Linux Services Homework

Contents

<u>Prerequisites</u>

1. Turn off the pfsense before proceeding further.

Setting Up Database Server

1. Log into v-center and load the centos iso file into the database machine as shown in figure below.
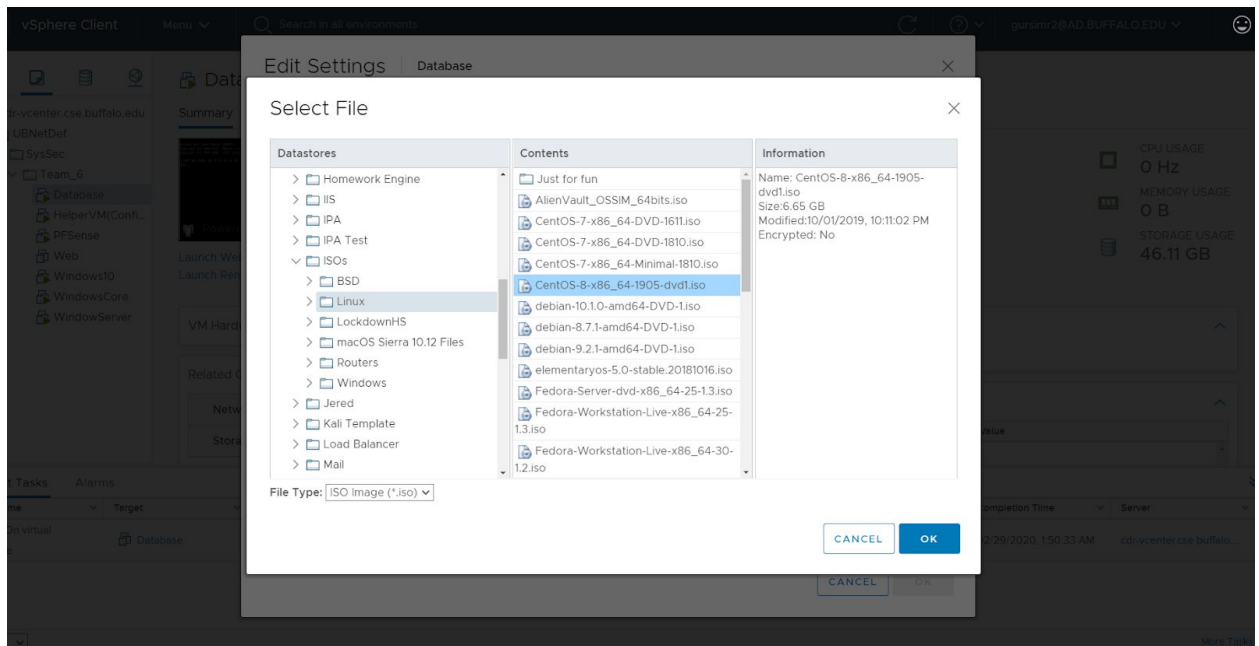
2. Now load the machine and install CentOS with default details. After selecting language, and installation destination which will be only one in our case. Now goto Network and Hostname Settings > Ethernet0 > Ipv4 setting and enter the Ip Address, subnet mask and gateway as shown below.
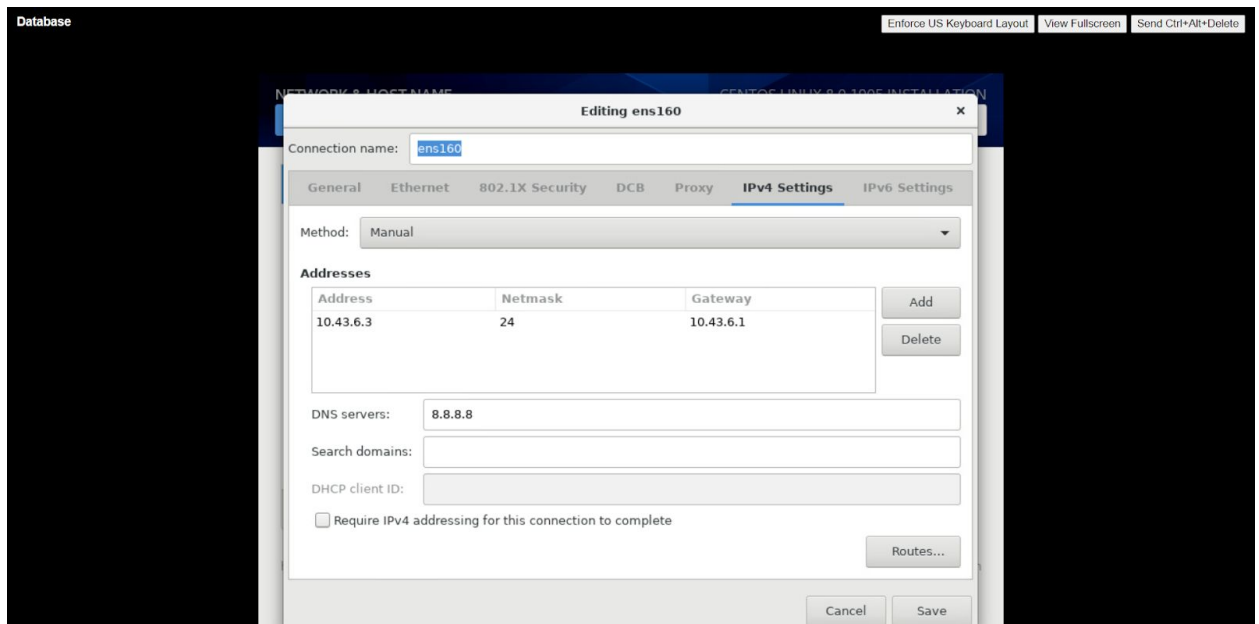
3. Now click Begin Installation, Set root password and create any users if required.At the end, select reboot.
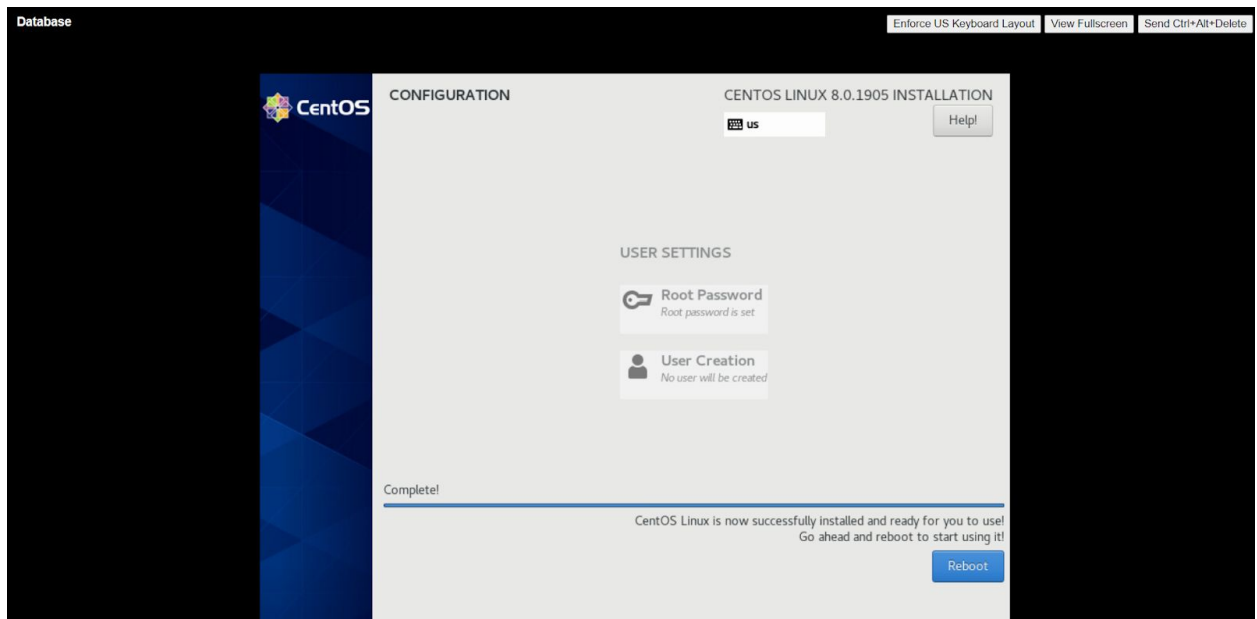
4. Now login and download postgresql as shown in the figure below.
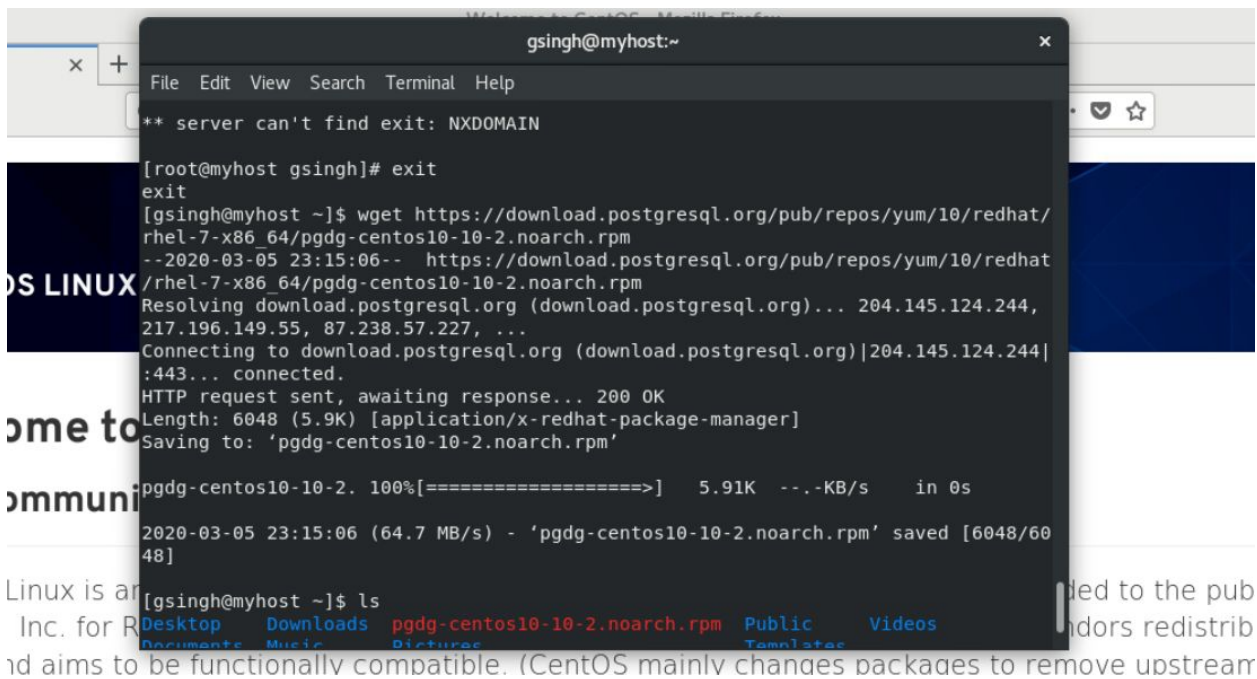
5. Now install postgresql by command shown in figure. After that type sudo apt-get update to update.

```
Desktop     Downloads   pgdg-centos10-10-2.noarch.rpm   Public     Videos
Documents   Music       Pictures                        Templates
[gsingh@myhost ~]$ sudo yum install pgdg-centos10-10-2.noarch.rpm epel-release
[sudo] password for gsingh:
CentOS-8 - AppStream                          1.7 MB/s | 6.5 MB     00:03
CentOS-8 - Base                               1.3 MB/s | 5.0 MB     00:03
CentOS-8 - Extras                             619  B/s | 2.1 kB     00:03
Dependencies resolved.
================================================================================
 Package              Arch          Version        Repository          Size
================================================================================
Installing:
 epel-release         noarch        8-5.el8        extras              22 k
 pgdg-redhat-repo     noarch        42.0-6         @commandline        5.9 k

Transaction Summary
================================================================================
Install  2 Packages

Total size: 28 k
Total download size: 22 k
```

