Installation of Cygwin and cron on Windows XP

This document is a step-by-step instruction on how to install Cygwin and install and configure cron. Specifically to perform a weekly reboot of a Windows XP workstation.

The first step is to download the Cygwin installation program from *http://www.cygwin.com*. In this example the Cygwin installer is saved to the new directory **C:\cygwinstall** (Figure 1). *All of the following procedures were done logged in as* **Administrator**.
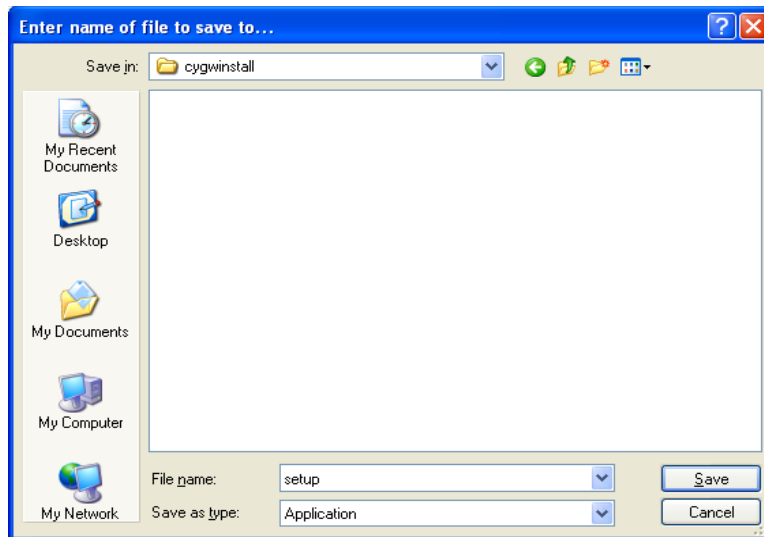

Figure 1 - Saving the Cygwin Installer

After the installer is saved, navigate to the file and run the executable. The introduction to the setup is displayed (Figure 2). Click on **Next** in the dialog box. Note that the installer will be used for installation of additional packages and updates if needed at a later time.
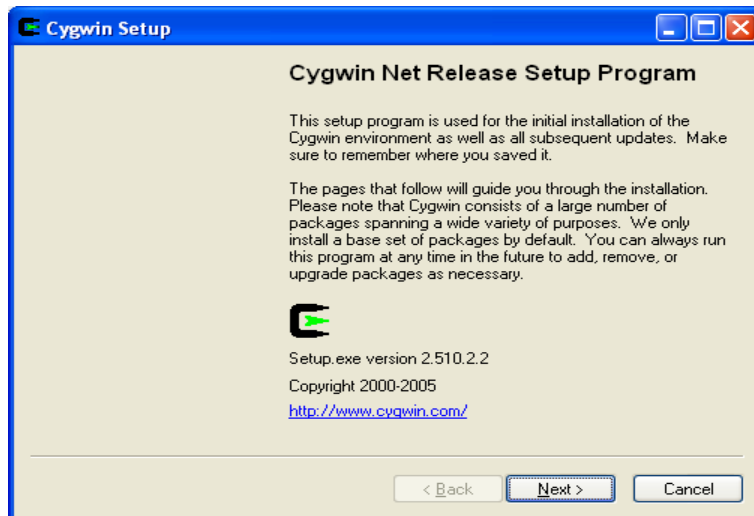

Figure 2 - Introduction dialog box

The next dialog box allows you to choose your installation source. Select the **Install from Internet** radio button and click on **Next** (Figure 3).
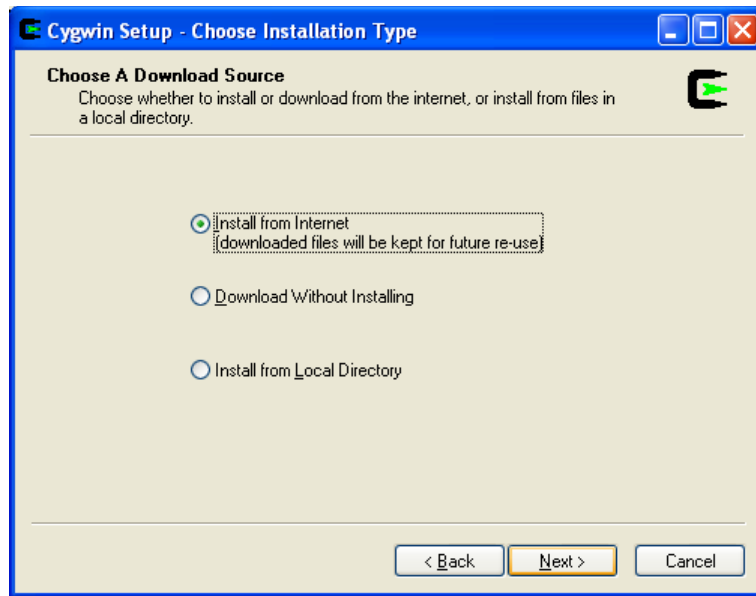
Figure 3 - Choosing Installation Type

