About Cygwin

This document explains how to install Cygwin and start the SSH daemon on Microsoft Windows hosts.

Cygwin is essentially a utility that offers a Linux-like environment on a Microsoft Windows host. Technically, it is a DLL (`cygwin1.dll`) that acts as a Linux API layer providing substantial Linux API functionality. Once you install Cygwin, you can configure the SSH Daemon on the host.

The SSH Daemon enables SSH connectivity between windows and linux nodes and host can be connected via ssh protocol on port 22 (default).

Installing Cygwin

To install Cygwin on a Microsoft Windows host, follow these steps:

1. Access the following URL, then click Install Cygwin:

   http://www.cygwin.com/ ⤷

2. Download the 32-bit version (if you are running a 32-bit version of Microsoft Windows) or the 64-bit version (if you are running a 64-bit version of Microsoft Windows) of the Cygwin setup executable.
3. Run the setup executable, then click Next to proceed.
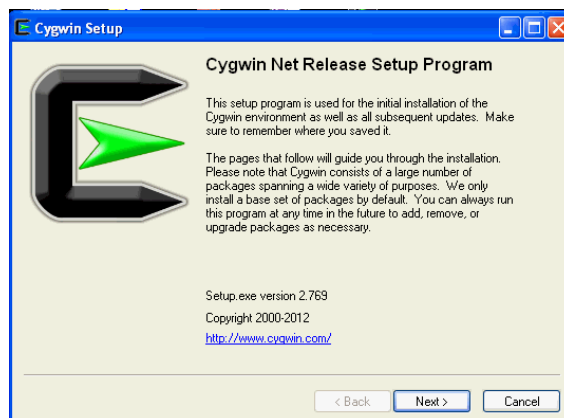
4. On the Choose Installation Type screen, select Install from Internet, then click Next.
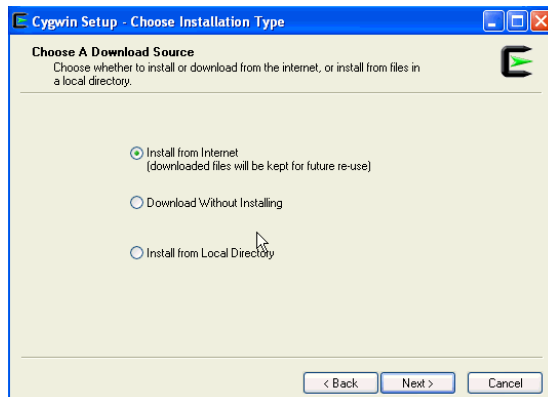
5. On the Choose Installation Directory screen, enter C:\cygwin as the Root Directory, then click 'Next'.
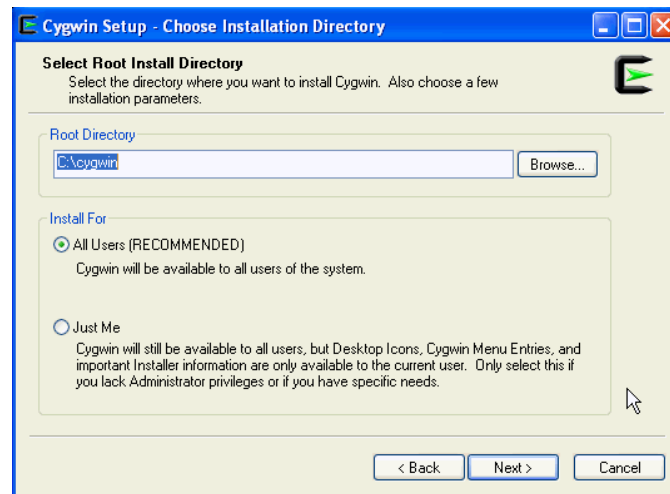
Note: If you choose to install Cygwin in a different directory, then ensure that you update the `SSH_PATH`, `SCP_PATH`, `MKDIR_PATH`, `SH_PATH`, `CHMOD_PATH`, *and* `TRUE` *properties present in the* `$<OMS_HOME>\oui\prov\resources\ssPaths_msplats.properties` *file to their proper Cygwin binary values, after installing the Enterprise Manager system.*

For example, if you choose to install Cygwin in the `D:\software\cygwin` *directory, then update the specified properties in the following manner:*

```
SCP_PATH=D:\software\cygwin\bin\scp.exe
SH_PATH=D:\software\cygwin\bin\sh.exe
CHMOD_PATH=D:\software\cygwin\bin\chmod.exe
LS_PATH=D:\software\cygwin\bin\ls.exe
```

6. On the Select Local Package Directory screen, select a directory on your local machine where you want to store the downloaded installation files, then click Next.