6. Install postgresql using the following commands.

```
[gsingh@myhost /]$ sudo yum install postgresql-server postgresql-contrib
Last metadata expiration check: 0:06:40 ago on Thu 05 Mar 2020 11:40:45 PM EST.
Dependencies resolved.
```

7. Now execute the following postgresql setup.

```
nl-tctree-list                              zsoelim
[gsingh@myhost bin]$ sudo postgresql-setup initdb
```

o be functionally compatible. (CentOS mainly changes packages and artwork.)
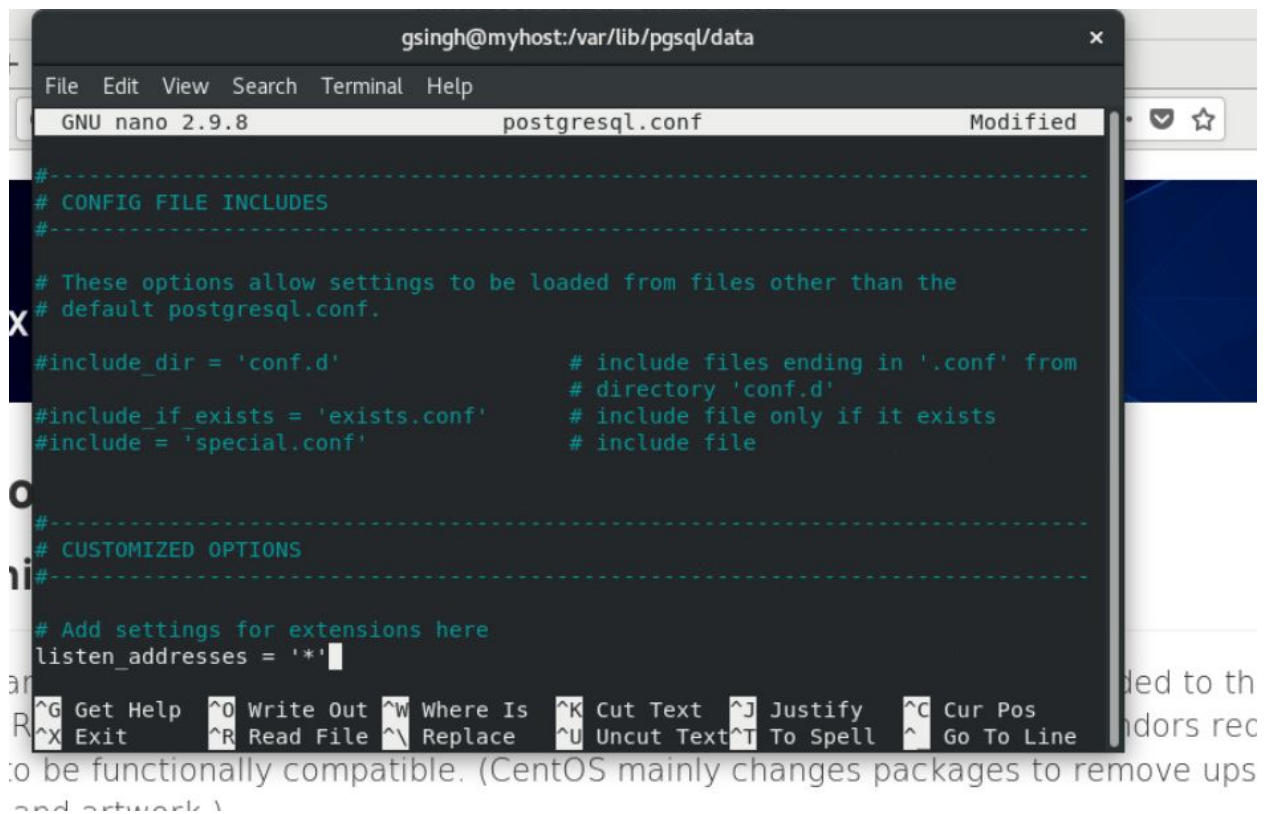
8. Now enable postgresql and check its version.

```
[gsingh@myhost bin]$ sudo systemctl start postgresql
[gsingh@myhost bin]$ sudo systemctl enable postgresql
Created symlink /etc/systemd/system/multi-user.target.wants/postgresql.service →
 /usr/lib/systemd/system/postgresql.service.
[gsingh@myhost bin]$
```

be functionally compatible. (CentOS mainly changes packages to remove

```
[gsingh@myhost bin]$ sudo -u postgres psql -c "SELECT version();"
                                     version

--------------------------------------------------------------------------------
--------------------------
 PostgreSQL 10.6 on x86_64-redhat-linux-gnu, compiled by gcc (GCC) 8.2.1 2018090
5 (Red Hat 8.2.1-3), 64-bit
(1 row)

[gsingh@myhost bin]$
```

