

# Enable x11 Forwarding With SSH (Remotely Use GUI Applications)

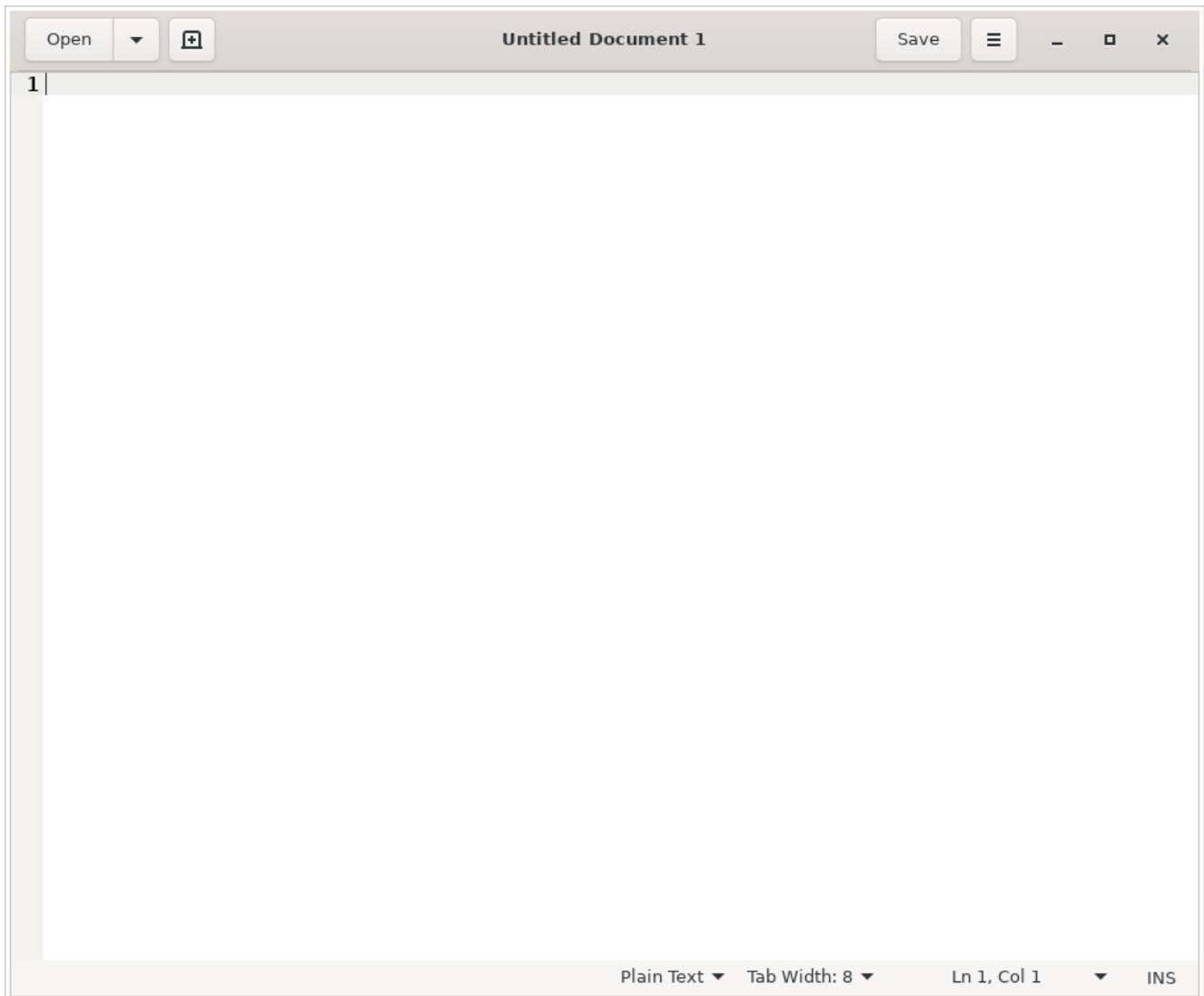
In the last article, I explained [how to enable SSH](#). In today's article, we're going to learn how to forward GUI application windows with SSH. x11 forwarding is easy and beneficial. Once you learn how, you may decide to stop using [VNC](#) or [TeamViewer](#).

Just to quickly clear up a misconception, x11 forwarding works just fine with Wayland. Way back in the earliest days of Wayland development, it was agreed that it should retain backwards compatibility with x11 forwarding.

What is this strange thing, this x11 forwarding?

Well, when you're connected to another computer via SSH you can use the terminal to control the computer. That's great, but what if you want to use a GUI application? Sure, you could set up some sort of remote desktop application, such as VNC. Or, alternatively, and often more simply, you can just forward graphic applications over SSH. It's remarkably easy!

Perhaps a picture is in order. Check this:



That's GEdit running on a different computer, but forwarded to this one. Pretty neat, huh?

That's right. That's GEdit running on my laptop. I've just forwarded the GUI application to this computer. If I write something and save it, it'd be saved on the computer that I'm connected to and not the computer that I'm using.

