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# Apple OS X: Install X Window System

# (XQuartz) For SSH X11 Forwarding

by [Nix Craft](#) on November 11, 2013 · [6 comments](#) · LAST UPDATED November 11, 2013

in [Mac OS X](#), [Package Management](#), [Troubleshooting](#), [UNIX](#)



I need to tunnel X Window securely over SSH bases session so that I run X program on my remote Linux/Unix server/workstation and get back display to my Apple Macbook pro laptop. I tried the `ssh -X user@server1ssh -Y user@server2` command on both OS X Mountain Lion and Apple OS X Mavericks. But, I am unable to use the ssh command with X11

How do I fix this problem on [OS X and enable X11 forwarding with ssh command?](#)  
How do I install XQuartz (X11.app) server on Apple OS X Mountain Lion or Mavericks?

You need to install XQuartz (X11.app) on OS X v10.8 or above to use ssh with x11 forwarding. The XQuartzproject is an open-source effort to develop a version of the X.Org X Window System that runs on OS X. This is Apple's version of the X server.

## Tutorial details

Difficulty	<a href="#">Intermediate</a> ( <a href="#">rss</a> )
Root privileges	<a href="#">Yes</a>
Requirements	OS X v10.8/10.9+
Estimated completion time	10m

The latest version of Apple OS X Mountain Lion and Mavericks no longer ships with X11.app i.e. XQuartz server. You need to download and install the server before using ssh with X11 forwarding.

## Step #1: Download and Install XQuartz server

Visit [this page and download XQuartz server](#). Once downloaded the XQuartz package, install the server by double clicking the package icon in your Downloads folder. Please follow the instructions on-screen to complete the installations.

## Step #2: ssh X11 forwarding syntax

A tunneling protocol is a network protocol which encapsulates a payload protocol, acting as a payload protocol. Reasons to tunnel include carrying a payload over an incompatible delivery network, or to provide a secure path through an untrusted network. SSH is frequently used to tunnel insecure traffic over the Internet in a secure way. Simply type the following command to use X over ssh:

```
ssh -X user@RemoteserverNameHere  
x-app-name-here &
```

OR

```
ssh -X userName@Server-Ip-Address-Here  
x-window-app-name-here &
```

## Examples

In this example, login to the Linux based nas01 server as a user called nixcraft:

```
$ ssh -X nixcraft@nas01
```

OR

```
$ ssh -X nas01
```

You will see XQuartz server in the Dock i.e. a new XQuartz icon sits at the bottom of side of your screen as follows:

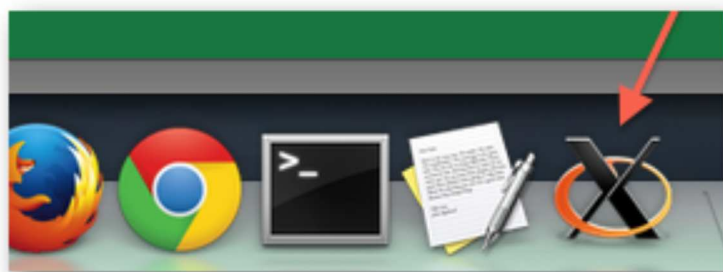


Fig.01: X11.app ( XQuartz ) loaded at the Dock

To test X11 by running xeyes or xclock or any another GUI application you wish. The syntax is as follows on your remote server:

```
$ app-name  
$ /path/to/app-name  
$ app-name &
```

In this example, I am running xeyes on remote server:

```
$ xeyes
```

Sample outputs:



Animated gif 01: X11 Forwarding on OS X v10.8+. This demo was tested on OS X 10.9 i Mavericks and Linux remote server.

Edit [your ~/.ssh/config file](#) and append the following line and you wouldn't need pass the -X option to ssh command:

```
ForwardX11 yes
```

Finally, you can [run ssh in the background after running a GUI app](#) as follows:

```
ssh user@server -f -X app-Name
ssh nixcraft@nas01 -f -X gpass
ssh nixcraft@nas01 -f -X xeyes
```

### See also

- Man pages: [ssh\\_config\(5\)](#), [sshd\(8\)](#), [ssh\(1\)](#)

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[1](#) Debjit Saha January 13, 2014 at 2:25 am

How can I start other apps such as Firefox or XCode. One running them using open command, these apps are opening in the remote mac system not in my ssh terminal

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[2](#) Tom Cox March 4, 2014 at 11:50 pm

When you say this:

To test X11 by running xeyes or xclock or any another GUI application you wish.

The

syntax is as follows on your remote server:

```
$ app-name
```

```
$ /path/to/app-name
```

```
$ app-name &
```

are these three alternatives?

[Reply](#)

[3](#) GTFO March 21, 2014 at 8:22 am

Yup. If xclock is in PATH, you can type the following on remote host:

```
xeyes
```

If xeyes is not in the PATH, type full path such as:

```
/usr/local/bin/xeyes
```

[Reply](#)

[4](#) sunny March 5, 2014 at 4:32 am

How can I start other apps such as Firefox or XCode. One running them using open command, these apps are opening in the remote mac system not in my ssh terminal

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[5](#) Nico van der Linden March 5, 2014 at 10:00 am

Do anyone know if you can use XQuartz on a DIFFERENT user as which you logged on to the SSH session? I work for some customers where you must logon with a network account and a token to the linux environment and from there you can su into other users.

