Task 26

📌 **GUI container on the Docker**

⚙️ **Launch a container on docker in GUI mode**

⚙️ **Run any GUI software on the container.**

Using RHEL-8 VM

Step1:

Check the ip of vm using ifconfig.


```
[root@ansible_controller ~]# ifconfig enp0s8
enp0s8: flags=4163<UP,BROADCAST,RUNNING,MULTICAST>  mtu 1500
        inet 192.168.99.130  netmask 255.255.255.0  broadcast 192.168.99.255
        inet6 fe80::1072:608d:1ff2:482e  prefixlen 64  scopeid 0x20<link>
        ether 08:00:27:82:e3:49  txqueuelen 1000  (Ethernet)
        RX packets 1421  bytes 145662 (142.2 KiB)
        RX errors 0  dropped 0  overruns 0  frame 0
        TX packets 556  bytes 100658 (98.2 KiB)
        TX errors 0  dropped 0 overruns 0  carrier 0  collisions 0
```

Step2: Launching the docker container using centos.


```
[root@ansible_controller ~]# docker run -it --name Webos centos
[root@cd43a0feb0d5 /]# cal
      March 2021
Su Mo Tu We Th Fr Sa
    1  2  3  4  5  6
 7  8  9 10 11 12 13
14 15 16 17 18 19 20
21 22 23 24 25 26 27
28 29 30 31

[root@cd43a0feb0d5 /]# date
Wed Mar 10 06:22:52 UTC 2021
[root@cd43a0feb0d5 /]#
```

- Check firefox or any GUI software is installed or not.

```
[root@cd43a0feb0d5 /]# firefox
bash: firefox: command not found
[root@cd43a0feb0d5 /]# rpm -q firefox
package firefox is not installed
[root@cd43a0feb0d5 /]# rpm -q gedit
package gedit is not installed
[root@cd43a0feb0d5 /]# rpm -q python36
package python36 is not installed
[root@cd43a0feb0d5 /]#
```

- Install firefox and any other GUI software using yum.

```
[root@cd43a0feb0d5 /]# yum install firefox python36 gedit -y
Failed to set locale, defaulting to C.UTF-8
CentOS-8 - AppStream                                          381 kB/s | 6.3 MB     00:16
CentOS-8 - Base                                              1.4 MB/s | 2.3 MB     00:01
CentOS-8 - Extras                                             14 kB/s | 9.2 kB     00:00
Dependencies resolved.
================================================================================================
 Package                    Architecture   Version                            Repository     Size
================================================================================================
Installing:
 firefox                    x86_64         78.8.0-1.el8_3                     AppStream      102 M
 gedit                      x86_64         2:3.28.1-3.el8                     AppStream      2.5 M
 python36                   x86_64         3.6.8-2.module_el8.3.0+562+e162826a AppStream       19 k
Upgrading:
 libcom_err                 x86_64         1.45.6-1.el8                       BaseOS          49 k
 platform-python-setuptools noarch         39.2.0-6.el8                       BaseOS         632 k
Installing dependencies:
 adwaita-cursor-theme       noarch         3.28.0-2.el8                       AppStream      647 k
 adwaita-icon-theme         noarch         3.28.0-2.el8                       AppStream       11 M
 alsa-lib                   x86_64         1.2.3.2-1.el8                      AppStream      469 k
 aspell                     x86_64         12:0.60.6.1-21.el8                 AppStream      675 k
 at-spi2-atk                x86_64         2.26.2-1.el8                       AppStream       89 k
 at-spi2-core               x86_64         2.28.0-1.el8                       AppStream      169 k
 atk                        x86_64         2.28.1-1.el8                       AppStream      272 k
 avahi-glib                 x86_64         0.7-19.el8                         BaseOS          15 k
 avahi-libs                 x86_64         0.7-19.el8                         BaseOS          62 k
 cairo                      x86_64         1.15.12-3.el8                      AppStream      721 k
 cairo-gobject              x86_64         1.15.12-3.el8                      AppStream       33 k
 centos-indexhtml           noarch         8.0-0.el8                          BaseOS         246 k
 colord-libs                x86_64         1.4.2-1.el8                        AppStream      236 k
 cups-libs                  x86_64         1:2.2.6-38.el8                     BaseOS         433 k
 dbus-glib                  x86_64         0.110-2.el8                        BaseOS         127 k
 dejavu-fonts-common        noarch         2.35-6.el8                         BaseOS          74 k
 desktop-file-utils         x86_64         0.23-8.el8                         AppStream       80 k
 dosfstools                 x86_64         4.1-6.el8                          BaseOS         122 k
 e2fsprogs                  x86_64         1.45.6-1.el8                       BaseOS         1.0 M
 e2fsprogs-libs             x86_64         1.45.6-1.el8                       BaseOS         233 k
 emacs-filesystem           noarch         1:26.1-5.el8                       BaseOS          69 k
 enchant2                   x86_64         2.2.3-2.el8                        AppStream       62 k
 fontconfig                 x86_64         2.13.1-3.el8                       BaseOS         275 k
 fontpackages-filesystem    noarch         1.44-22.el8                        BaseOS          16 k
 freetype                   x86_64         2.9.1-4.el8_3.1                    BaseOS         394 k
 fribidi                    x86_64         1.0.4-8.el8                        AppStream       89 k
 fuse-libs                  x86_64         2.9.7-12.el8                       BaseOS         102 k
 gcr                        x86_64         3.28.0-1.el8                       AppStream      692 k
```

```
[root@cd43a0feb0d5 /]# rpm -q firefox
firefox-78.8.0-1.el8_3.x86_64
[root@cd43a0feb0d5 /]# rpm -q python36
python36-3.6.8-2.module_el8.3.0+562+e162826a.x86_64
[root@cd43a0feb0d5 /]# rpm -q gedit
gedit-3.28.1-3.el8.x86_64
[root@cd43a0feb0d5 /]#
```

