

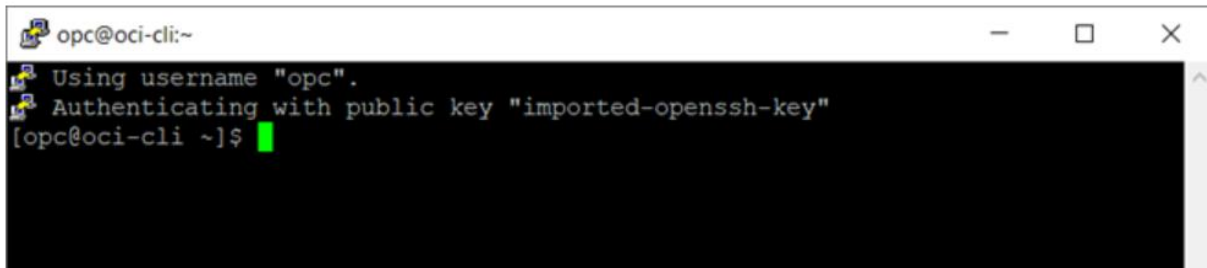
Install and Setup GUI on OCI Linux VM with VNC Server

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First thing is that you connect to your OCI VM using Putty.

A terminal window titled 'opc@oci-cli:~' showing the process of connecting via SSH. It displays the username 'opc' and the public key 'imported-openssh-key'. The prompt is '[opc@oci-cli ~]\$' with a green cursor.

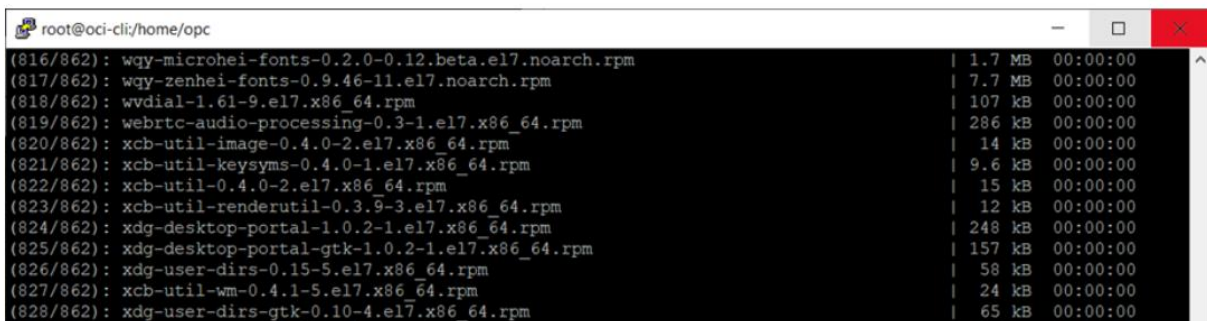
```
opc@oci-cli:~  
Using username "opc".  
Authenticating with public key "imported-openssh-key"  
[opc@oci-cli ~]$
```

Next become ROOT using SUDO.

A terminal window titled 'root@oci-cli:/home/opc' showing the user 'opc' running 'sudo -s' to become root. The prompt changes from '[opc@oci-cli ~]\$' to '[root@oci-cli opc]#' with a green cursor.

```
root@oci-cli:/home/opc  
[opc@oci-cli ~]$ sudo -s  
[root@oci-cli opc]#
```

Using Yum, install "Server With GUI" with the command, # yum group install "Server with GUI". Do note that this will probably a big download (I got about 2GB of the packages prompted).

A terminal window titled 'root@oci-cli:/home/opc' showing the output of 'yum group install "Server with GUI"'. It lists 13 packages to be installed with their sizes and estimated download times.

```
root@oci-cli:/home/opc  
(816/862): wqy-microhei-fonts-0.2.0-0.12.beta.el7.noarch.rpm | 1.7 MB 00:00:00  
(817/862): wqy-zenhei-fonts-0.9.46-11.el7.noarch.rpm | 7.7 MB 00:00:00  
(818/862): wvdial-1.61-9.el7.x86_64.rpm | 107 kB 00:00:00  
(819/862): webrtc-audio-processing-0.3-1.el7.x86_64.rpm | 286 kB 00:00:00  
(820/862): xcb-util-image-0.4.0-2.el7.x86_64.rpm | 14 kB 00:00:00  
(821/862): xcb-util-keysyms-0.4.0-1.el7.x86_64.rpm | 9.6 kB 00:00:00  
(822/862): xcb-util-0.4.0-2.el7.x86_64.rpm | 15 kB 00:00:00  
(823/862): xcb-util-renderutil-0.3.9-3.el7.x86_64.rpm | 12 kB 00:00:00  
(824/862): xdg-desktop-portal-1.0.2-1.el7.x86_64.rpm | 248 kB 00:00:00  
(825/862): xdg-desktop-portal-gtk-1.0.2-1.el7.x86_64.rpm | 157 kB 00:00:00  
(826/862): xdg-user-dirs-0.15-5.el7.x86_64.rpm | 58 kB 00:00:00  
(827/862): xcb-util-wm-0.4.1-5.el7.x86_64.rpm | 24 kB 00:00:00  
(828/862): xdg-user-dirs-gtk-0.10-4.el7.x86_64.rpm | 65 kB 00:00:00
```

Wait for the download and installations to finish.