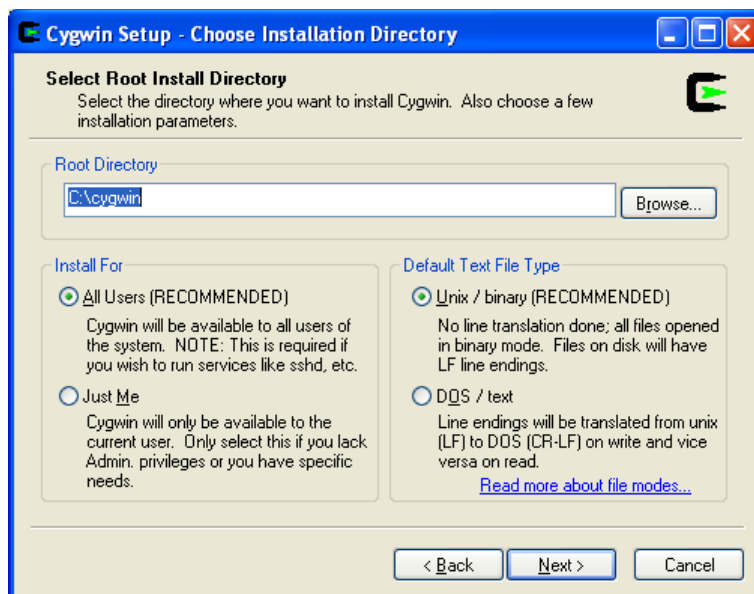In the resulting dialog box (Figure 4) accept the defaults by clicking on **Next**.

Figure 4 - Choosing Installation Directory

The next dialog box (Figure 5) allows you to choose the local package directory to save the installation files. the default should be the same as the location that **Setup.exe** was saved. In this example it is **C:\cygwinstall**. Accept the default by clicking on **Next**.
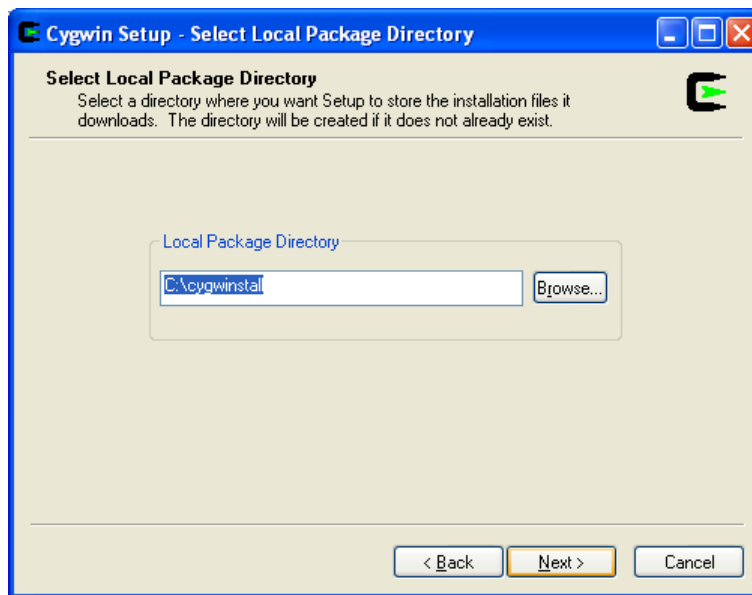
Figure 5 - Selecting the Local Package Directory

Next, the Select Connection Type dialog box, allows you to select your Internet Connection Type. Unless you have a proxy server setup the default should be fine. Click on **Next** (Figure 6).
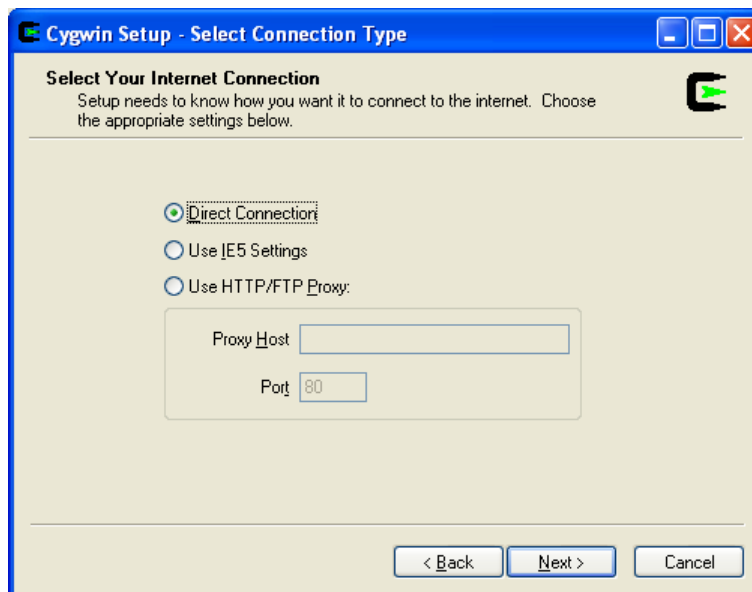