Successfully installed the packages.

Step3: Lets open firefox

```
[root@cd43a0feb0d5 /]# firefox
Failed to open connection to "session" message bus: Unable to autolaunch a dbus-daemon without a $DISPLAY for X11
Running without a11y support!

(firefox:258): Gtk-WARNING **: 06:39:43.205: Locale not supported by C library.
        Using the fallback 'C' locale.
Error: no DISPLAY environment variable specified
[root@cd43a0feb0d5 /]#
```

- No display variable specified.

Step4: Lets open gedit.

```
[root@cd43a0feb0d5 /]# gedit

(gedit:276): Gtk-WARNING **: 06:41:55.941: Locale not supported by C library.
        Using the fallback 'C' locale.
Unable to init server: Could not connect: Connection refused

(gedit:276): Gtk-WARNING **: 06:41:55.973: cannot open display:
[root@cd43a0feb0d5 /]#
```

- Can't open display.
- Warning can be solved by installing **yum install gcc-c++**
- If you face any dbus issue use :
  ```
  dbus-uuidgen > /var/lib/dbus/machine-id
  ```

To solve this issue, we need a tool which display graphical linux program.

What is Xming?

Xming is an open-source X-Windows terminal emulator (X Server) that runs on Microsoft Windows computers. Xming allows the Windows machines to display a graphical linux program which is basically running on a remote Linux server. Above the basic installation steps, this article demonstrates how to secure an X-Window session using Xming with PuTTY SSH Client.

Download Xming software at:

https://sourceforge.net/projects/xming/

step5: Download and install Xming
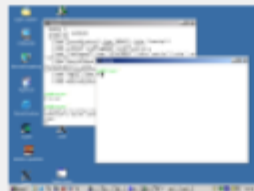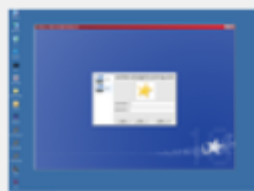
- Here you can give any display number.

