

How to install Kali Linux with GUI on WSL Windows 10

Last Updated on: December 29, 2019 by Rajkumar Maurya



Do you want to run the Kali Linux operating system on Windows subsystem for Linux on Windows 10 but GUI- Graphical user interface? Then here is the solution.

WSL on Windows 10 has been around for quite some time now but most of the time we use it with command-line interface since it comes with that only by default. However, if you know how to handle commands then this article might not be that much useful for you. But those do not they definitely want to install Graphical user interface on WSL- Windows subsystem for Linux.

Moreover, it is not that much difficult as it sounds, what we need is the

installation of some Desktop environment on WSL Linux such as Kali, Ubuntu or Debian and then accessing it using Windows 10 default RDP (Remote Desktop) protocol. This means no third party tool just need some opensource files on the existing tools.

Yet, running GUI for Kali Linux running on WSL(Windows Subsystem for Linux) can be a good idea for the learner. But if you want a Linux with GUI for some professional work then it is recommended to use VM on VirtualBox or VMware.

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Kali Linux GUI installation on Windows 10 Subsystem for Linux (WSL)

Let's start with the tutorial to see the steps that are required to operate Kali Linux WSL using GUI.

Step 1: Install Kali Linux on WSL Windows 10 or server

You can either install Kali or Ubuntu to follow the steps given in this tutorial. However, as this guide focuses on Kali, thus we will go with that. Just enable WSL on Windows->Go to Microsoft Store-> Search for Kali App-> Click on Get and then **Install**.

Here is the detailed guide on Kali Linux installation on WSL.

Step 2: Update Kali Linux

If you already have the Kali on your system then before moving further just update its installed packages to their latest state. Here is the command for that.

```
sudo apt update
```

Step 3: Install XFCE on Kali WSL Linux

Although we can install the open-source GNOME desktop environment on Kali WSL, to make it lightweight so that we can easily access it using Windows Remote Desktop tool even on standard resources computer system, we use Xfce DE.

The latest version while writing this article of the XFCE Desktop environment was 4.xx.

```
sudo apt-get install xfce4
```

The installation will take some time depending upon your internet connection, the total size of files the KALI or Ubuntu WSL will download for the setup of XFCE GUI will be around 124MB. When it asks you to confirm the downloading of files, type **Y** and proceed further.

```
h2s@DESKTOP-90OKS69: ~  
libxi6 libxinerama1 libxkbcommon0 libxkbfile1 libxklavier16 libxmu6 libxpm4 libx  
randr2 libxrender1 libxres1  
libxshmfence1 libxss1 libxt6 libxtst6 libxv1 libxvmc1 libxxf86dga1 libxxf86vm1 l  
ibyelp0 miscfiles  
nautilus-extension-gnome-terminal notification-daemon orage pavucontrol perl-ope  
nssl-defaults poppler-data  
pulseaudio pulseaudio-utils rtkit sound-theme-freedesktop tango-icon-theme thuna  
r thunar-data thunar-volman tumbler  
tumbler-common ubuntu-mono udisks2 upower usbmuxd x11-apps x11-common x11-sessio  
n-utils x11-utils x11-xkb-utils  
x11-xserver-utils xbitmaps xfce4 xfce4-appfinder xfce4-notifyd xfce4-panel xfce4  
-pulseaudio-plugin xfce4-session  
xfce4-settings xfconf xfdesktop4 xfdesktop4-data xfonts-base xfonts-encodings xf  
onts-scalable xfonts-utils xfwm4  
xinit xinput xorg xorg-docs-core xscreensaver xscreensaver-data xserver-common x  
server-xorg xserver-xorg-core  
xserver-xorg-input-all xserver-xorg-input-libinput xserver-xorg-input-wacom xser  
ver-xorg-legacy  
xserver-xorg-video-all xserver-xorg-video-amdgpu xserver-xorg-video-ati xserver-  
xorg-video-fbdev  
xserver-xorg-video-intel xserver-xorg-video-nouveau xserver-xorg-video-qxl xserv  
er-xorg-video-radeon  
xserver-xorg-video-vesa xserver-xorg-video-vmware xubuntu-icon-theme yelp yelp-x  
sl  
The following packages will be upgraded:  
  dbus libdbus-1-3 libssl1.1  
3 upgraded, 405 newly installed, 0 to remove and 124 not upgraded.  
Need to get 124 MB of archives.  
After this operation, 626 MB of additional disk space will be used.  
Do you want to continue? [Y/n]
```

Step 4: Install XRDP on WSL

After the installation of the XFCE 4 desktop environment, we have GUI on our Kali WSL but now the thing how to access it. We can't directly boot Windows subsystem Linux with GUI like any other operating system, however, still the DE process is running in the background which we can access using RDP tool.

