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Windows ssh server setup and configuration

BY [RAMAKANTA](#) · PUBLISHED JUNE 9,
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For one of our projects we had requirement of accessing windows machines from linux environments to run few scripts for deployment. After little search we settled for openssh server for ssh connections and cygwin for script run in windows with public key authentication to have passwordless authentication. Below are the steps needs to be followed to achieve the same.

1. Download latest OpenSSH for your windows server from [Windows SSH server Download](#)
2. We have used currently latest setupssh-6.8p1-1 version for this tutorial.
3. Double click on the

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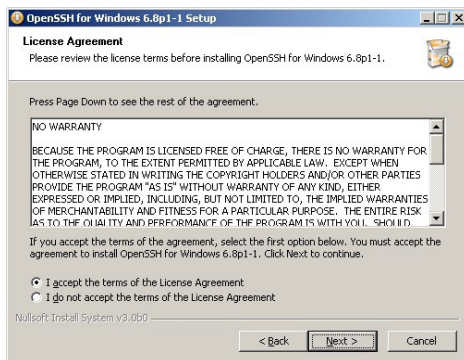
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setupssh-6.8p1-1.exe file and
click on next button.

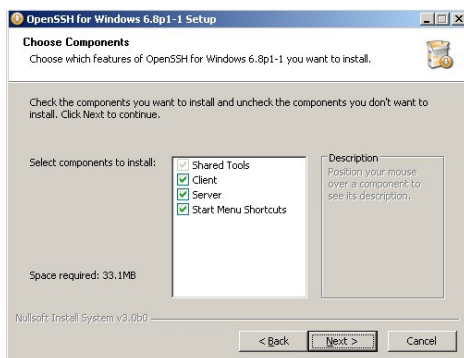


4. Click on Next button and
accept the license agreements.

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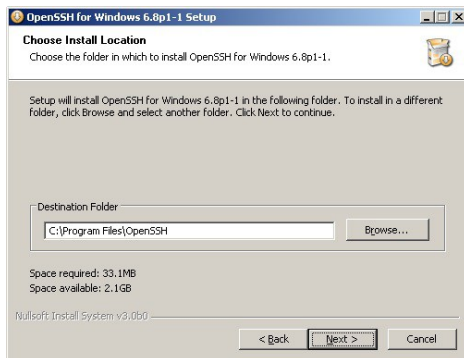


5. Choose all the components
and click on Next button.

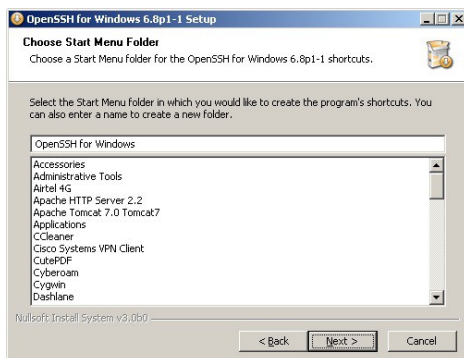


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6. Click on Next button keeping the location default.



7. Click on Next button .

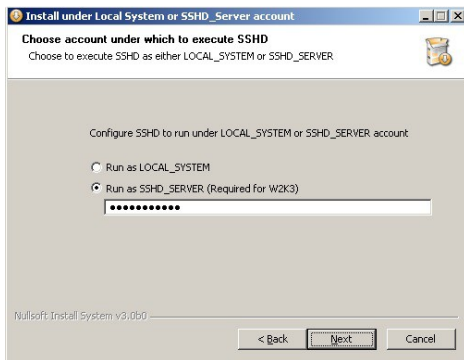


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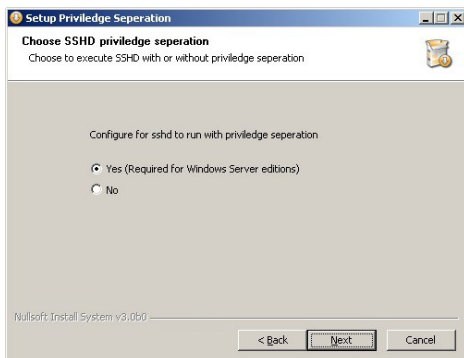
8. Choose Run as SSHD_SERVER option and click on next after providing some password. (This option is required for password less authentication) .

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Note: Keep the password provided by you in some notepad as this needs to be used while authenticating for the first time before configuring the password less authentication mechanism.