- Enable No Access Control
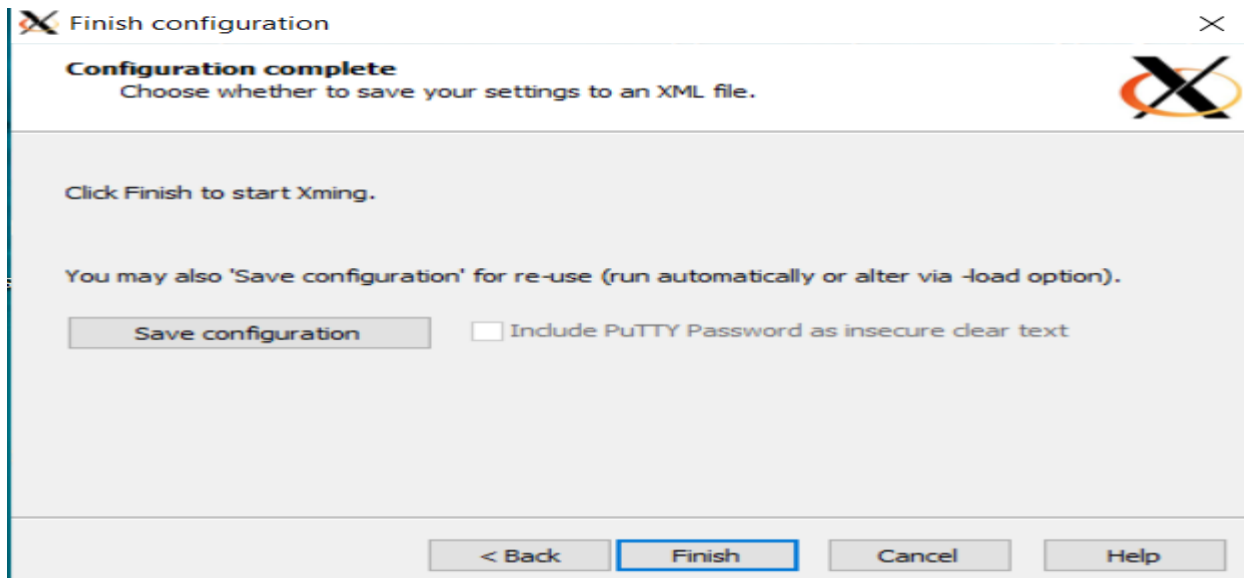
Step6: Connect to VM using Putty.