XRDP is a free and opensource counterpart of Windows RDP server that makes other operating systems such as Linux to easily access them using RDP clients of FreeRDP, rdesktop, NeutrinoRDP and Remote Desktop Client (for Windows, macOS, iOS and Android).

To install it on WSL, use this command:

```
sudo apt-get install xrdp
```

Step 5: Start xrdp server

Finally, start XDRP server installed above, so that we can access of Kali GUI using the default Remote Desktop client present on Windows 10.

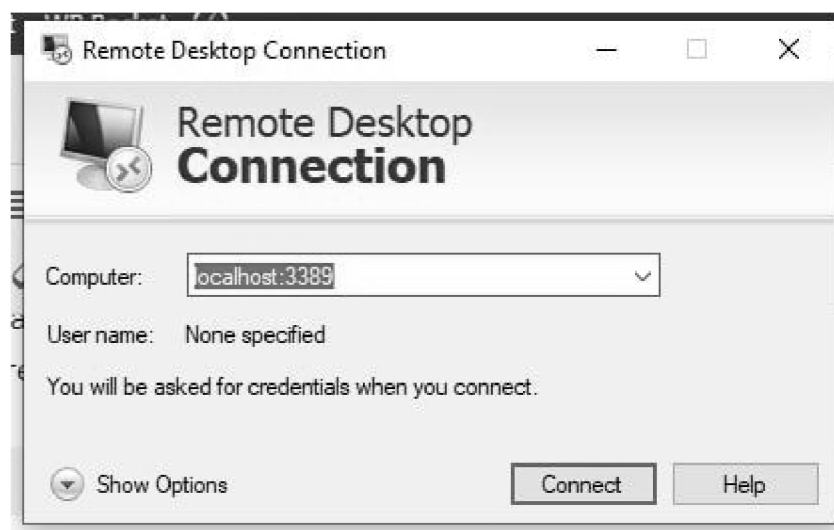
```
sudo /etc/init.d/xrdp start
```

You will see a port number **3389**, note that.

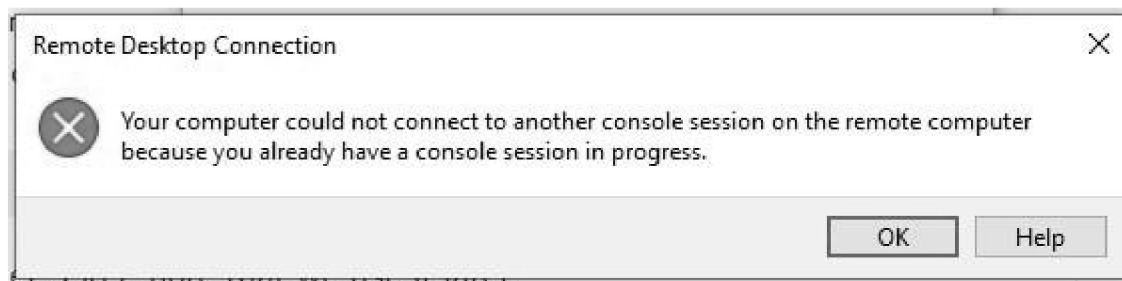
Step 6: Connect to Kali using RDP

Simply go to Windows 10 search box and type- Remote desktop., as its icon appears, click on it to start.

Now, enter **localhost:3389** and hit the **Connect** button.