9. Make sure firewall is disabled and stopped on database
10. Make sure that file /var/lib/pqsql/data/pg_hba.conf has entry host all all 0.0.0.0/0 md5

11. Make sure file under /var/lib/pqsql/data/postgresql.conf has entry listen_addresses = '*'

```
gsingh@myhost:/var/lib/pgsql/data                                    ×

File  Edit  View  Search  Terminal  Help

  GNU nano 2.9.8                   postgresql.conf                Modified

#----------------------------------------------------------------------
# CONFIG FILE INCLUDES
#----------------------------------------------------------------------

# These options allow settings to be loaded from files other than the
# default postgresql.conf.

#include_dir = 'conf.d'                    # include files ending in '.conf' from
                                           # directory 'conf.d'
#include_if_exists = 'exists.conf'         # include file only if it exists
#include = 'special.conf'                  # include file


#----------------------------------------------------------------------
# CUSTOMIZED OPTIONS
#----------------------------------------------------------------------

# Add settings for extensions here
listen_addresses = '*'

^G Get Help    ^O Write Out   ^W Where Is    ^K Cut Text    ^J Justify     ^C Cur Pos
^X Exit        ^R Read File   ^\ Replace     ^U Uncut Text  ^T To Spell    ^  Go To Line
```

```
                    gsingh@myhost:/var/lib/pgsql/data                    ×

File  Edit  View  Search  Terminal  Help
  GNU nano 2.9.8                    pg_hba.conf

# IPv4 local connections:
host    all                 all                 127.0.0.1/32             ident
# IPv6 local connections:
host    all                 all                 ::1/128                  ident
# Allow replication connections from localhost, by a user with the
# replication privilege.
local   replication         all                                         peer
host    replication         all                 127.0.0.1/32             ident
host    replication         all                 ::1/128                  ident
host all all 0.0.0.0/0 md5




                              [ Wrote 90 lines ]
^G Get Help   ^O Write Out ^W Where Is   ^K Cut Text  ^J Justify   ^C Cur Pos
^X Exit       ^R Read File ^\ Replace    ^U Uncut Text^T To Spell  ^  Go To Line
```

```
File  Edit  View  Search  Terminal  Help
[gsingh@myhost usr]$ cd /etc/
[gsingh@myhost etc]$ cd init.d
[gsingh@myhost init.d]$ postgresql restart
bash: postgresql: command not found...
Failed to search for file: Cannot update read-only repo
[gsingh@myhost init.d]$ sudo service postgresql restart
[sudo] password for gsingh:
Redirecting to /bin/systemctl restart postgresql.service
[gsingh@myhost init.d]$ systemctl restart postgresql.service
[gsingh@myhost init.d]$
```