Amusingly, I used this exact process just recently. I had to move a [complex password](#) to my laptop and I was being lazy. So, I opened GEdit remotely and pasted in my password, transferring my new password to the other device. See? It comes in handier than you might think.

## Let's Enable x11 Forwarding:

How do you do this? Well, first you need to crack open your

terminal. To do that, you just press CTRL + ALT + T on your keyboard and your default terminal emulator should open.

Now, in said terminal, you need to run the following command:

```
[crayon-60d2ad6ad1306640801618/]
```

Once you have that file opened with nano, you just need to remove the appropriate pound sign (“uncomment” it out) for the right line. Look for the line that says:

```
[crayon-60d2ad6ad1318203305642/]
```

And change it to:

```
[crayon-60d2ad6ad131b615456414/]
```

Then save the file with nano by pressing CTRL + X, then Y, and then ENTER. (You may want to learn that, as that’s how you save files in nano.)

Next up, you’ll restart the SSH service and be done with it:

```
[crayon-60d2ad6ad131d472451549/]
```

And that’s it! You can now use x11 forwarding over SSH. To do so, you just need to add the -X switch. That’s not as complicated as you might think. Nothing in this article is all that difficult.

```
[crayon-60d2ad6ad131f108096057/]
```

To try to make sense of that above command, if I were to remotely connect to the MSI laptop, then my command would look just like:

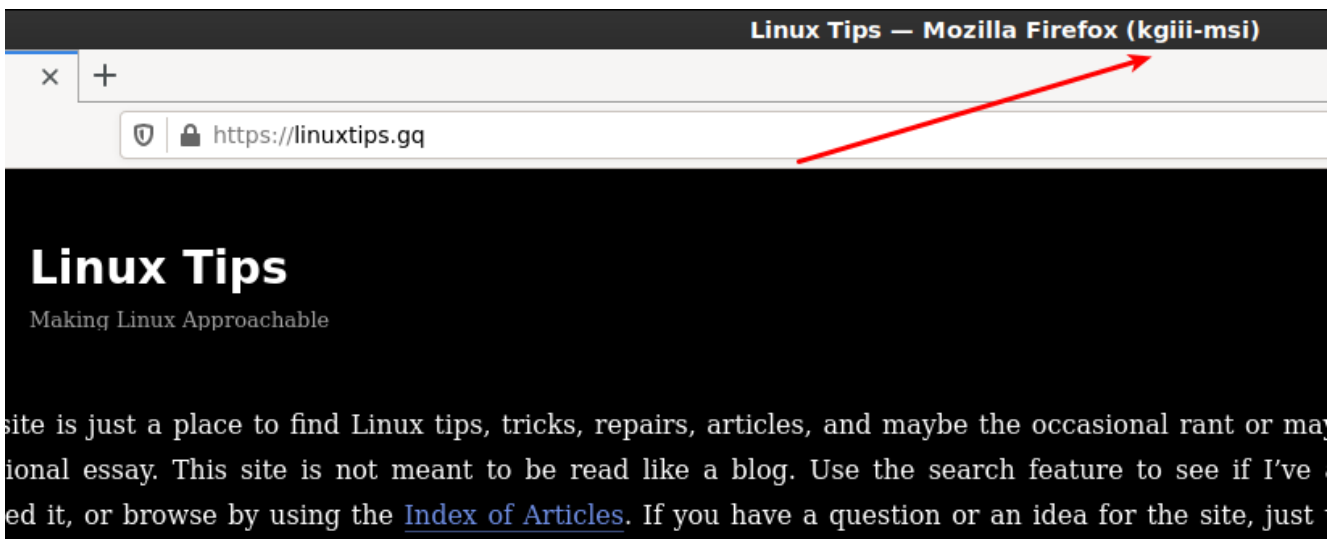
```
[crayon-60d2ad6ad1321886496551/]
```

You can also use the IP address, instead of the [hostname](#), just like we discussed in the [previous article about SSH](#). To do that, it looks like this:

[crayon-60d2ad6ad1323096651695/]

## x11 Forwarding in Action:

Once you're there, just go ahead and start an application. For example, open gedit by typing just that into the terminal. You may find some applications won't work, often due to ownership and permissions issues, but you'll find many that work just fine. If you find one that doesn't work, you can always check any errors thrown and go from there.



See? Note the carefully drawn arrow that shows where it was forwarded from. Tada!

That's an example of Firefox forwarded over SSH using x11 forwarding and you may notice the washed out look. I haven't really dug into it, but I am reasonably confident that washed out look is because of compression. I've never needed to dig into that and, amazingly enough, I don't know everything.

## Conclusion:

Anyhow, there you have it. One more article in the books and one more bit of knowledge plastered across the internet. Thanks for reading! If you want to help, you can [donate](#), you can share the site on social media, you can vote to show what type of articles you enjoy, and sign up for the newsletter. You can even [buy inexpensive hosting](#) and start your own site

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