7. On the Select Connection Type screen, select appropriate settings to connect to the internet, then click Next.
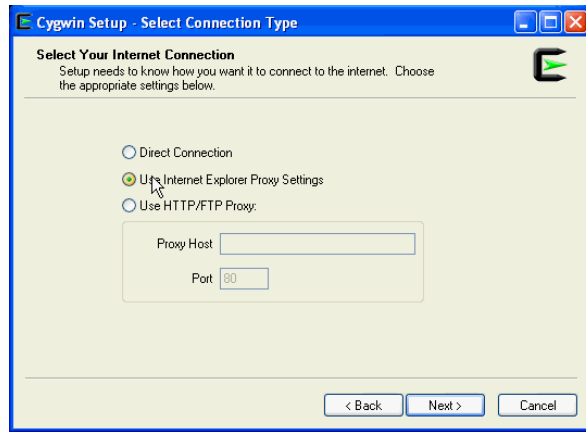
8. On the Choose Download Site(s) screen, select any site from the available list, then click Next.
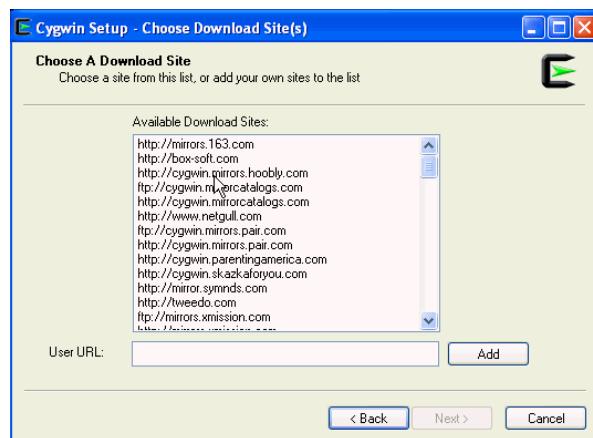
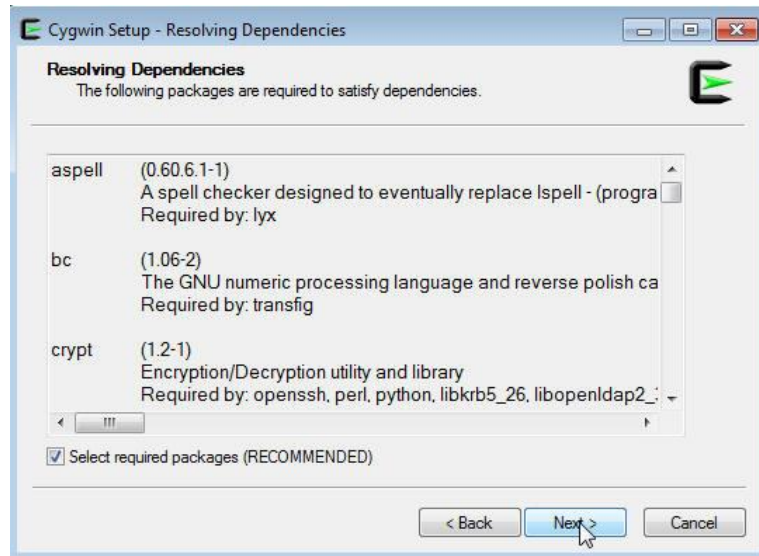9. On the select packages screen, ensure that you select the following packages, then click Next:

From the Archive category, select `unzip` and `zip` as follows:

From the Net category, select `openssh` and `openssl` as follows:

After selecting the packages and clicking next, the Resolving Dependencies screen is displayed. Click Next to proceed.