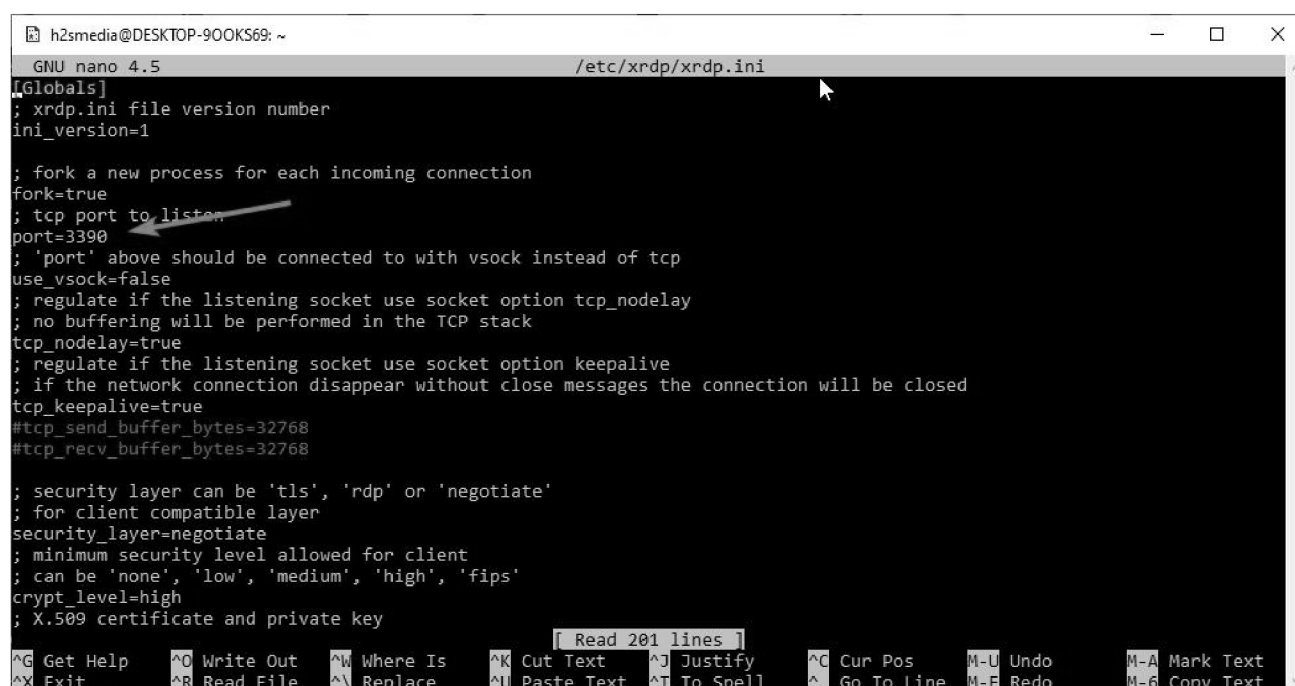
If you get an error “***Your computer could not connect to another console session on the remote computer because you already have a console session in progress***” it is because WSL running Linux by default share the same port and IP address of host computer; thus we cannot connect the same computer where we are trying to use RDP client, therefore we need to change the port number of our WSL XRDP server.



For that, edit the XRDP configuration file using the below command on Kali Linux.

```
sudo nano /etc/xrdp/xrdp.ini
```

Change the default port **3389** of XRDP to **3390**. To save, press **Ctrl+X** and then type **Y** and hit the **Enter** button.



```
h2smedia@DESKTOP-90OKS69: ~
GNU nano 4.5 /etc/xrdp/xrdp.ini
[Globals]
; xrdp.ini file version number
ini_version=1

; fork a new process for each incoming connection
fork=true
; tcp port to listen
port=3390
; 'port' above should be connected to with vsock instead of tcp
use_vssock=false
; regulate if the listening socket use socket option tcp_nodelay
; no buffering will be performed in the TCP stack
tcp_nodelay=true
; regulate if the listening socket use socket option keepalive
; if the network connection disappear without close messages the connection will be closed
tcp_keepalive=true
#tcp_send_buffer_bytes=32768
#tcp_recv_buffer_bytes=32768

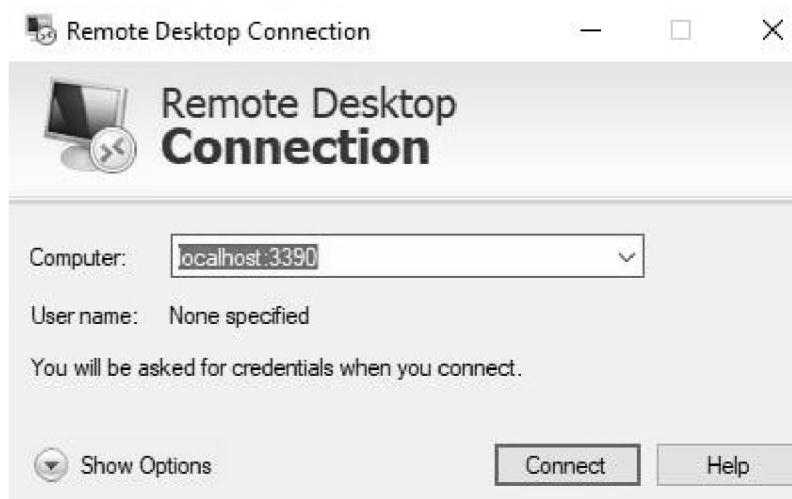
; security layer can be 'tls', 'rdp' or 'negotiate'
; for client compatible layer
security_layer=negotiate
; minimum security level allowed for client
; can be 'none', 'low', 'medium', 'high', 'fips'
crypt_level=high
; X.509 certificate and private key

Read 201 lines
^G Get Help      ^O Write Out    ^W Where Is    ^K Cut Text    ^J Justify    ^C Cur Pos    M-U Undo    M-A Mark Text
^X Exit          ^R Read File    ^\ Replace     ^U Paste Text  ^T To Spell   ^_ Go To Line  M-E Redo    M-G Copy Text
```