The X-forward runs fine for the user I used to logon but when I su in a different user it does not accept it anymore. On windows I always used Exceed and there you had to set a “DISPLAY” variable under the account you used to run the X application. So if that can be used with XQuartz then it would be fine as well.

Kind Regards,  
Nico van der Linden

[Reply](#)

[6](#) GTFO March 21, 2014 at 8:26 am

Use `sux` command – a wrapper around `su` which will transfer your X credentials to the target user. If `sux` is not installed try `xauth` command.

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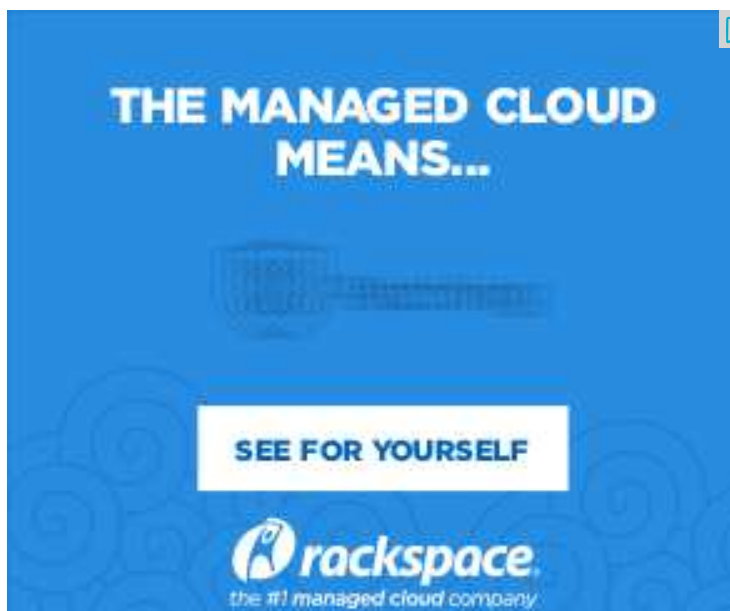
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
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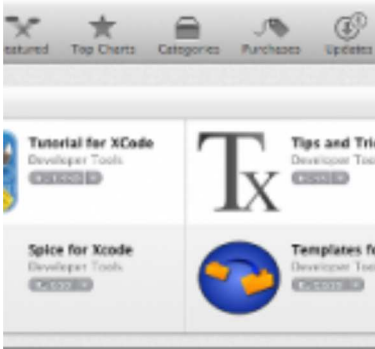
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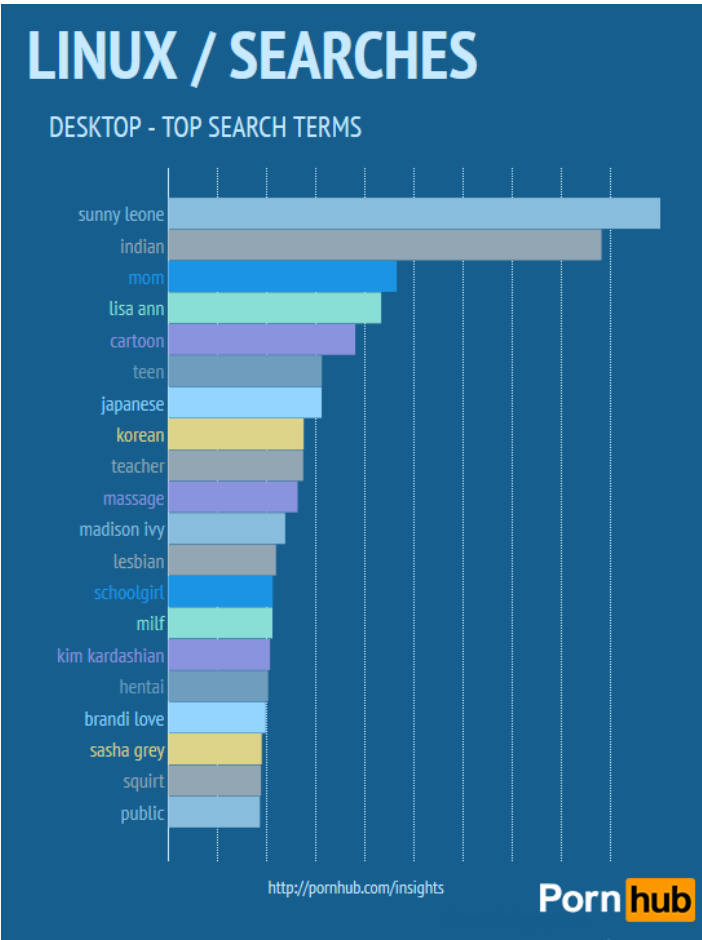
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