Check that now you have the GUI option installed.

```

root@oci-cli:/home/opc
[root@oci-cli opc]# yum group list
Loaded plugins: langpacks, ulninfo
Installed Environment Groups:
  Server with GUI
Available Environment Groups:
  Minimal Install
  Infrastructure Server
  File and Print Server
  Basic Web Server
  Virtualization Host
Available Groups:
  Compatibility Libraries
  Console Internet Tools
  Development Tools
  Graphical Administration Tools
  Legacy UNIX Compatibility
  Scientific Support
  Security Tools
  Smart Card Support
  System Administration Tools
  System Management
Done
[root@oci-cli opc]# █

```

So now we shall install VNC.

```

root@oci-cli:/home/opc
[root@oci-cli opc]# yum install tigervnc-server -y
Loaded plugins: langpacks, ulninfo
Resolving Dependencies
--> Running transaction check
---> Package tigervnc-server.x86_64 0:1.8.0-22.el7 will be installed
--> Finished Dependency Resolution

Dependencies Resolved

=====
Package                Arch          Version           Repository
=====
Installing:
tigervnc-server        x86_64        1.8.0-22.el7     ol7_latest

```

Now, as OPC user, we shall set up password for VNC Server.

```

opc@oci-cli:~
[opc@oci-cli ~]$ vncpasswd
Password:
Verify:
Would you like to enter a view-only password (y/n)? n
A view-only password is not used
[opc@oci-cli ~]$ █

```

As ROOT user(use SUDO), copy the VNC service template file from /lib/systemd to /etc/systemd and include \:1.service in the destination filename. Also, we shall see the contents of the file as we are going to modify it.

```
root@oci-cli:/home/opc
[root@oci-cli opc]# cat /etc/systemd/system/vncserver@\:1.service
# The vncserver service unit file
#
# Quick HowTo:
# 1. Copy this file to /etc/systemd/system/vncserver@.service
# 2. Replace <USER> with the actual user name and edit vncserver
#    parameters in the wrapper script located in /usr/bin/vncserver_wrapper
# 3. Run `systemctl daemon-reload`
# 4. Run `systemctl enable vncserver@:<display>.service`
#
# DO NOT RUN THIS SERVICE if your local area network is
# untrusted! For a secure way of using VNC, you should
# limit connections to the local host and then tunnel from
# the machine you want to view VNC on (host A) to the machine
# whose VNC output you want to view (host B)
#
# [user@hostA ~]$ ssh -v -C -L 590N:localhost:590M hostB
#
# this will open a connection on port 590N of your hostA to hostB's port 590M
# (in fact, it ssh-connects to hostB and then connects to localhost (on hostB)).
# See the ssh man page for details on port forwarding)
#
# You can then point a VNC client on hostA at vncdisplay N of localhost and with
# the help of ssh, you end up seeing what hostB makes available on port 590M
#
# Use "-nolisten tcp" to prevent X connections to your VNC server via TCP.
#
# Use "-localhost" to prevent remote VNC clients connecting except when
# doing so through a secure tunnel. See the "-via" option in the
# `man vncviewer' manual page.
```

Now, in the section ExecStart, in the <USER> , replace it with OPC user. Use VI or whatever your favourite editor is.

Reload the configuration file and enable the service of VNC.