12. Now Restart the postgresql Service.

13. Create user wikijs and password wikijsrocks and create db wiki as shown in config.yml on web server.

```
[gsingh@myhost etc]$ id wikijs
uid=1001(wikijs) gid=1001(wikijs) groups=1001(wikijs)
[gsingh@myhost etc]$ passwd wikijs
passwd: Only root can specify a user name.
[gsingh@myhost etc]$ sudo passwd wikijjjjjjjs
passwd: Unknown user name 'wikijjjjjjjs'.
[gsingh@myhost etc]$ sudo passwd wikijs
Changing password for user wikijs.
New password:
BAD PASSWORD: The password contains the user name in some form
Retype new password:
passwd: all authentication tokens updated successfully.
[gsingh@myhost etc]$
```

```
[gsingh@myhost ~]$ sudo -u postgres -i
[sudo] password for gsingh:
[postgres@myhost ~]$ ls
backups  data  initdb_postgresql.log
[postgres@myhost ~]$ psql template1
psql (10.6)
Type "help" for help.

template1=# CREATE USER wikijs WITH PASSWORD 'wikijsrocks'
template1-# CREATE USER wikijs WITH PASSWORD 'wikijsrocks';
ERROR:  syntax error at or near "CREATE"
LINE 2: CREATE USER wikijs WITH PASSWORD 'wikijsrocks';
        ^

template1=# CREATE USER wikijs WITH PASSWORD 'wikijsrocks';
CREATE ROLE
template1=# CREATE DATABASE wiki
template1-# CREATE DATABASE wiki;
ERROR:  syntax error at or near "CREATE"
LINE 2: CREATE DATABASE wiki;
        ^

template1=# CREATE DATABASE wiki;
CREATE DATABASE
template1=# GRANT ALL PRIVILEGES ON DATABASE wiki to wikijs;
GRANT
```
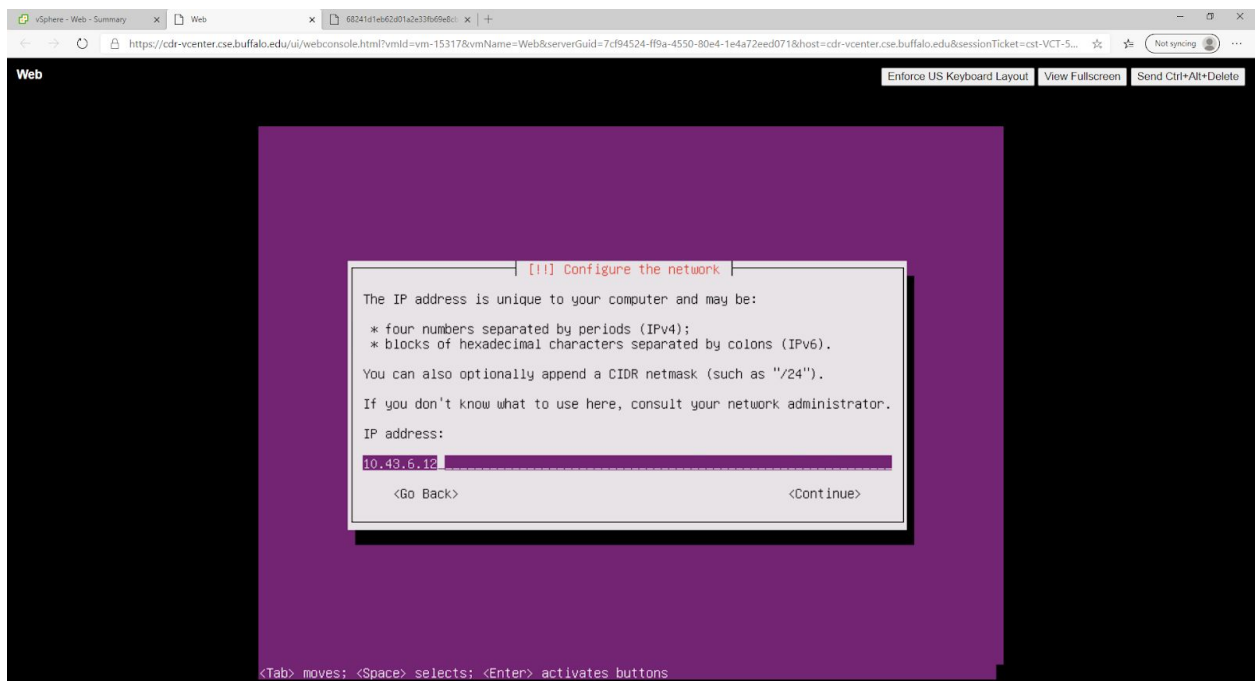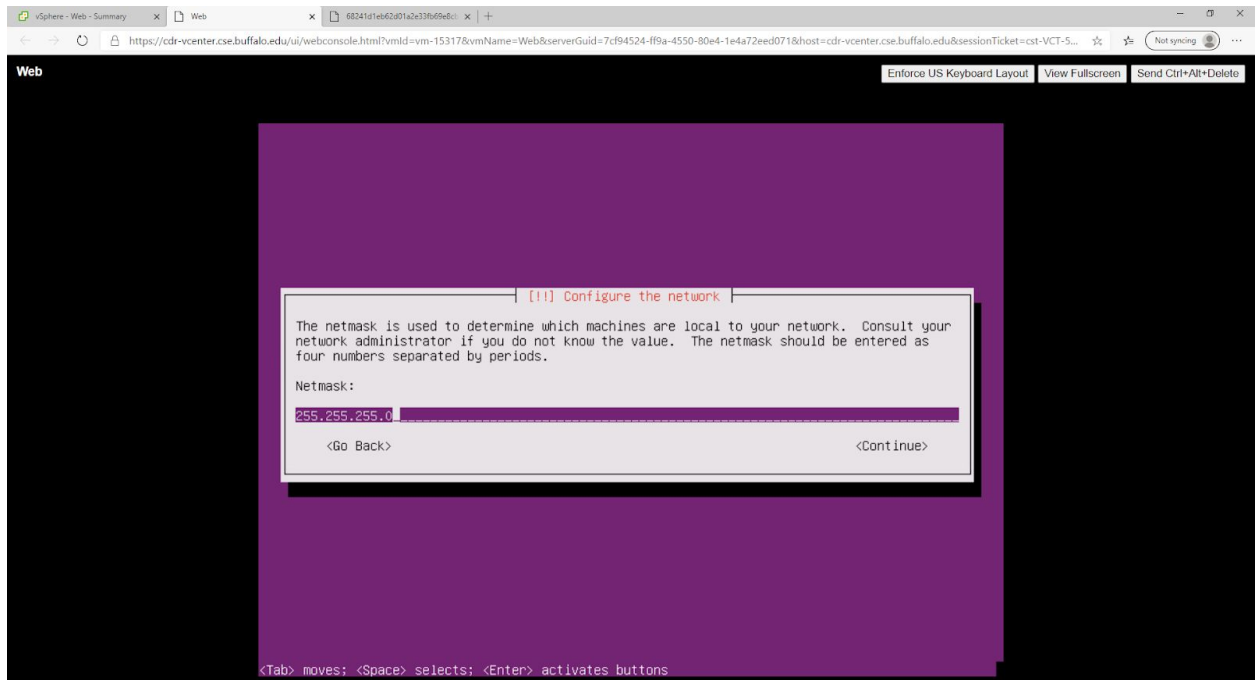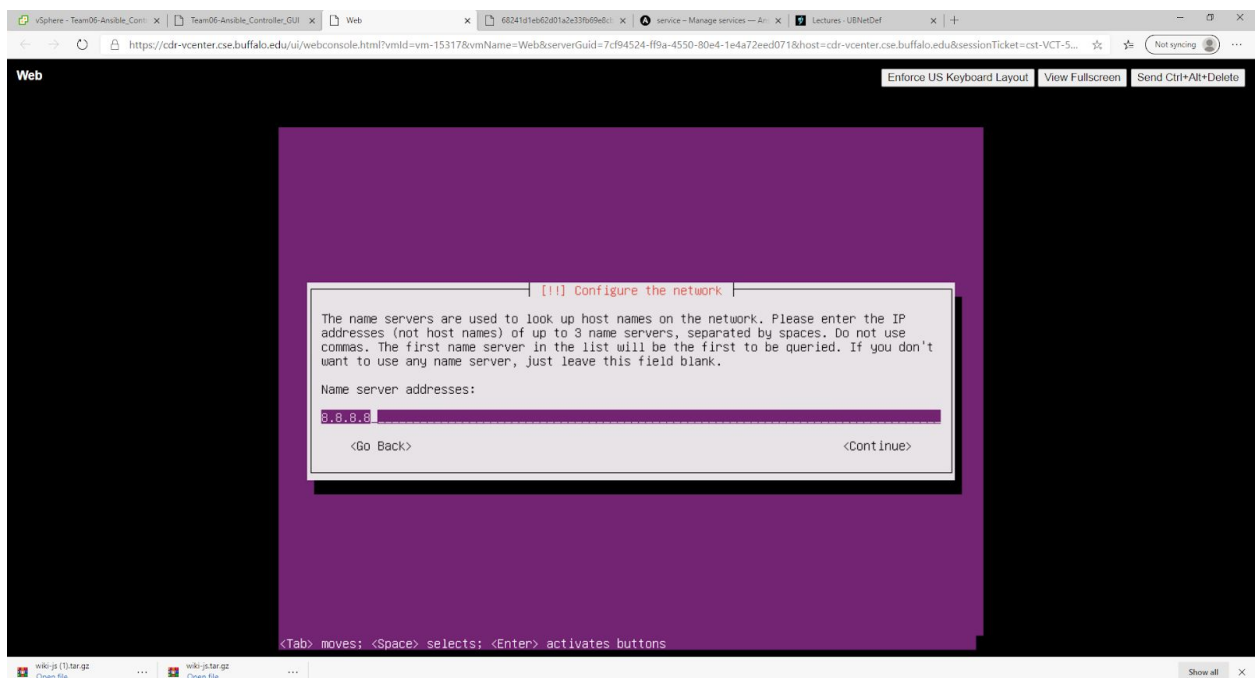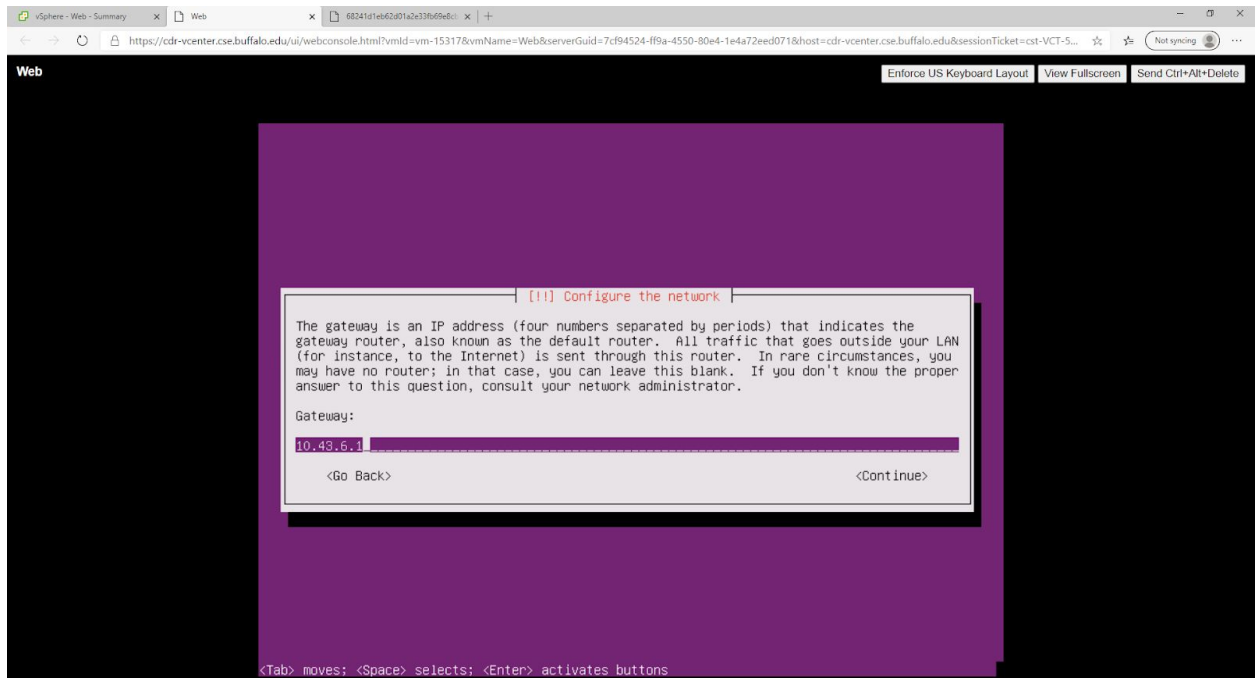
Setting Up Web Server

