:\Users\Acer\Downloads>ssh -i "key_pair_file.pem" ubuntu@ec2-54-156-48-173.compute-1.amazonaws.com
ssh: connect to host ec2-54-156-48-173.compute-1.amazonaws.com port 22: Connection timed out

C:\Users\Acer\Downloads>chmod 400 key_pair_sushil_khadka.pem

C:\Users\Acer\Downloads>ssh -i "key_pair_sushil_khadka.pem" ubuntu@ec2-3-85-42-49.compute-1.amazonaws.com
The authenticity of host 'ec2-3-85-42-49.compute-1.amazonaws.com (3.85.42.49)' can't be established.
ED25519 key fingerprint is SHA256:Qt5HSVM6l6BjncXT0i7sECTDpTKV3Tctkg5WN3CKEMM.
This key is not known by any other names
Are you sure you want to continue connecting (yes/no/[fingerprint])?
Host key verification failed.

C:\Users\Acer\Downloads>ssh -i "key_pair_sushil_khadka.pem" ubuntu@ec2-3-85-42-49.compute-1.amazonaws.com
The authenticity of host 'ec2-3-85-42-49.compute-1.amazonaws.com (3.85.42.49)' can't be established.
ED25519 key fingerprint is SHA256:Qt5HSVM6l6BjncXT0i7sECTDpTKV3Tctkg5WN3CKEMM.
This key is not known by any other names
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added 'ec2-3-85-42-49.compute-1.amazonaws.com' (ED25519) to the list of known hosts.
Welcome to Ubuntu 22.04 LTS (GNU/Linux 5.15.0-1011-aws x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:    https://landscape.canonical.com
 * Support:       https://ubuntu.com/advantage

System information as of Wed Aug 10 07:19:54 UTC 2022


```

To install apache, run following command:

a. `sudo apt install apache2`

```

get:20 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-backports/multiverse amd64 c-n-f Metadata [116 B]
get:20 http://security.ubuntu.com/ubuntu jammy-security/main amd64 Packages [244 kB]
get:30 http://security.ubuntu.com/ubuntu jammy-security/main Translation-en [60.6 kB]
get:31 http://security.ubuntu.com/ubuntu jammy-security/main amd64 c-n-f Metadata [3924 B]
get:32 http://security.ubuntu.com/ubuntu jammy-security/restricted amd64 Packages [216 kB]
get:33 http://security.ubuntu.com/ubuntu jammy-security/restricted Translation-en [32.9 kB]
get:34 http://security.ubuntu.com/ubuntu jammy-security/restricted amd64 c-n-f Metadata [824 B]
get:35 http://security.ubuntu.com/ubuntu jammy-security/universe amd64 Packages [106 kB]
get:36 http://security.ubuntu.com/ubuntu jammy-security/universe Translation-en [36.5 kB]
get:37 http://security.ubuntu.com/ubuntu jammy-security/universe amd64 c-n-f Metadata [2408 B]
get:38 http://security.ubuntu.com/ubuntu jammy-security/multiverse amd64 Packages [4192 B]
get:39 http://security.ubuntu.com/ubuntu jammy-security/multiverse Translation-en [900 B]
get:40 http://security.ubuntu.com/ubuntu jammy-security/multiverse amd64 c-n-f Metadata [220 B]
Fetched 22.6 MB in 4s (6459 kB/s)
Reading package lists... Done
ubuntu@ip-172-31-1-219:~$ sudo apt install apache2
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
  apache2-bin apache2-data apache2-utils bzip2 libapr1 libaprutil1 libaprutil1-dbd-sqlite3 libaprutil1-ldap
  liblua5.3-0 mailcap mime-support ssl-cert
Suggested packages:
  apache2-doc apache2-suexec-pristine | apache2-suexec-custom www-browser bzip2-doc
The following NEW packages will be installed:
  apache2 apache2-bin apache2-data apache2-utils bzip2 libapr1 libaprutil1 libaprutil1-dbd-sqlite3 libaprutil1-ldap
  liblua5.3-0 mailcap mime-support ssl-cert
0 upgraded, 13 newly installed, 0 to remove and 64 not upgraded.