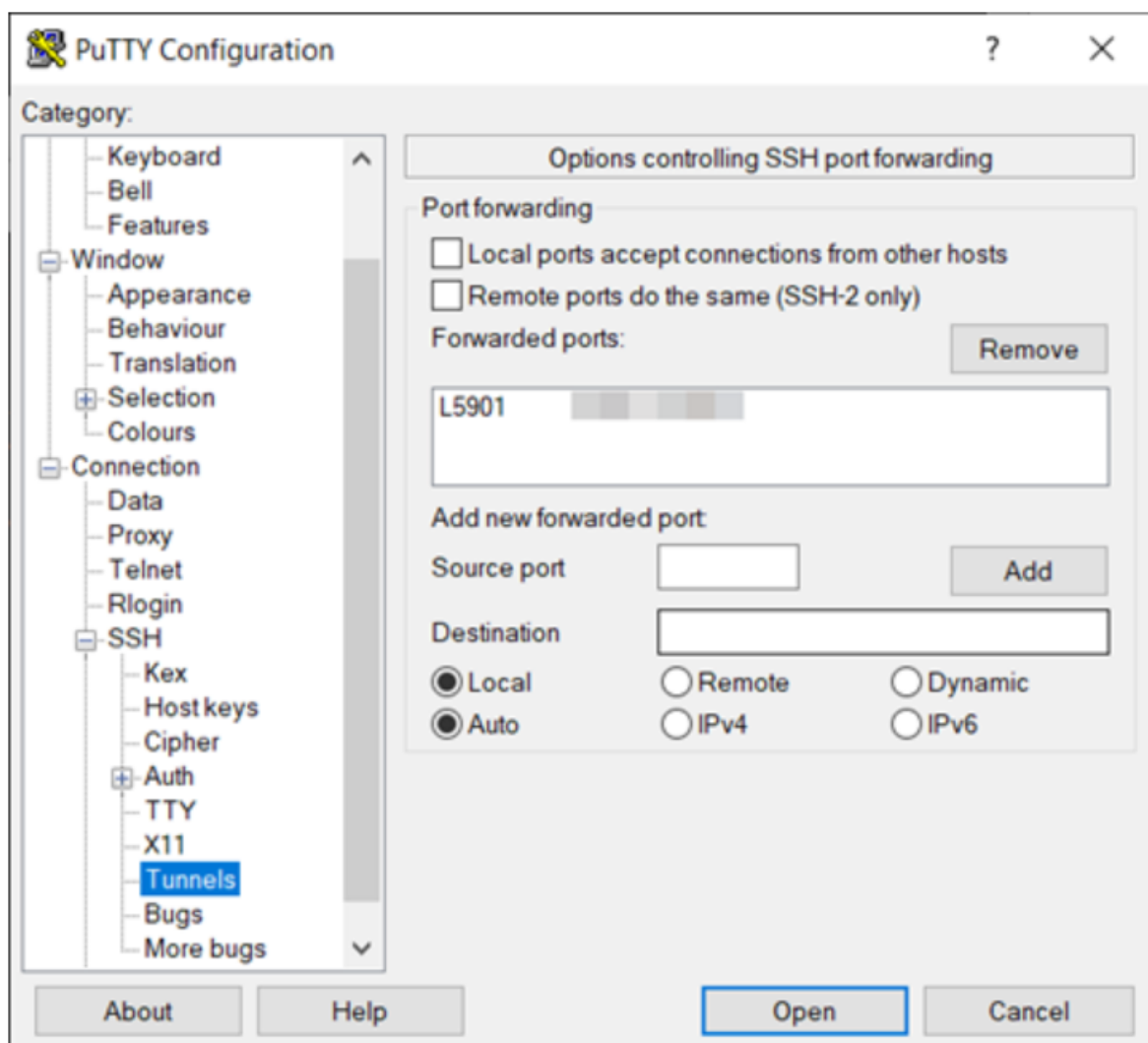
```
root@oci-cli:/home/opc
[root@oci-cli opc]# vi /etc/systemd/system/vncserver@\:1.service
[root@oci-cli opc]# systemctl daemon-reload
[root@oci-cli opc]# systemctl enable vncserver@\:1.service
Created symlink from /etc/systemd/system/multi-user.target.wants/vncserver@\:1.service to /etc/systemd/system/vncserver@\:1.service.
[root@oci-cli opc]#
```

Start the VNC service and confirm that it's running.

```
root@oci-cli/home/opc
[root@oci-cli opc]# systemctl start vncserver@\:1.service
[root@oci-cli opc]# systemctl status vncserver@\:1.service
● vncserver@\:1.service - Remote desktop service (VNC)
   Loaded: loaded (/etc/systemd/system/vncserver@\:1.service; enabled; vendor preset: disabled)
   Active: active (running) since Fri 2021-02-26 08:47:08 GMT; 7s ago
     Process: 19970 ExecStartPre=/bin/sh -c /usr/bin/vncserver -kill %i > /dev/null 2>&1 || : (code=exited, status=
/SUCCESS)
    Main PID: 19974 (vncserver_wrapp)
      CGroup: /system.slice/system-vncserver.slice/vncserver@\:1.service
              └─19974 /bin/sh /usr/bin/vncserver_wrapper opc :1
                  └─20795 sleep 0.1

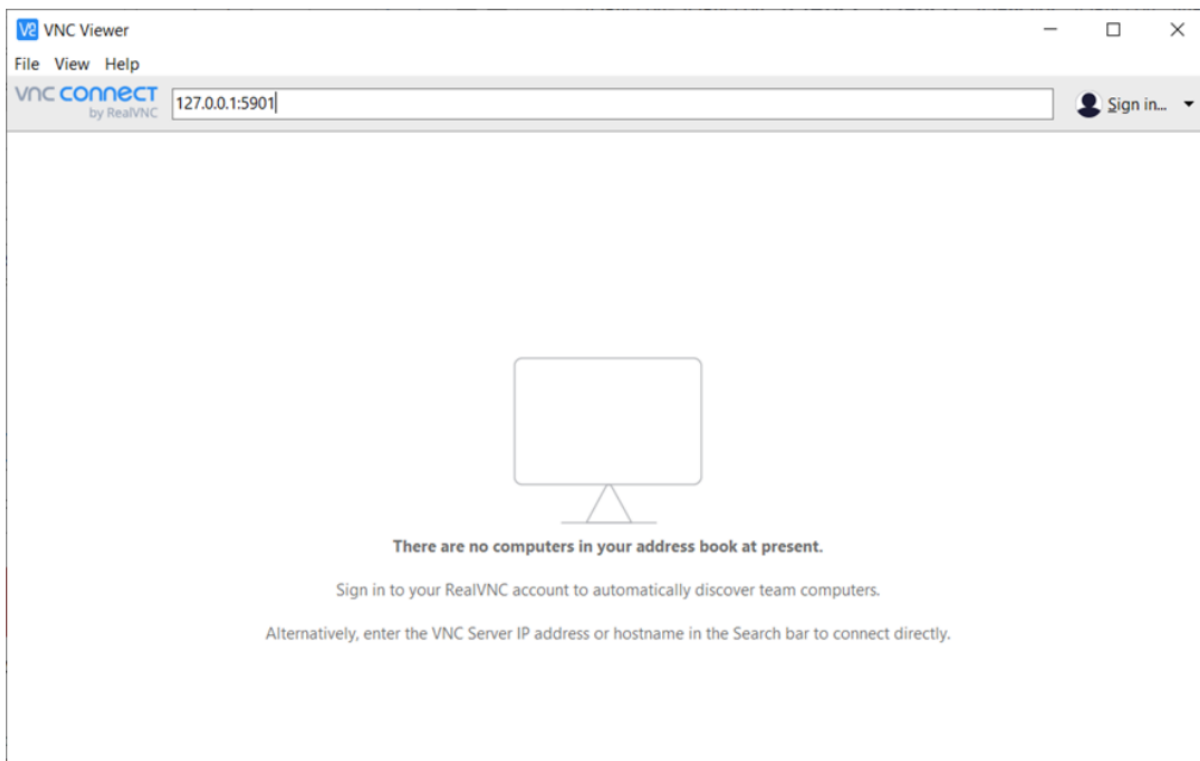
Feb 26 08:47:08 oci-cli systemd[1]: Starting Remote desktop service (VNC)...
Feb 26 08:47:08 oci-cli systemd[1]: Started Remote desktop service (VNC).
Feb 26 08:47:08 oci-cli vncserver_wrapper[19974]: xauth: file /home/opc/.Xauthority does not exist
Feb 26 08:47:11 oci-cli vncserver_wrapper[19974]: New 'oci-cli:1 (opc)' desktop is oci-cli:1
Feb 26 08:47:11 oci-cli vncserver_wrapper[19974]: Creating default startup script /home/opc/.vnc/xstartup
Feb 26 08:47:11 oci-cli vncserver_wrapper[19974]: Creating default config /home/opc/.vnc/config
```