1. Log into v-center and load the ubuntu iso file into the database machine as shown in figure below.
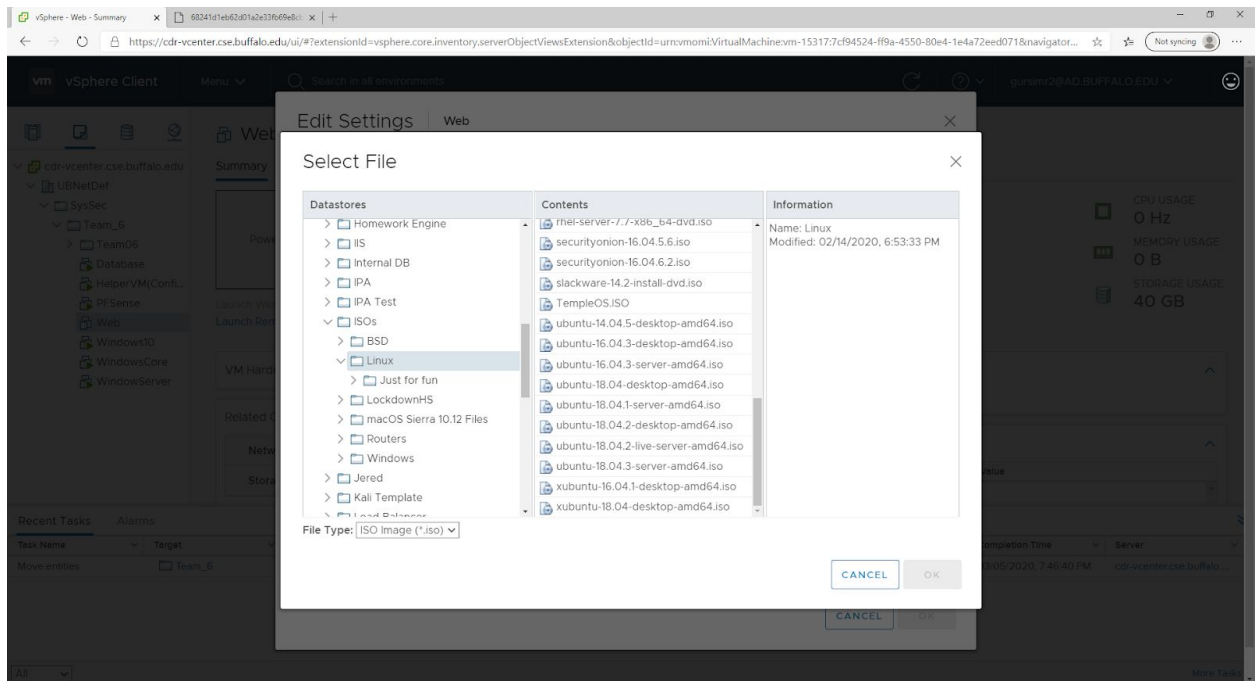
2. Now Install Ubuntu with default configurations. You need to make sure you provide the correct Gateway, Subnet mask and Ip as shown in figure below(in DMZ).