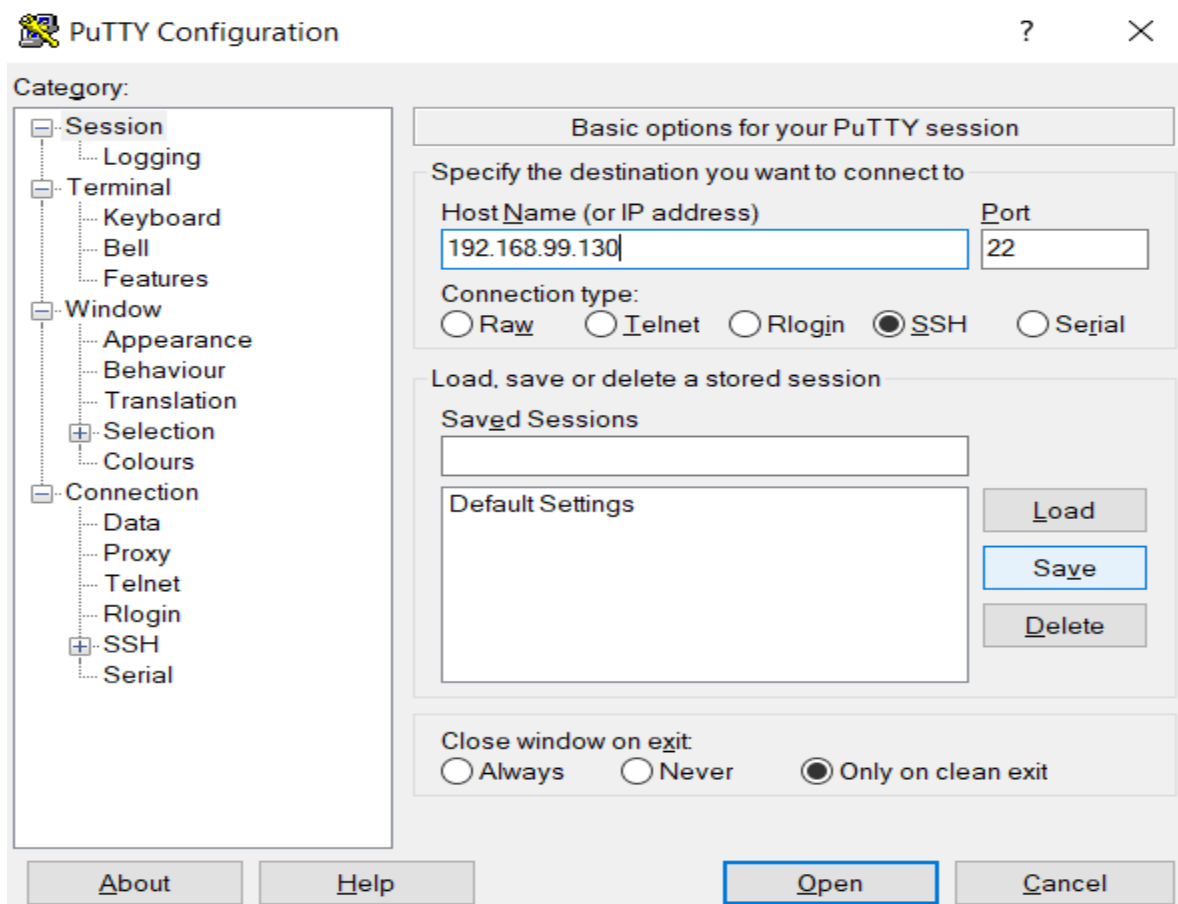
- Enable X11 forwarding
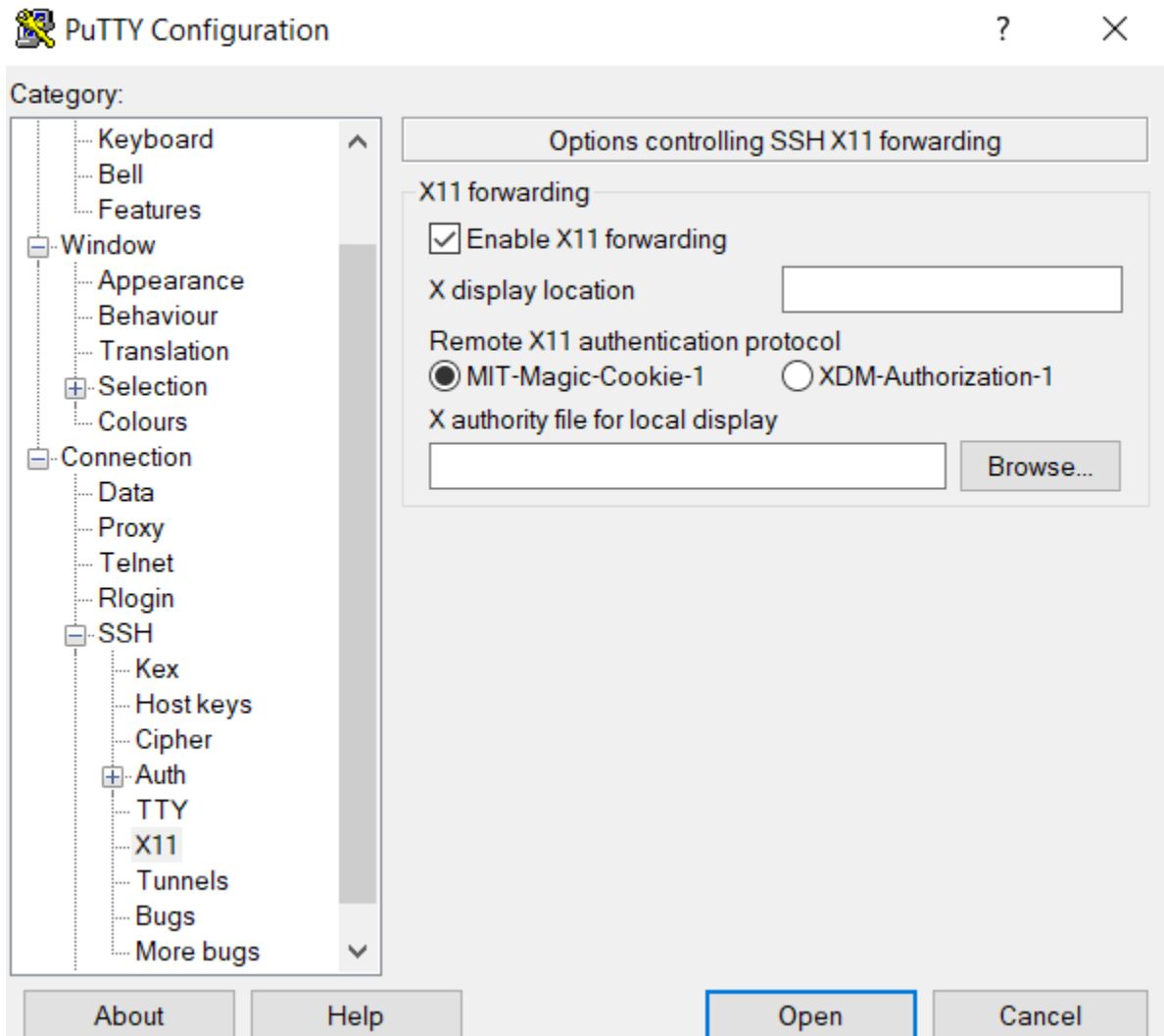
- Login to VM

