Generating an RSA Key Pair in Windows 10

Step 1. Download OpenSSH

We will be using a trusted 3rd-party binary package (installer) created by MLS Software. This will work with both 32 bit and 64 bit Windows architectures.

Download Link: http://www.mls-software.com/opensshd.html

Choose the .exe file under the "New Version" table.

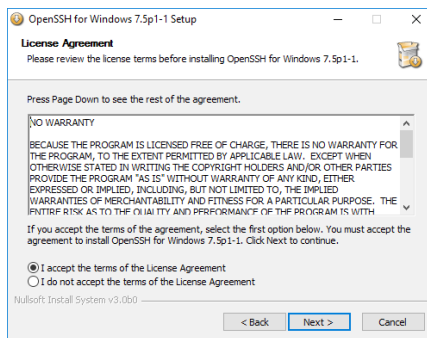Example: *setupssh-<#.##-#>.exe*

OpenSSH also includes the cryptography libraries provided by OpenSSL, so we won't need to install these packages separately.
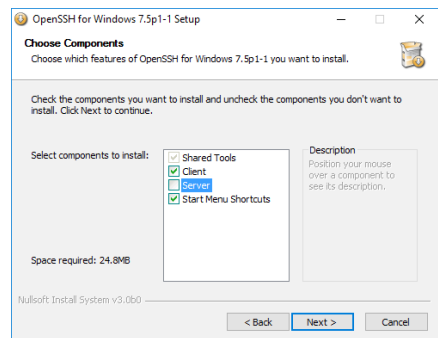
Step 2. Install OpenSSH

To install OpenSSH, double-click the downloaded executable file and follow the tutorial below...
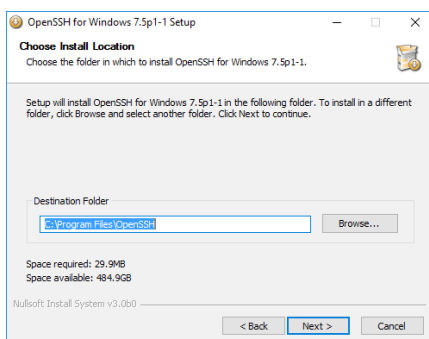

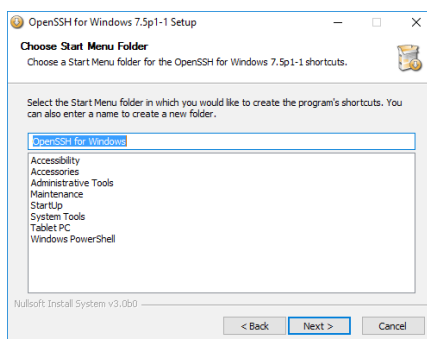To begin installation, click Next
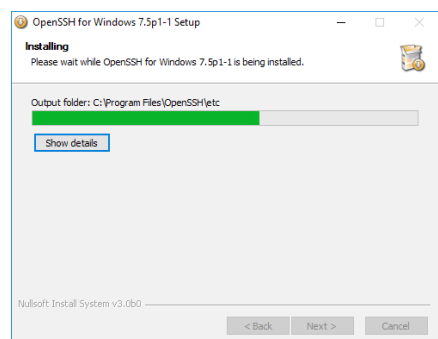

Accept the EULA, click Next

Since we won't be needing incoming connections, uncheck Server, click Next
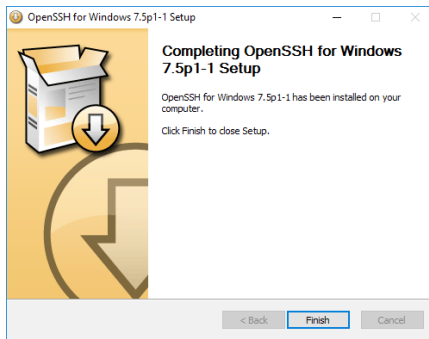

Accept the defaults, click Next

Accept the defaults, click Next

Wait for the installer to finish...

To finish the installation, click Finish

You may need to reboot Windows at this point.

Step 3. Generate an RSA Key-Pair

Now that we've installed OpenSSH and OpenSSL, we can generate an RSA key-pair.

Open Windows Command Prompt and type
```
ssh-keygen -t rsa
```

It will ask you to enter a file in shich to save the key, by default it will use "id_rsa".
Press Enter to use the default names "id_rsa" and "id_rsa.pub".
These files will be created in: C:\Users\<username>\.ssh\
Enter your passphrase (password) and confirm it by entering it again. **Remember this password**.

You will have successfully created
```
Generating public/private rsa key pair.
Enter file in which to save the key (/home/<username>/.ssh/id_rsa):
Created directory '/home/<username>/.ssh'.
Enter passphrase (empty for no passphrase):
Enter same passphrase again:
Your identification has been saved in /home/<username>/.ssh/id_rsa.
Your public key has been saved in /home/<username>/.ssh/id_rsa.pub.
The key fingerprint is:
SHA256:1lP+hk2C2Dnh61+EYdmvZfAoQ7fSYAs9EnYKusAVniU <username>@<laptopname>
The key's randomart image is:
+---[RSA 2048]----+
|      E.o o .    |
|   . o = o = o   |
|    o +   = @ +  |
|     . . = % O * |
|      . S O O * =|
|       .   + @ + |
|          . . *  |
|           .   o |
|            ...  |
+----[SHA256]-----+
```

Please remember, these files will be created in: C:\Users*<username>*\.ssh\