

# Installing Linux virtual machine on Windows

## Who wants to install virtual machine (VM)?

You may wonder if you can analyze your NGS data on your own computer, not by accessing TACC's lonestar or GSAF's fourierseq server. Answer is definitely yes! However, a problem is that bwa, bowtie, samtools, and many utilities cannot be installed on Windows OS. If you are a Mac user or linux is already installed on your computer, please skip this page.

## How to use NGS utilities on PC

There are multiple ways.

**First**, install a linux-like system (ex. Cygwin). [Cygwin](#) is a collection of tools which provide a Linux look and feel environment for Windows. Visit [Cygwin](#), download it, and use Cygwin terminal like you used in TACC's lonestar server. But Cygwin is not a way to run native Linux apps on Windows. Linux-like system is not linux per se. You may need to install additional modules and commands on Cygwin in order to complete certain jobs.

**Second** option is to install a virtual machine (VM) and linux. [VM](#) is a completely isolated guest operating system installation within a normal host operating system. VM allows you to have two or more OS in one physical PC machine. You can install linux, OS X, Windows Vista, Windows 98 on a VM. **Which VM and linux is the best?** Actually, there is no best choice because everyone has own taste. In terms of popularity, [Oracle VM Virtual Box](#) and [Ubuntu](#) is a pretty nice choice. More importantly, they are free! I won't explain how to install VM and Ubuntu on your Windows because you can easily find wonderful instructions by googling. Google "virtual box ubuntu". Here is [one easy and useful guide](#).

### One useful tip: Shared Folders...

Ubuntu inside VB and Windows work like two different computers in one physical PC. When you generate beautiful graphs and awesome tables on Ubuntu for your labmeeting, you can't open it with MS office on Windows. Don't send them to yourself via email. **Shared Folders** functionality makes multiple OS to share some space in the hard drive. You can run NGS utilities on your Ubuntu and spit out the output into the shared folder. Then, open it with MS office on your Windows. Oh! before you set up **Shared Folders**, you should install the Guest Additions on your VM. Here is [how to install Guest Additions](#) and [how to share folders](#)

In summary,

1. Install VM on your Windows
2. Install Ubuntu on your VM
3. Install Guest Additions if the VM is Oracle VB
4. Share folders with your Windows