Need to get 2138 kB of archives.
After this operation, 8561 kB of additional disk space will be used.
Do you want to continue? [Y/n] y
get:1 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/main amd64 libapr1 amd64 1.7.0-8build1 [107 kB]
get:12 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/main amd64 libaprutil1 amd64 1.0.1-1ubuntu4 [92.4 kB]
get:13 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/main amd64 libaprutil1-dbd-sqlite3 amd64 1.6.1-1ubuntu4 [11.3 kB]
get:14 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/main amd64 libaprutil1-ldap amd64 1.6.1-1ubuntu4 [9162 B]
get:15 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/main amd64 liblua5.3-0 amd64 5.3.6-1build1 [140 kB]
get:16 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/main amd64 apache2-bin amd64 2.4.52-1ubuntu4.1 [1347 kB]
get:17 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/main amd64 apache2-data all 2.4.52-1ubuntu4.1 [165 kB]
get:18 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/main amd64 apache2-utils amd64 2.4.52-1ubuntu4.1 [89.1 kB]
get:19 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/main amd64 mailcap all 3.70+nmu1ubuntu1 [23.8 kB]
get:10 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/main amd64 mime-support all 3.66 [3606 B]
get:11 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/main amd64 apache2 amd64 2.4.52-1ubuntu4.1 [97.0 kB]get:12 http://us-east-1.ec2.archive.ubuntu.com/u
buntu jammy/main amd64 bzip2 amd64 1.0.8-5build1 [34.8 kB]
get:13 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/main amd64 ssl-cert all 1.1.2 [17.4 kB]

```

2=>

a. Screenshot of Docker and Docker compose file with “docker compose up” command

The screenshot shows the Visual Studio Code interface with the following files open:

- Dockerfile**:

```