Now, we shall need the SSH tunnel to be configured. Important bit to remember is that in setting it up, you will need to use the Private IP address of your VM. It should appear like this.

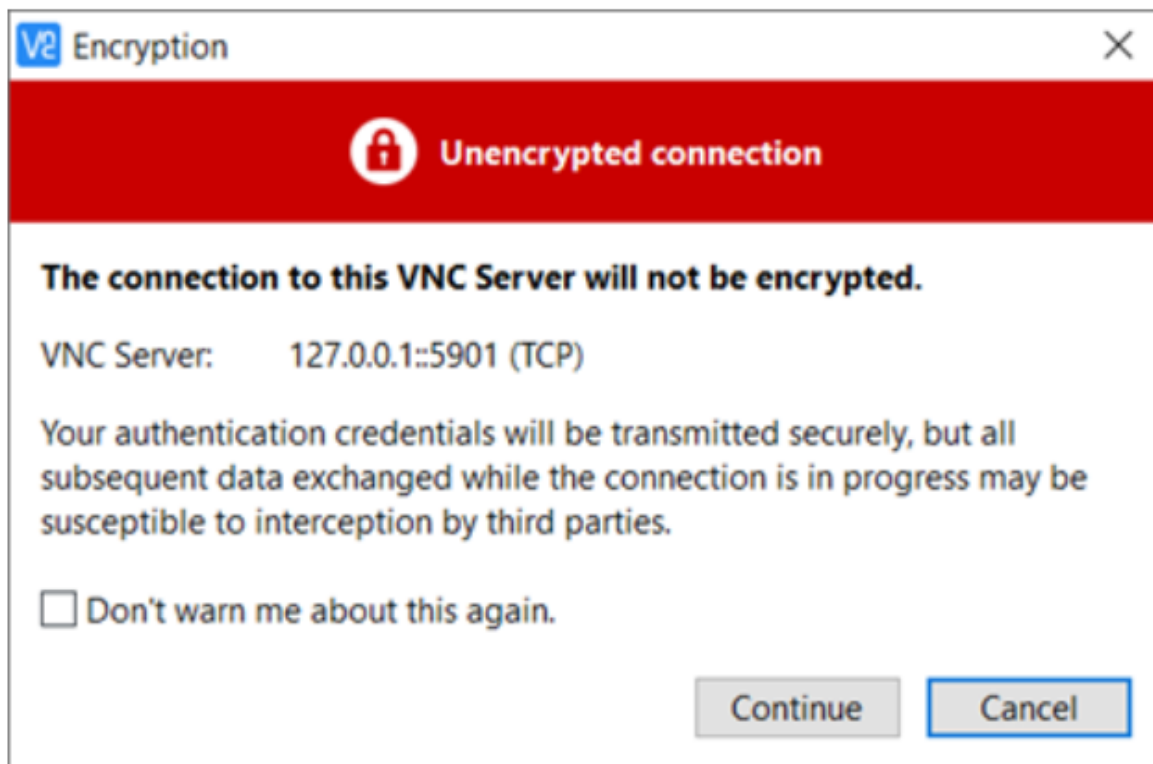


Once you have entered the Public IP address of your VM, start the Putty session to enable the tunnel.