Enforce US Keyboard Layout | View Fullscreen | Send Ctrl+Alt+Delete

┌───────┤ [!!] Configure the network ├───────┐

The netmask is used to determine which machines are local to your network. Consult your
network administrator if you do not know the value. The netmask should be entered as
four numbers separated by periods.

Netmask:

255.255.255.0

        <Go Back>   <Continue>

<Tab> moves; <Space> selects; <Enter> activates buttons

3. Install Curl and type the following command after curl is installed.


```
gursimran@ubuntu:~$ curl -sL https://deb.nodesource.com/setup_13.x | sudo -E bash -
```

4. Install Nodejs by using the following command. You can check nodejs version by using node -v and npm version using npm -v commands.

```
gursimran@ubuntu:~$ sudo apt-get install nodejs
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following additional packages will be installed:
  libpython-stdlib libpython2.7-minimal libpython2.7-stdlib libssl1.1 python python-minimal
  python2.7 python2.7-minimal
Suggested packages:
  python-doc python-tk python2.7-doc binutils binfmt-support
The following NEW packages will be installed:
  libpython-stdlib libpython2.7-minimal libpython2.7-stdlib nodejs python python-minimal python2.7
  python2.7-minimal
The following packages will be upgraded:
  libssl1.1
1 upgraded, 8 newly installed, 0 to remove and 244 not upgraded.
Need to get 29.4 MB of archives.
After this operation, 134 MB of additional disk space will be used.
Do you want to continue? [Y/n]
```