Restart XRDP server:

```
sudo /etc/init.d/xrdp restart
```

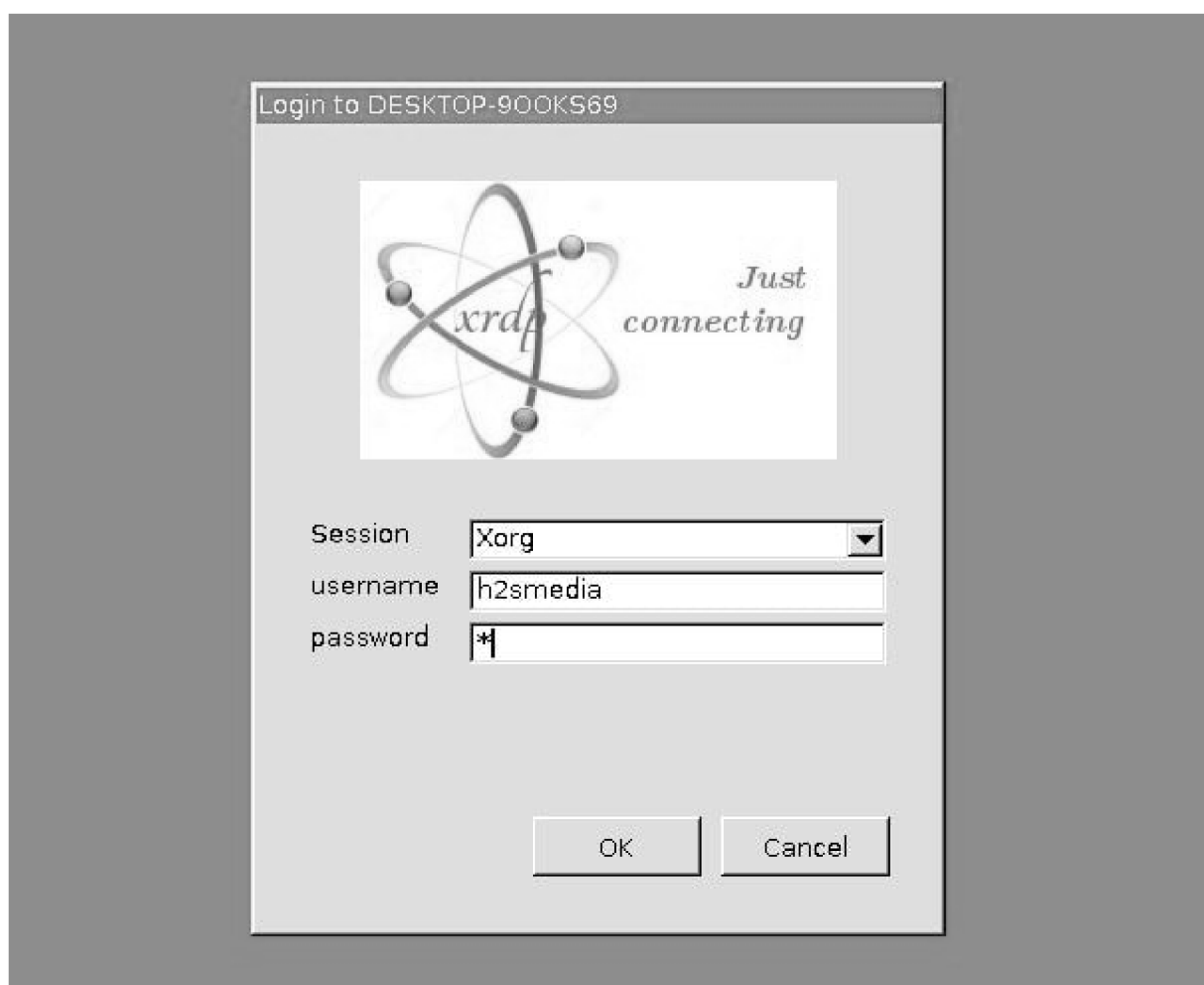
Now, again connect using RDP with this address- **localhost:3390**



Step 7: Start using Kali Linux XFCE GUI on WSL Linux

When you connect it, a warning message will appear, ignore that and click on the **Yes** button.

After that enter your Kali Linux **username and password**



Finally, you have the Graphical user interface for Linux app running on the WSL.



See this tutorial -If you just want to Linux GUI apps on WSL.

How To

GUI for WSL, Kali Linux, Linux, Ubuntu, Ubuntu 18.04, windows 10, windows 10 linux distro, wsl, WSL GUI, wsl windows

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