1 FROM node:alpine
2
3 WORKDIR /usr/app
4 ENV PATH /home/node/app/node_modules/.bin:$PATH
5
6 COPY . /usr/app
7
8 RUN npm install
9
10 EXPOSE 3000
11
12 CMD ["npm","start"]
13
```
- docker-compose.yml**:

```
1 version: "3.8"
2 services:
3   react-app:
4     stdin_open: true
5     build:
6       context: .
7       dockerfile: Dockerfile
8     volumes:
9       - ./usr/src/app
10      - ./usr/src/app/node_modules
11     ports:
12       - 3000:3000
13
```
- Terminal**:

```
PS C:\Users\Vacer\Desktop\react_tuts\day3\template_app> docker compose up
[+] Building 1753.6s (9/9) FINISHED
=> [internal] load build definition from Dockerfile
=> => transferring dockerfile: 202B
=> [internal] load .dockerignore
=> => transferring context: 2B
=> [internal] load metadata for docker.io/library/node:alpine
```

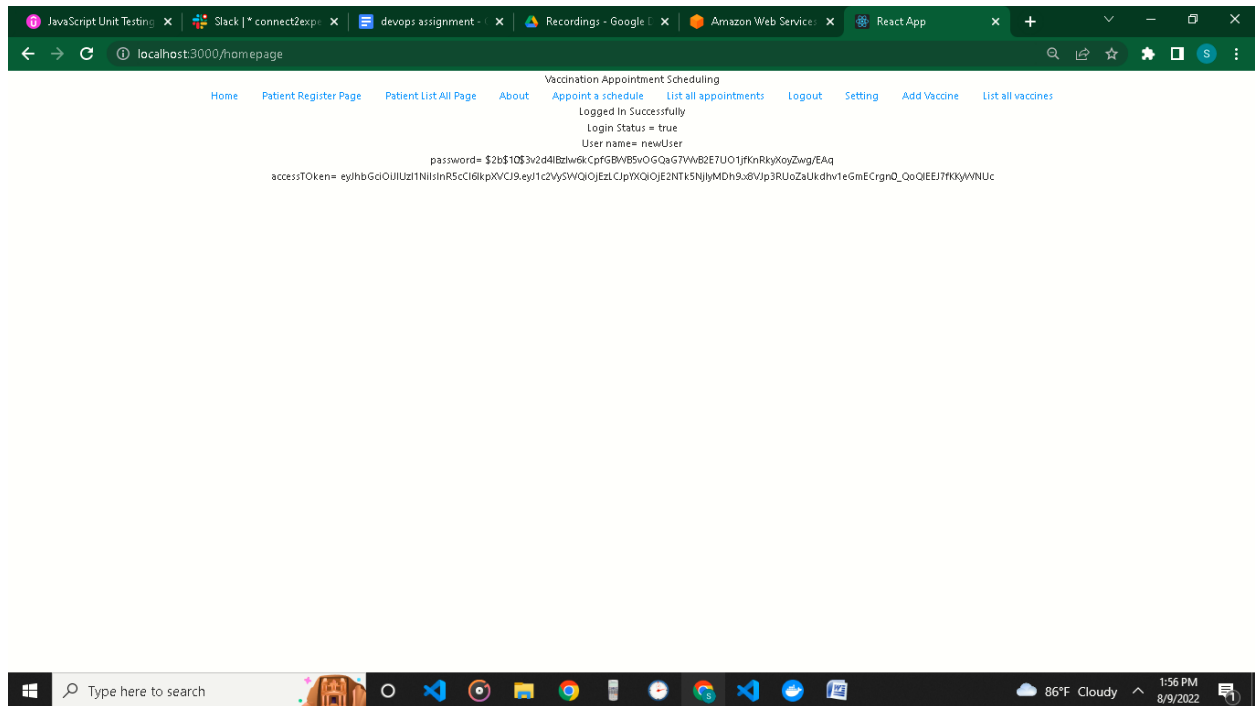
b. Screenshot of compilation success:

The screenshot shows the Visual Studio Code interface with the following files open:

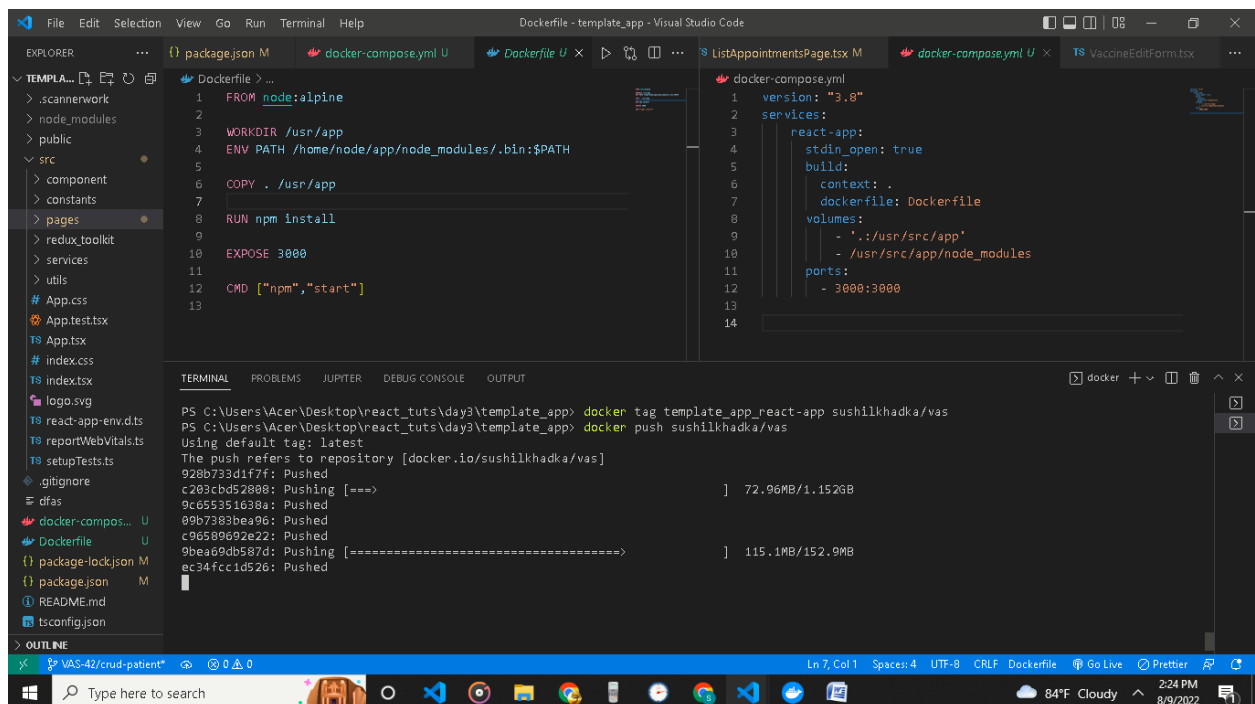
- Dockerfile**: (Same as in screenshot a)
- docker-compose.yml**: (Same as in screenshot a)
- Terminal**:

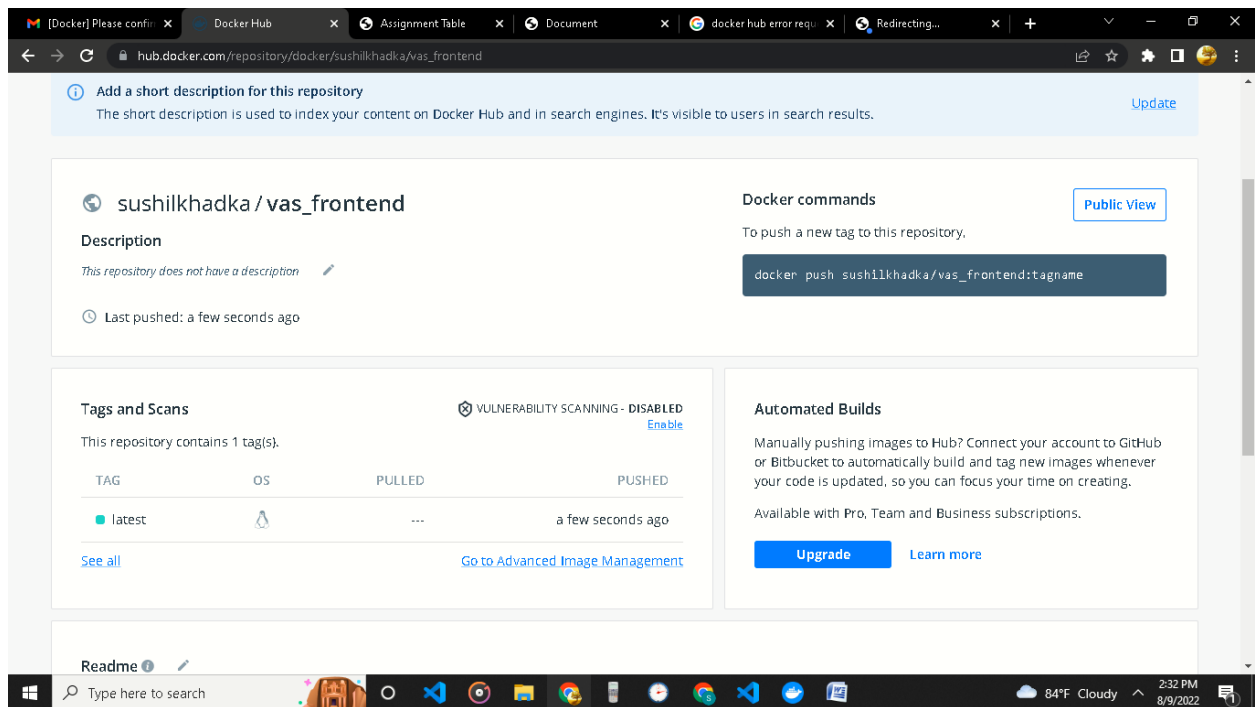
```
array react-hooks/exhaustive-deps
template_app-react-app-1 | src/pages/login/LoginPage.tsx
template_app-react-app-1 | line 12:6: React Hook useEffect has a missing dependency: 'navigate'. Either include it or remove the dependency
array react-hooks/exhaustive-deps
template_app-react-app-1 | src/pages/patient/ListPatientsPage.tsx
template_app-react-app-1 | line 21:15: Expected '===' and instead saw '==' eeqeq
template_app-react-app-1 | src/pages/vaccine/ListVaccinesPage.tsx
template_app-react-app-1 | line 25:15: Expected '===' and instead saw '==' eeqeq
template_app-react-app-1 | src/services/getLocalData.tsx
template_app-react-app-1 | line 10:16: Expected '===' and instead saw '==' eeqeq