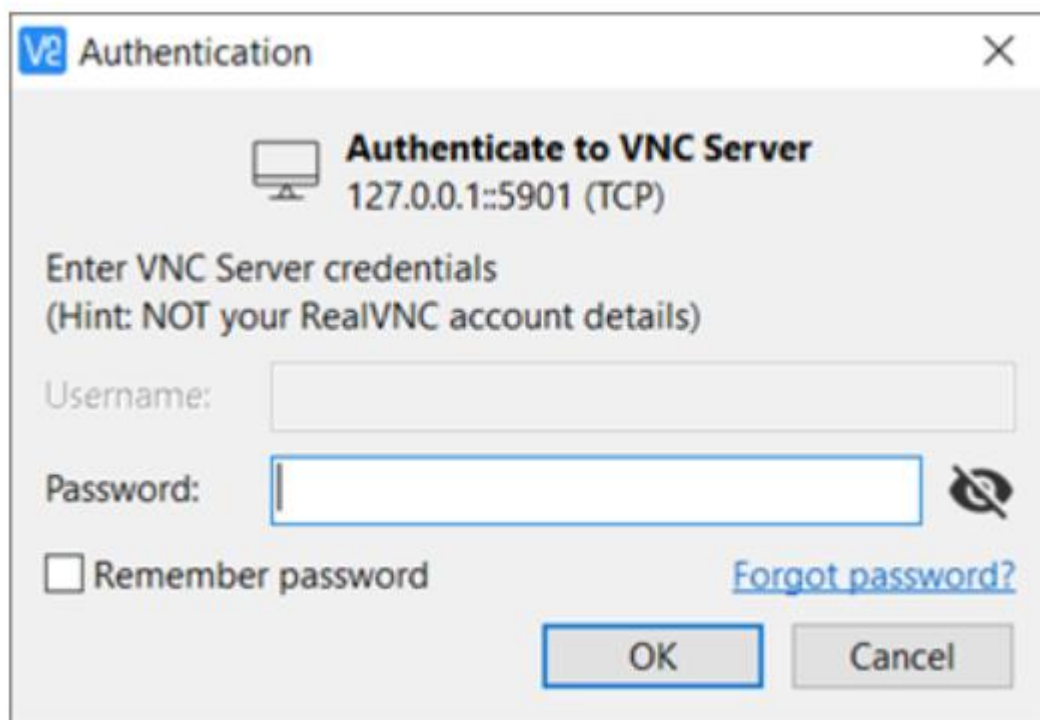
Now using your favorite tool, connect using 127.0.0.1 with the port 5901. I am using VNC Viewer here.



You will be prompted to confirm your connection. Click Continue.



After pressing Continue, you will be prompted to provide the password that you configured for VNC. Enter the correct password.




The image shows a VNC Authentication dialog box. At the top, it says "Authenticate to VNC Server" with a monitor icon and the address "127.0.0.1:5901 (TCP)". Below this, it says "Enter VNC Server credentials (Hint: NOT your RealVNC account details)". There are two input fields: "Username:" and "Password:". The "Password:" field has a toggle icon to its right. Below the "Password:" field is a checkbox labeled "Remember password" and a link labeled "Forgot password?". At the bottom are "OK" and "Cancel" buttons.

V2 Authentication

Authenticate to VNC Server
127.0.0.1:5901 (TCP)

Enter VNC Server credentials
(Hint: NOT your RealVNC account details)

Username:

Password: 

☐ Remember password [Forgot password?](#)

OK Cancel

Once you provide the password, you are asked to choose your preferred language.



The image shows a VNC Welcome screen. At the top, it says "Welcome" and "ようこそ". Below this is a list of languages and their corresponding countries. The "English" option is selected with a checkmark. At the top right, there is a "Next" button. The window title bar shows "127.0.0.1:5901 (oci-cli:1 (opc)) - VNC Viewer" and the system tray shows "Fri 08:59".