Figure 6 - Selecting the Connection Type

The resulting dialog box asks you to choose a download site. From the list (Figure 7) select a Cygwin download site that is geographically closest to the machine, then click **Next**.
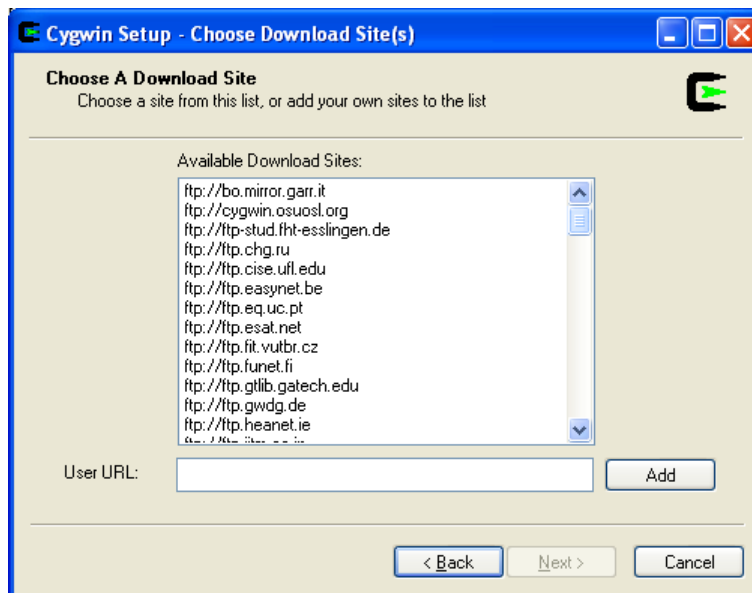
Figure 7 - Choosing a download site

Now it is time to select the software packages that will be installed. The select Packages dialog box (Figure 8) is arranged in package categories. By expanding the package categories the individual packages are displayed. Note that by clicking on the items in the New column the text will toggle between Skip and the different versions of the packages. Make sure that you select the newest versions of the software packages.
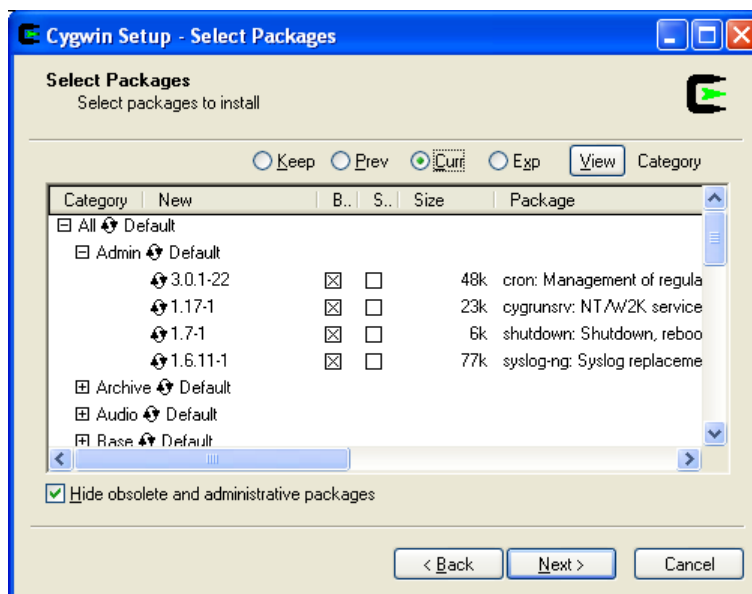

Figure 8 - Choosing the software packages

Choose the software packages from the following categories:

Admin
cron: Management of regular background processing
cygrunsrv: NT/W2K service initiator
shutdown: Shutdown, reboot, hibernate or suspend the machine
syslog-ng: syslog replacement daemon

Net
openssh: The openssh server and client programs (openssl & openssl097 will also be installed)

Utils
util-linux: Random collection of Linux utilities
file: Determines file type using 'magic' numbers

Editors
nano: A pico clone editor with extensions
vim: VImproved – enhanced vi editor

Note that all of these packages are not required, but included are some handy utilities to make it easier to work with Cygwin.

After all of the packages are selected to be installed, click on the **Next** button to begin the installation. The resulting dialog box will display the progress of the installation (Figure 9).