webpack compiled with 1 warning
No issues found.
```

c. Screenshot of hosted react app:



d. Screenshot of Pushing to docker hub and image in dockerhub:

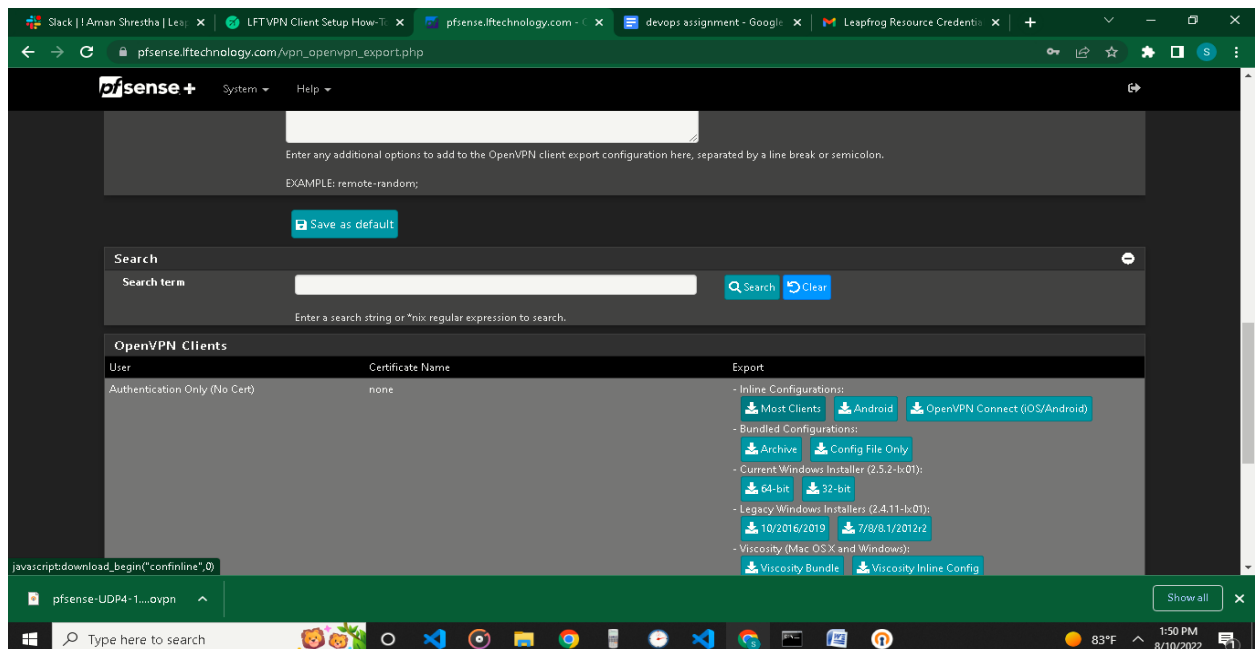




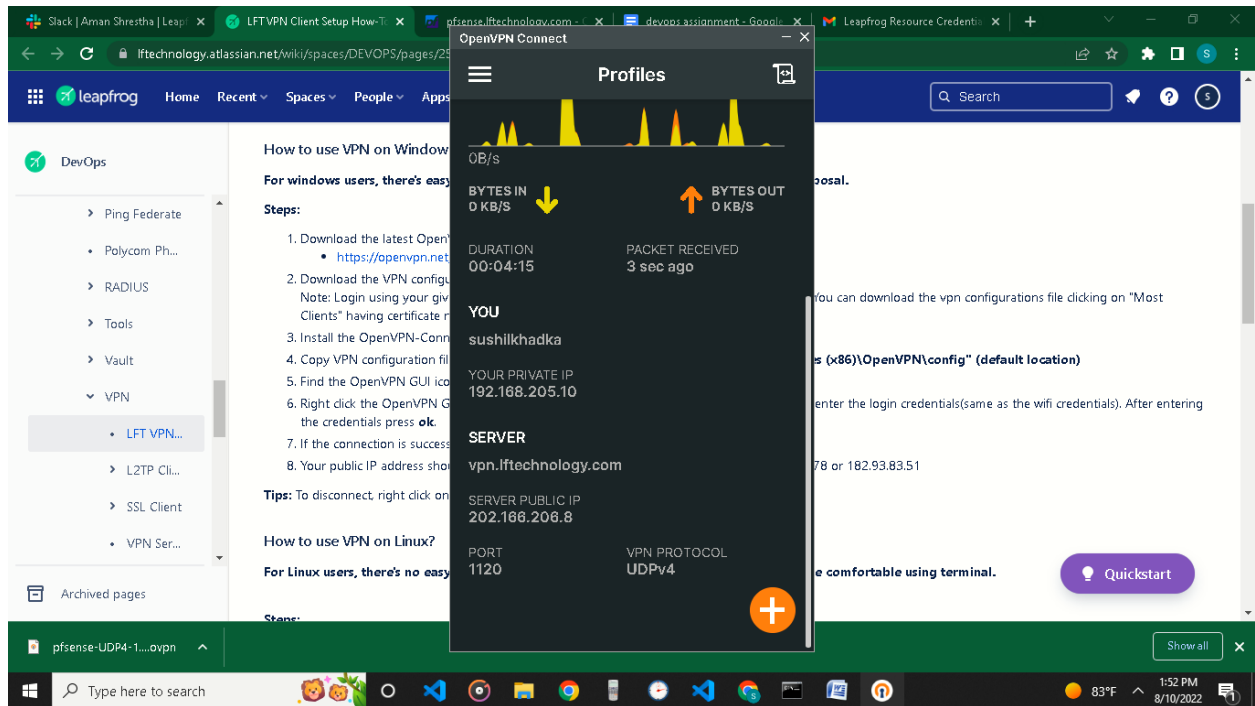
e. Link to docker hub repo = https://hub.docker.com/repository/docker/sushilkhadka/vas_frontend

3=>

a. Screenshot of downloading config file from pfsense website for OpenVpn:



b. Screenshot of OpenVPN running and changed IP address:



4=>

Http Status Code	Meaning
200	Ok
201	Created
202	Accepted
203	Non-Authoritative Information
204	No Content
400	Bad Request
401	Unauthorized
402	Payment Required
403	Forbidden
404	Not Found
408	Request Timeout

5=>

Subnet mask for 150.10.20.30 = 255.255.0.0 as it is class B IP address.

Network id for 150.10.20.30 = 150.10.0.0/16

Broadcast id for 150.10.20.30 = 150.10.255.255