127.0.0.1:5901 (oci-cli:1 (opc)) - VNC Viewer

Applications Places gnome-initial-setup

Fri 08:59

Welcome

Next

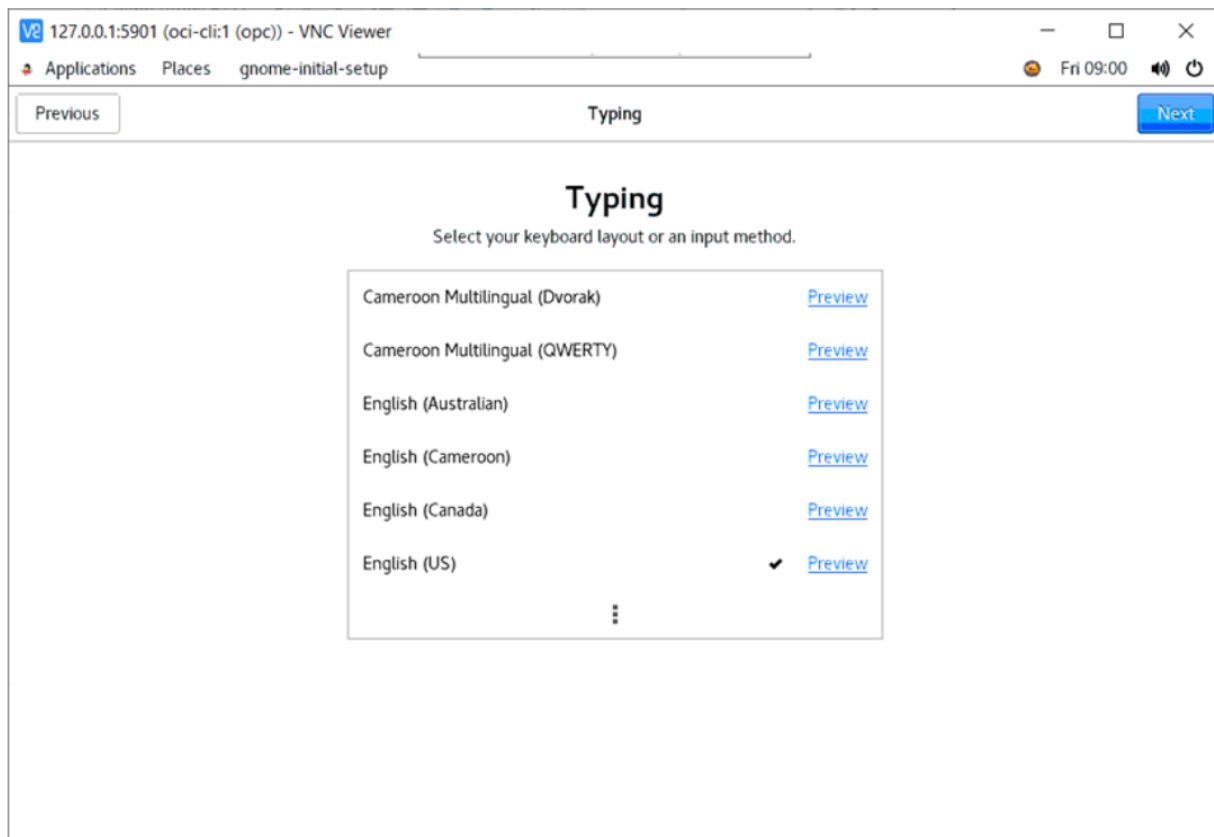
ようこそ

Deutsch	Deutschland
English ✓	United States
Español	España
Français	France
Русский	Российская Федерация
العربية	مصر
日本語	日本
汉语	中国

⋮

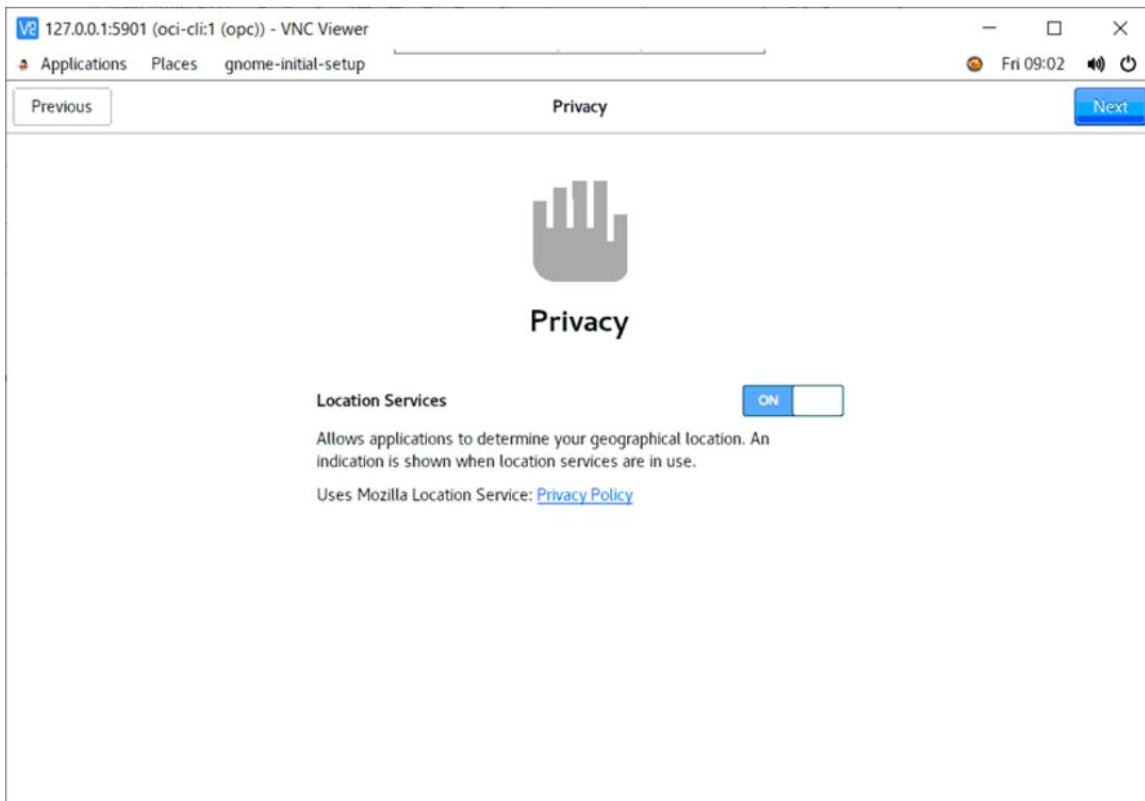
English is by default selected. Click Next if you want to choose that or change your preference and then click Next.