5. Now download wikijs and extract the files.

```
gursimran@ubuntu:~$ npm -v
6.13.7
gursimran@ubuntu:~$ wget https://github.com/Requarks/wiki/releases/download/2.1.113/wiki-js.tar.gz
--2020-03-05 23:32:51--  https://github.com/Requarks/wiki/releases/download/2.1.113/wiki-js.tar.gz
Resolving github.com (github.com)... 192.30.253.113
Connecting to github.com (github.com)|192.30.253.113|:443... connected.
HTTP request sent, awaiting response... 302 Found
Location: https://github-production-release-asset-2e65be.s3.amazonaws.com/65848095/4b6c9880-4f44-11e
a-82c6-e0b8ac38720f?X-Amz-Algorithm=AWS4-HMAC-SHA256&X-Amz-Credential=AKIAIWNJYAX4CSVEH53A%2F2020030
6%2Fus-east-1%2Fs3%2Faws4_request&X-Amz-Date=20200306T043252Z&X-Amz-Expires=300&X-Amz-Signature=5641
aec9b7ab3806b80b12fb2b97c595ed611d0161c70e4bde6df3be2fd3aa91&X-Amz-SignedHeaders=host&actor_id=0&res
ponse-content-disposition=attachment%3B%20filename%3Dwiki-js.tar.gz&response-content-type=applicatio
n%2Foctet-stream [following]
```

```
gursimran@ubuntu:~$ tar -xzvf wiki-js.tar.gz_
```

6. Now open config.yml file and change host to ip of database server.

```
  GNU nano 2.9.3                              config.yml

# - postgres = PostgreSQL 9.5 or later
# - mysql = MySQL 8.0 or later (5.7.8 partially supported, refer to docs)
# - mariadb = MariaDB 10.2.7 or later
# - mssql = MS SQL Server 2012 or later
# - sqlite = SQLite 3.9 or later

db:
  type: postgres

  # PostgreSQL / MySQL / MariaDB / MS SQL Server only:
  host: 10.43.6.3
  port: 5432
  user: wikijs
  pass: wikijsrocks
  db: wiki
  ssl: false

  # Optional - PostgreSQL / MySQL / MariaDB only:
  # -> Uncomment lines you need below and set `auto` to false
  # -> Full list of accepted options: https://nodejs.org/api/tls.html#tls_tls_createsecurecontext_o$
  sslOptions:
    auto: true
    # rejectUnauthorized: false
    # ca: path/to/ca.crt
    # cert: path/to/cert.crt
    # key: path/to/key.pem
    # pfx: path/to/cert.pfx
    # passphrase: xyz123

  # SQLite only:
  storage: path/to/database.sqlite
```
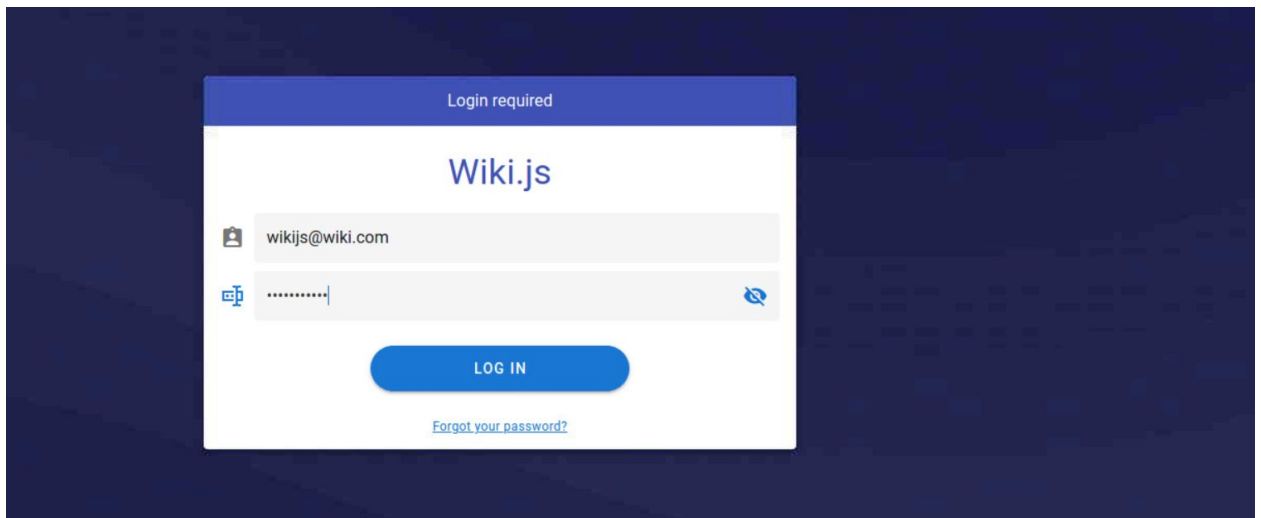
7. Start the nodejs server and goto helper vm and create account and login.

8. It will show the following first page and create a user with you ubit name as shown in the figure below.

Wiki.js

Welcome to your wiki!

Let's get started and create the home page.

+ CREATE HOME PAGE

Enforce US Keyboard Layout | View Fullscreen | Send Ctrl+Alt+Delete

Admin | Wiki.js - Mozilla Firefox — + ×

Login × | Admin | Wiki.js × | ⚠ Problem loading page × | +

← → C ⌂ | 🛡 🔏 10.43.6.12:3000/a/users

Wiki.js — ADMINISTRATION AREA

- Dashboard

Site

- General
- Locale
- Navigation
- Pages — 0
- Tags — 0
- Theme

Users

- Groups — 2
- Users — 2

Users
Manage users

⟳ | **+ NEW USER**

ID	Name	Email	Provider	Created	
1	Administrator	wikijs@wiki.com	local	11 minutes ago	
2	Guest	guest@example.com	local	11 minutes ago	🔒
3	Gursimran Singh	gursimr2@buffalo.edu	local	a few seconds ago	

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