10. On the Installation Status and Create Icons screen, do not make any changes. Click Finish to complete the installation process.
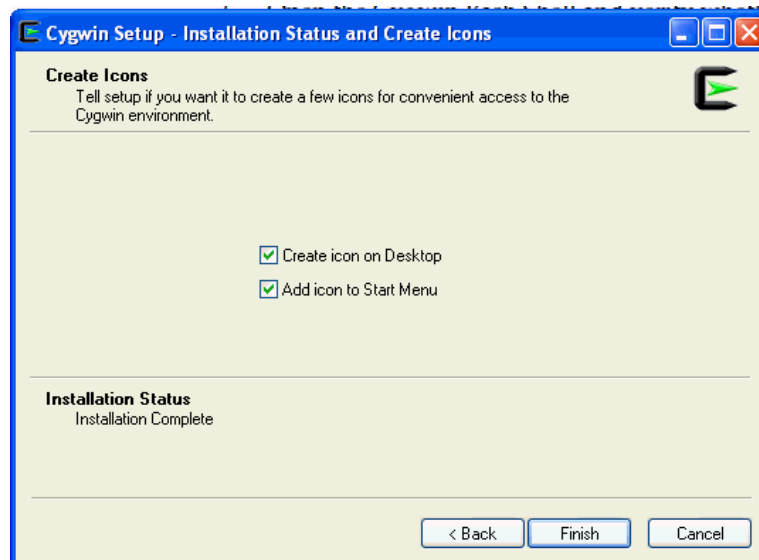
Configuring SSH

Note: While configuring SSH, you may need to run the `cygwin.bat` script. While running `cygwin.bat` in Microsoft Windows Server 2008 and Microsoft Windows Vista, ensure that you invoke it in administrator mode. To do this, right-click the `cygwin.bat` file and select Run as administrator.

To configure SSH and test your Cygwin setup, follow these steps:

1. After you install Cygwin, navigate to the `C:\cygwin` directory, open the `Cygwin.bat` file in edit mode using any editor, and add the following line before invoking the bash shell.

   ```
   set CYGWIN=binmode ntsec
   ```

   For example, here are the contents for the `Cygwin.bat` file after adding the above line:

   ```
   @echo off
   C:
   chdir C:\cygwin\bin
   set CYGWIN=binmode ntsec
   bash --login -i
   ```

2. To verify if Cygwin (`cygrunsrv`) is installed properly, run `C:\cygwin\Cygwin.bat`, and execute the following command:
   ```
   cygrunsrv -h
   ```

   If Cygwin is installed properly, then all the Cygwin help options are displayed on the screen. However, if this command returns an error message, then you may have to reinstall Cygwin.

3. To configure the SSHD service, run `C:\cygwin\Cygwin.bat`, and execute the following command:
4. ```
   ssh-host-config
   ```

   After running the command, you are prompted the following questions:

   ```
   *** Query: Should privilege separation be used? <yes/no>: yes
   *** Query: New local account 'sshd'? <yes/no>: yes
   *** Query: Do you want to install sshd as a service?
   *** Query: <Say "no" if it is already installed as a service> <yes/no>: yes
   *** Query: Enter the value of CYGWIN for the deamon: [] binmode ntsec
   *** Query: Do you want to use a different name? (yes/no) yes/no
   ```

   At this point, if you want to use the same name, that is `cyg_server`, enter `no`. You are then prompted the following questions:

   ```
   *** Query: Create new privileged user account 'cyg_server'? (yes/no) yes
   *** Query: Please enter the password:
   *** Query: Renter:
   ```

   However, if you want to use a different name, enter `yes`. You are then prompted the following questions:

   ```
   *** Query: Enter the new user name: cyg_server1
   *** Query: Reenter: cyg_server1
   *** Query: Create new privileged user account 'cyg_server1'? (yes/no) yes
   *** Query: Please enter the password:
   *** Query: Reenter:
   ```

If the configuration is successful, you will see the following message:

```
Host configuration finished. Have fun!

Run the following to start the sshh service:

$ net start sshd
```