Next is to choose Keyboard.

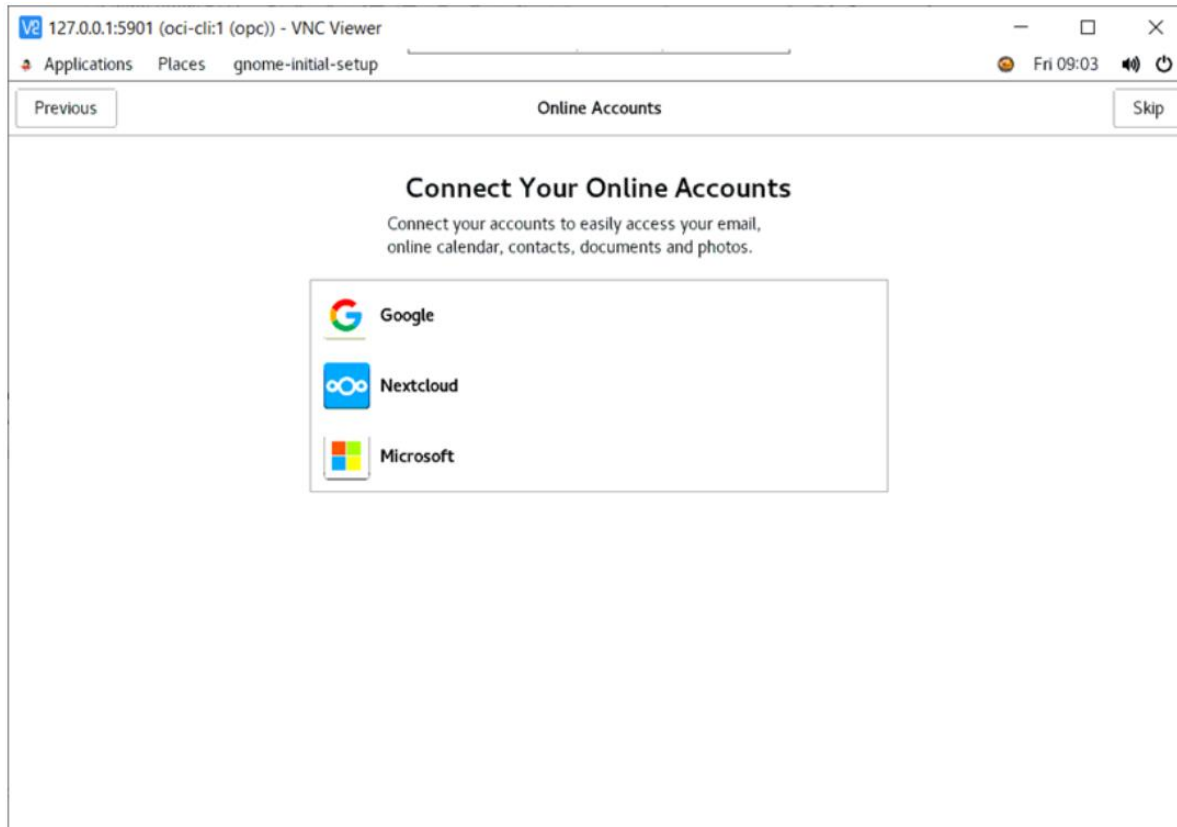


Choose your preference and click Next.