Step7: connect to docker container and export Export the display variable.

export DISPLAY=<Windows_Ip>:<Display_Number>
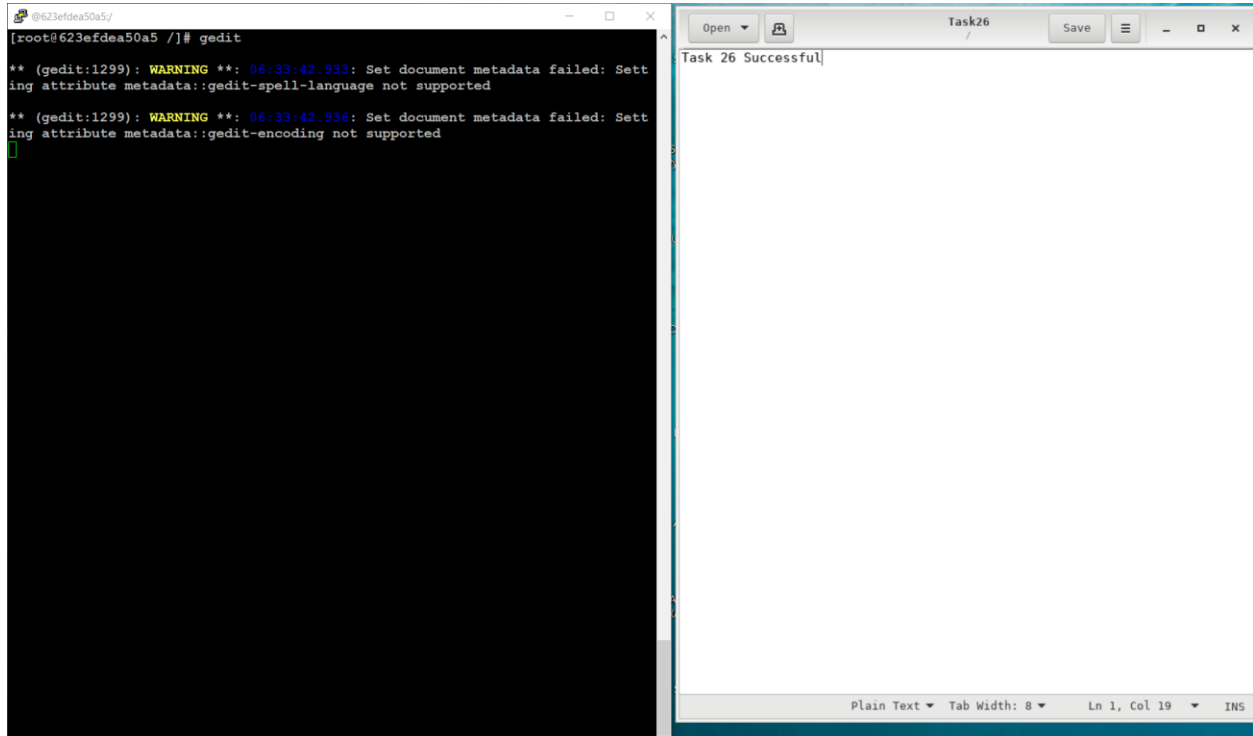

```
@623efdea50a5:/
[root@623efdea50a5 /]# export DISPLAY=10.112.109.60:5.0
[root@623efdea50a5 /]# echo $DISPLAY
10.112.109.60:5.0
[root@623efdea50a5 /]#
```
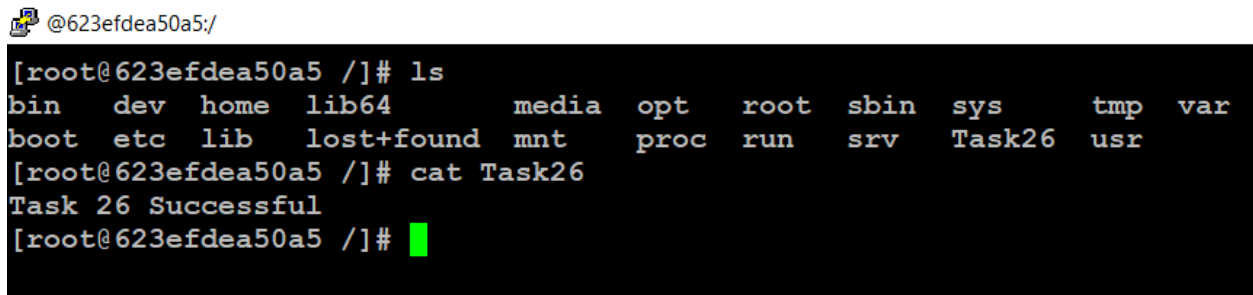
Step8: Install some of the Dependency files


```
@623efdea50a5:/