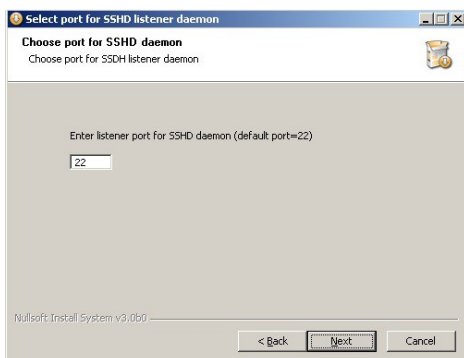


9. Choose SSHD privilege
seperation – Yes



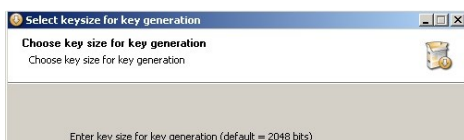
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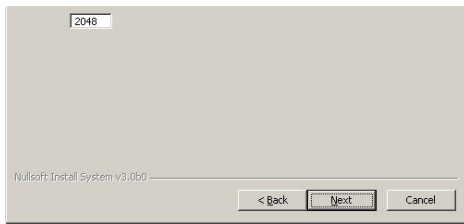
10. Keep the default port as 22
and click on Next button.



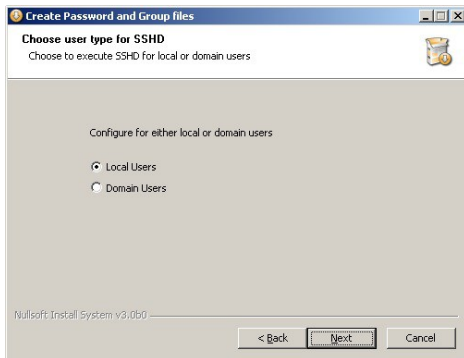
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11. Keep the default key
generation bits and click on
Next button.





12. According to your requirement choose local or domain users option.



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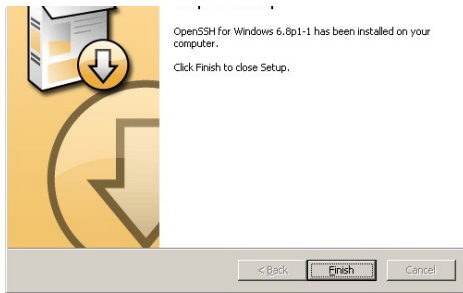
13. Wait for the installation to complete. You might see some flash command prompts during the installation.



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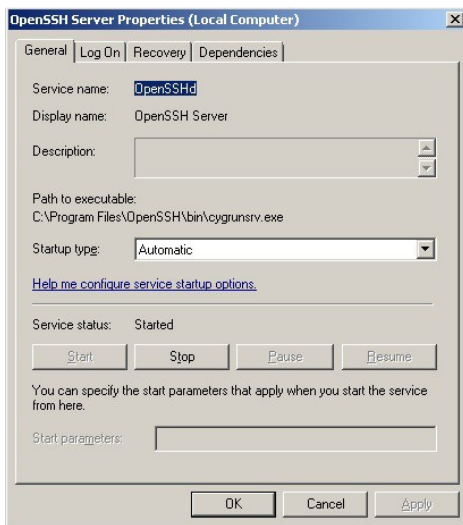
14. Click on Finish button to complete the installation.





15. This completes the installation of OpenSSH server. Make sure you have the new openSSH service created in services.msc panel. Make sure you are able to start the service successfully.

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For password less authentication or public key authentication configuration

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follow below steps:

1. Stop the SSHD service from services.msc console.
2. cd to C:\Program Files\OpenSSH\etc and open sshd_conf file in any text editor. Modify/Add below details.

```
PermitRootLogin yes
StrictModes no
RSAAuthentication yes
PubkeyAuthentication yes
AuthorizedKeysFile .ssh/authorized_keys
IgnoreUserKnownHosts yes
```

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3. cd to C:\Program Files\OpenSSH\etc and open ssh_config file in any text editor. modify/Add below details.

```
RhostsRSAAuthentication
yes
RSAAuthentication yes
PasswordAuthentication
yes
```

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4. Restart the SSHD server either using the command prompt in administrative mode

or using the services.msc console to make the changes take effect.

5. Once Restart completes successfully. Use [putty](#) or similar software to login to the Linux machine from where you want password less authentication or public key authentication setup.

– Try logging in to the windows host using the password to make sure connection is getting established.

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```
ssh
windows_user@windows_host
_name
```

6. Generate the RSA keys like below:

```
[root@MyLinuxMachine ~]#
ssh-keygen -t rsa
Generating public/private
rsa key pair.
Enter file in which to
save the key
(/root/.ssh/id_rsa):
Enter passphrase (empty
for no passphrase):
Enter same passphrase
again:
```

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```
Your identification has
been saved in
/root/.ssh/id_rsa.
Your public key has been
saved in
/root/.ssh/id_rsa.pub.
The key fingerprint is:
74:4a:71:b9:ab:cb:96:cc:6
8:77:c7:0e:19:bd:3b:ef
root@MyLinuxMachine
```

7. Now execute below command to copy the keys to the windows machine for password less authentication.

```
ssh-copy-id
windowsusername@mywindows
machine
```

if you get below error and ssh-copy-id fails to copy to your windows machine then follow below steps to manually copy the keys.

```
246 [main] cat (61540)
D:\cygwin64\bin\cat.exe:
*** fatal error - cygheap
base mismatch detected -
0x1802F1408/0x1802FA400.
This problem is probably
due to using incompatible
versions of the cygwin
```