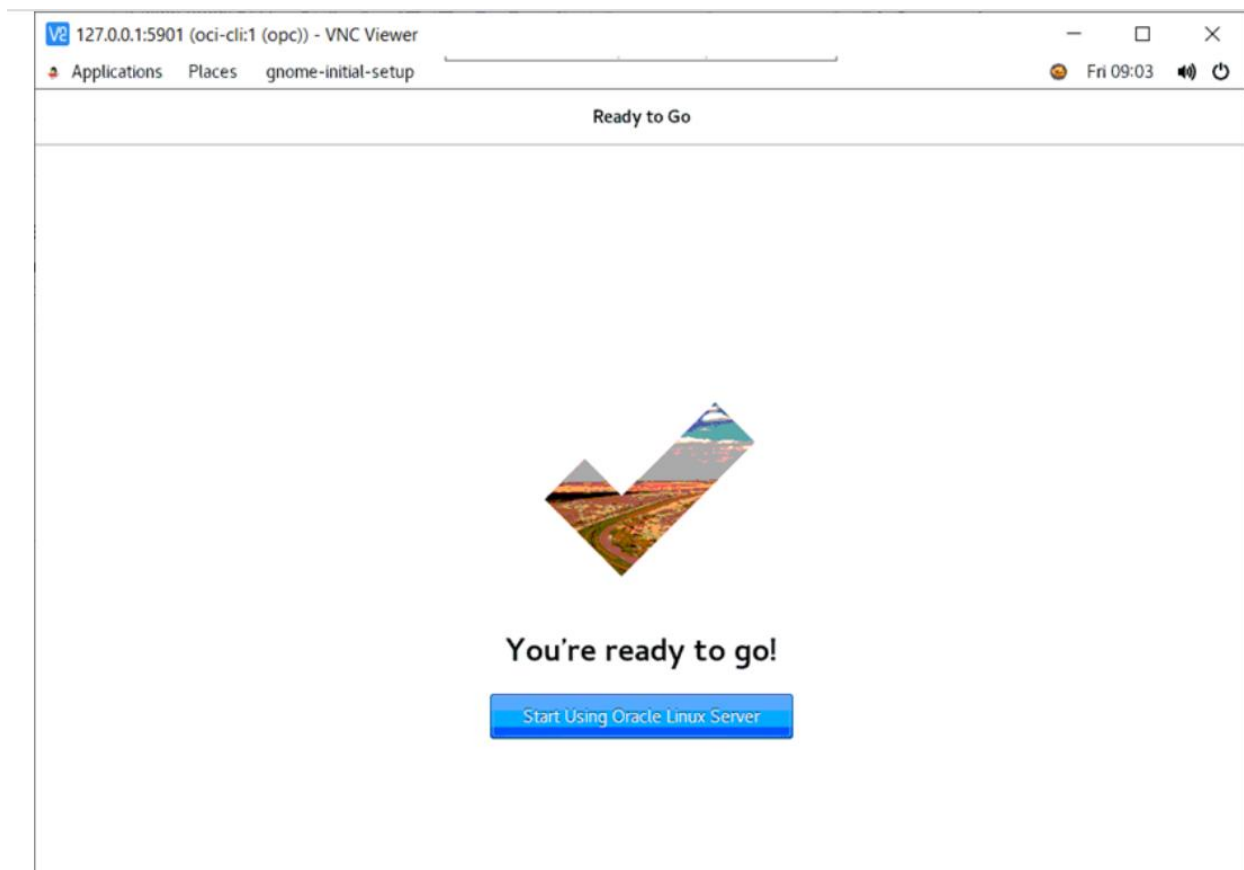
Next is Privacy setting for Location service. I am going to keep it on. You can choose what you want to do.



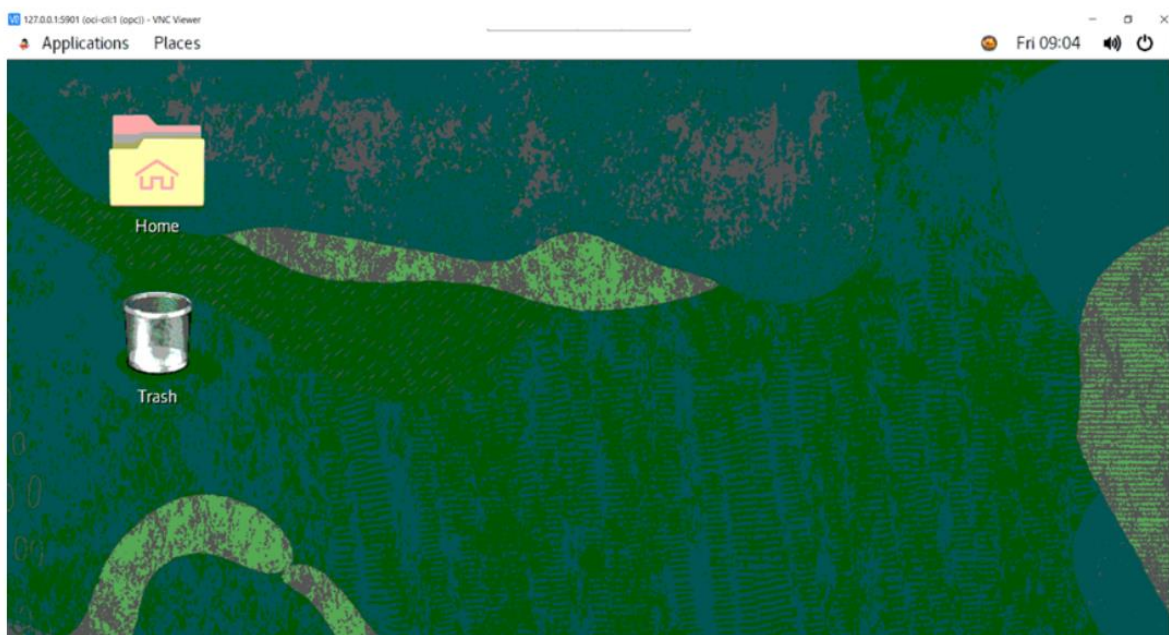
Next you are prompted to choose your online accounts. I skipped setting any of them by clicking Skip.



Finally, you are told you are good to go.




Click Start using Oracle Linux Server.



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