[root@623efdea50a5 /]# dnf install mesa-libGLU-devel
Last metadata expiration check: 0:13:19 ago on Sun 14 Mar 2021 06:08:11 AM UTC.
Package mesa-libGLU-devel-9.0.0-15.el8.x86_64 is already installed.
Dependencies resolved.
Nothing to do.
Complete!
[root@623efdea50a5 /]#
```
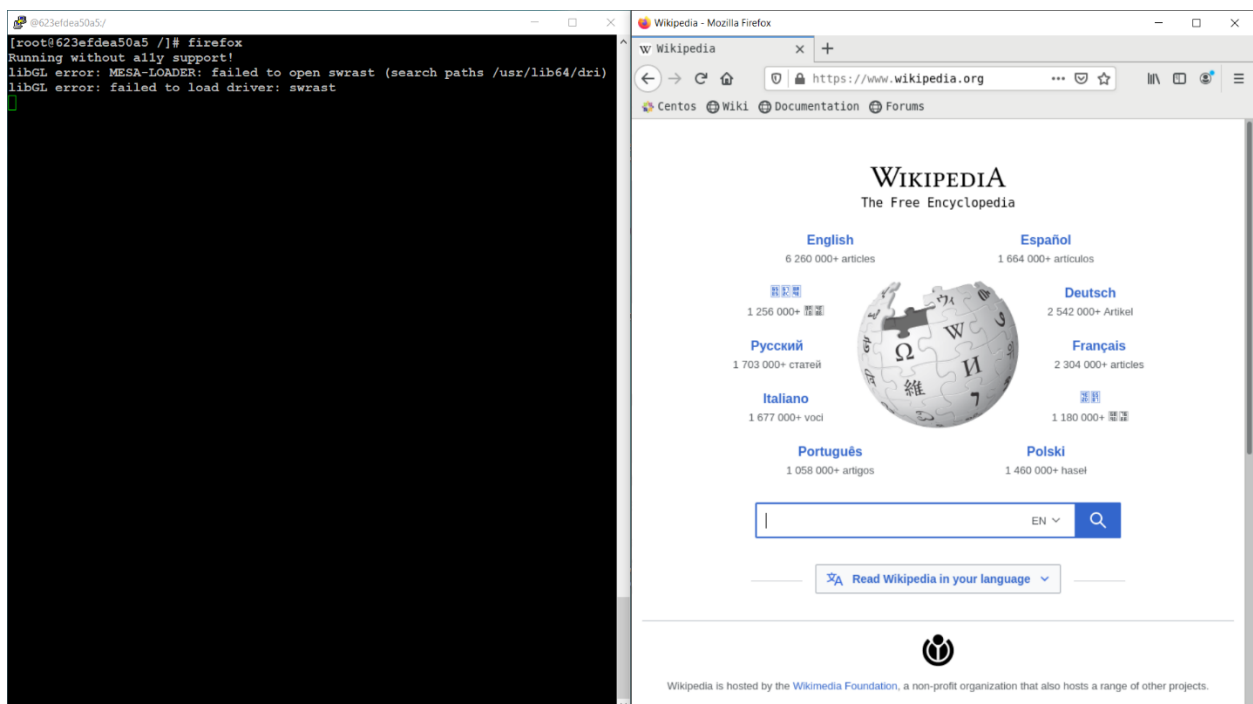
Step9: Lets try to use gedit.

Thank you

GitHub Link: https://github.com/Anuddeeph/Docker_GUI.git