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```

DLL.
Search for cygwin1.dll
using the Windows
Start->Find/Search
facility
and delete all but the
most recent version. The
most recent version
*should*
reside in x:\cygwin\bin,
where 'x' is the drive on
which you have
installed the cygwin
distribution. Rebooting
is also suggested if you
are unable to find
another cygwin DLL.
/bin/sh: line 1: 60464
Segmentation fault cat
>> .ssh/authorized_keys
Now try logging into the
machine, with "ssh
'windowsusername@windows_
machine_name'", and check
in:

.ssh/authorized_keys

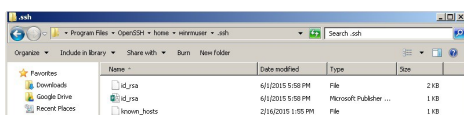
to make sure we haven't
added extra keys that you
weren't expecting.

```

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– Create a .ssh folder
under C:\Program
Files\OpenSSH\home\WINDOW:
folder. Example: winrmuser
under we have created a
folder .ssh like below
screenshot.

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– Create a file called `authorized_keys` in notepad and add below output from the public key generated at the Linux Host.

```
[root@My_Linux_Machine ~]
# cat
/root/.ssh/id_rsa.pub
ssh-rsa
AAAAB3NzaC1yc2EAAAABIwAAAQ
QEAYvWG3GMENjaoUxJtDgVe2D
1mTcxJG4r70Jmf6NPXf0mlfLX
mwmCRceflpXvMmor7B2OAZEUs
kuv2WNIyyjB0+sqIN4sRvJvxN
EJVxKM8C/eNTOxBHIabAR+KM1
Gyw2M8P+NdEEx70gi5kKn8jqO
5luWnaerBgiIdrIoDeLhzS932
SEiyooAlfxGvQwhlhLzYckJUX
9XI8lIUZmXqHY2OTzoYE2ZsZb
KeznJ8tc3h9R9+lp0A+n2ZvIH
wqe5zsJiLk8eQ5pllBrIeGYbP
ujreb9XjQoKJjGPMSdlBPNKEO
giLPVXUbf1QIWjjSZxXQ5JMlm
aClxeM4QR7tDlQS9zufQ==
root@My_Linux_Machine
```

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– Save the file.

8. Now try to login from the linux host using the same username and windows hostname. It will not ask for username and password and

will directly login to your windows host.

```
ssh  
windows_user@windows_host  
_name
```

Troubleshooting:

Incase the service fails to install or fails to start after install then follow below steps to fix it.

Note: You might need cygwin utilities installed incase below commands are not available

Make sure below config is there in PATH in sysdm.cpl if not add it.

```
%SystemRoot%  
\system32;%SystemRoot%;%Sy:  
\System32  
\Wbem;%SYSTEMROOT%  
\System32  
\WindowsPowerShell\v1.0  
\;C:\Program  
Files\Microsoft\Web Platform  
Installer\;
```

Go to the OPENSSSH Home folder and run below command

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```
chmod 700 /var/empty
```

run below command to check
the local users available:

```
mkpasswd -l
```

Search for the sshd_server
username and execute the
command like below to change
the ownership.

```
chown
```

```
WINDOWS_HOSTNAME+sshd_sc  
/var/empty
```

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Now try to start the service and
check the logs if does not start:

```
cat /var/log/sshd.log
```

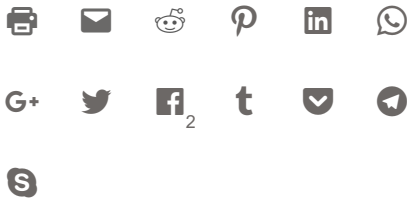
you can run below command to
check if the service has started
listening on port number 22.

```
netstat -an | find "22"
```

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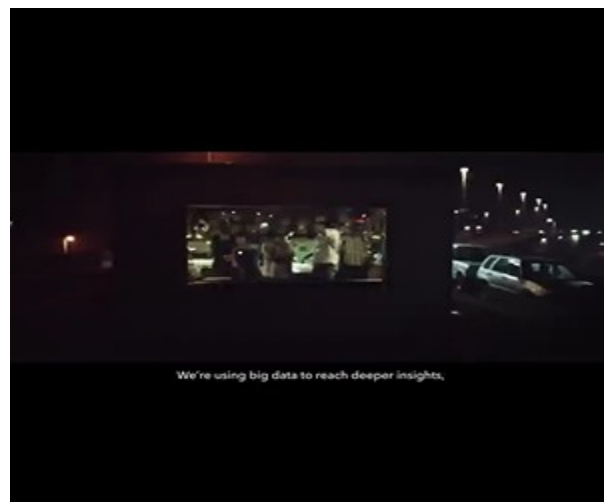
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