Figure 9 - Installation progress

After the installation is complete the Create Icons dialog box will display. Keep the defaults and click on **Next**. A final dialog box will display, close it and the installation part is complete. Start Cygwin by double clicking on the icon on the desktop or by navigating through the Start menu.   A command shell will display. The next step is to configure cron. Before configuring cron two files must have their modes set to enable read. Using the **chmod** command change the settings per the following example. Next at the prompt type **cron-config** to begin the configuration. Follow the below text to complete the configuration.

```
$ chmod +r /etc/passwd
$ chmod +r /etc/group
$ cron-config

Do you want to install the cron daemon as a service? (yes/no) yes

The service can run either as yourself or under a privileged account.
Running as yourself allows better access to network drives,
but does not allow to run the crontab of other users.
Do you want to the cron daemon to run as yourself? (yes/no) no


Do you want the daemon to run with ntsec? (yes/no) yes


WARNING: /usr/sbin/sendmail does not point to an executable mailer
    such as ssmtp or exim.
    If the cron job produces any output on stdout or stderr,
    you MUST set MAILTO="" in the crontab file.

WARNING: Your computer does not appear to have a cron table for
Administrator.
Please generate a cron table for Administrator using 'crontab -e'

Do you want to start the cron daemon as a service now? (yes/no) yes
OK. The cron daemon is now running.

In case of problem, examine the log file for cron,
/var/log/cron.log, and the Windows event log
for information about the problem cron is having.

If you cannot fix the problem, then report it to cygwin@cygwin.com.
Please include a copy of your crontab, ('crontab -l')
and the output of 'cygcheck -srv > cygcheck.txt'.

Please include the generated file 'cygcheck.txt' *as an attachment*,
and NOT in the body of the mail message.

Administrator@WINBOX ~
$
```

Cron is now configured and running, this can be verified by going to the Services administrative tool in Windows (Figure 10). The cron service should be shown as **Started** and running as the **Local System** account.
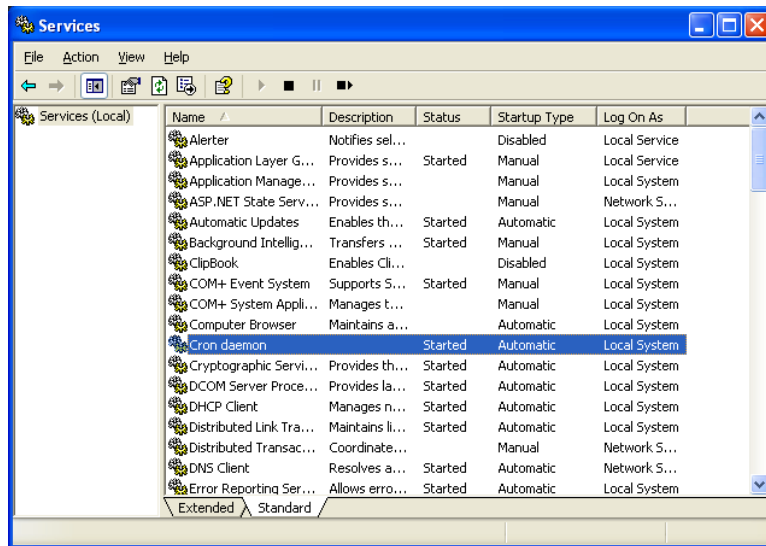
Figure 10: Services administrative tool

In this example a script is used to reboot the Windows XP computer every Monday at 8:30AM. Create a directory called **scripts** and then change directories and create the script with either the **vi** or **nano** editors.

```
$ mkdir scripts
$ cd scripts
$ vi weeklyreboot
```

Here is the script code:

```
#!/usr/bin/bash

# Reboot using the CYGWIN shutdown command

# Log shutdown date and time

echo `date` >> /tmp/shutlog

# Reboot system and log output to shutlog file

/usr/bin/shutdown -f -r now >> /tmp/shutlog 2>&1
```

Briefly the script writes the date and time to the file **/tmp/shutlog** and then reboots the Windows XP box and outputs any messages and errors to **/tmp/shutlog**. If there are any problems check the following two files for error messages: **/var/log/cron** and **/tmp/shutlog**

Finally the cron entry to run the script is created. To create the cron entry use the **crontab -e** command as in the following example:

```
MAILTO=''
SHELL=/usr/bin/bash

# Run Weekly Reboot Script every Monday at 8:30AM
30 08 * * 1 /home/Administrator/scripts/weeklyreboot
```

When using **crontab -e** the crontab entry is creating using the vi editor. The **MAILTO** variable must be set to blank if there is no smtp server available to e-mail the results of the cron entries. In this example the script **weeklyreboot** is run at 8:30 AM every Monday. Save the cron entry and you can display the crontab by using the **crontab -l** command.

Everything should be running now and the Windows XP computer will reboot every Monday.