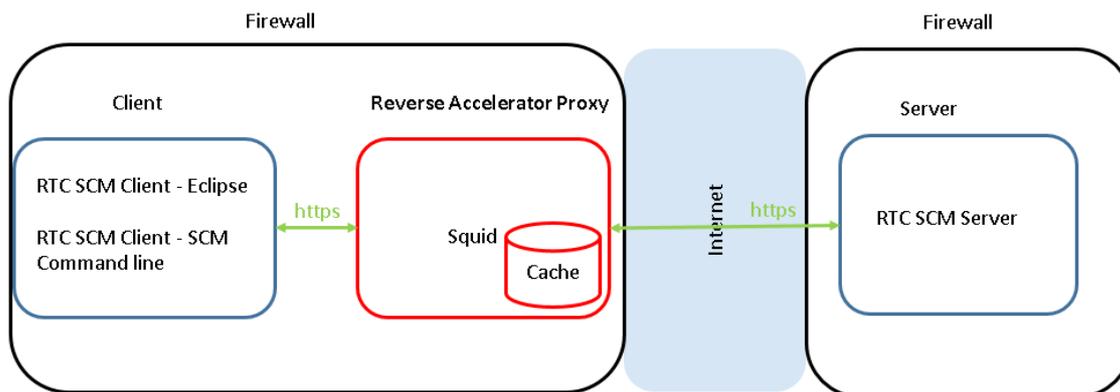


How to setup squid v3.5.20 for Windows as Reverse Accelerator Proxy

This is a supplemental document of "[Using content caching proxies for Jazz Source Control](#)" article on jazz.net. Why this document is written is because this article uses a little bit old RTC and Squid and the content of squid.conf is slightly out-of-date.

Topology

The topology we are going to setup is as follows.

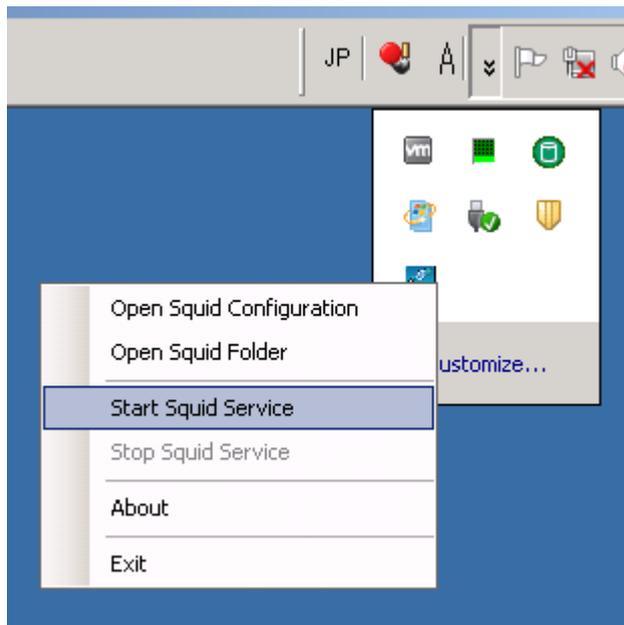


Prerequisite Software

1. squid - You can download Windows installer from [squid-cache wiki](#). In this document, version 3.5(3.5.20) is used
2. openssl, curl - openssl is necessary to generate a certificate for SSL communication. curl is an option. However, in this document, curl is used to verify squid runs correctly. Both can be installed from [Cygwin](#).

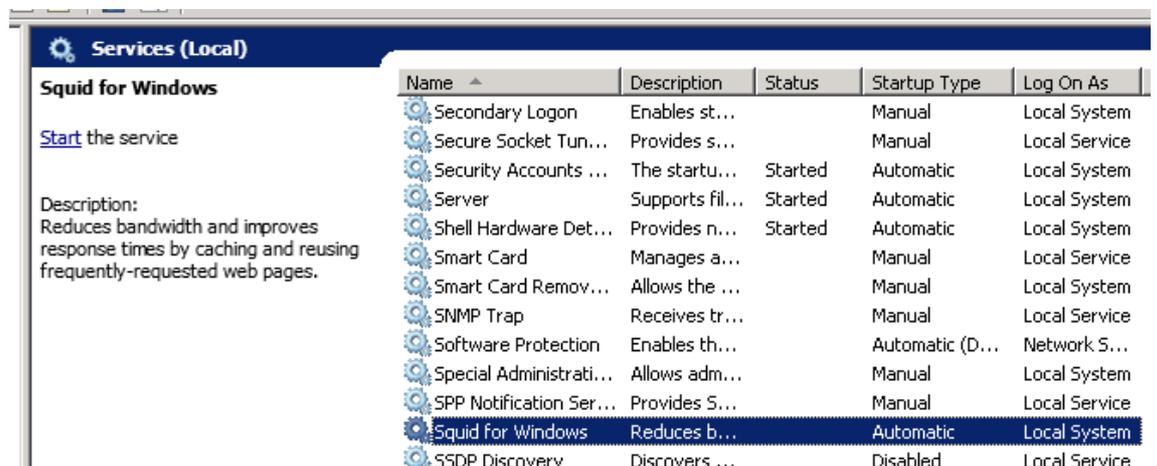
Installation

1. squid
 1. Download squid.msi from [squid-cache wiki](#) (version 3.5) (The direct link is <http://squid.diladele.com/>)
 2. Select squid.msi, open its context menu and select "Install".
 3. The install option you need to decide is the install location. The default is C:\Squid and it is suggested to use this default location.
 4. squid is installed as Windows Service, and you can start/stop it from the toolbar's squid's icon tray



5. If squid's icon tray isn't in the toolbar, you can start it by Services control panel or "net" command.

- Services: You can start/stop squid service from Services control panel. Please see below.



- Command line : You can start/stop squid service by the commands below
 Start: net start squidsrv
 Stop: net stop squidsrv

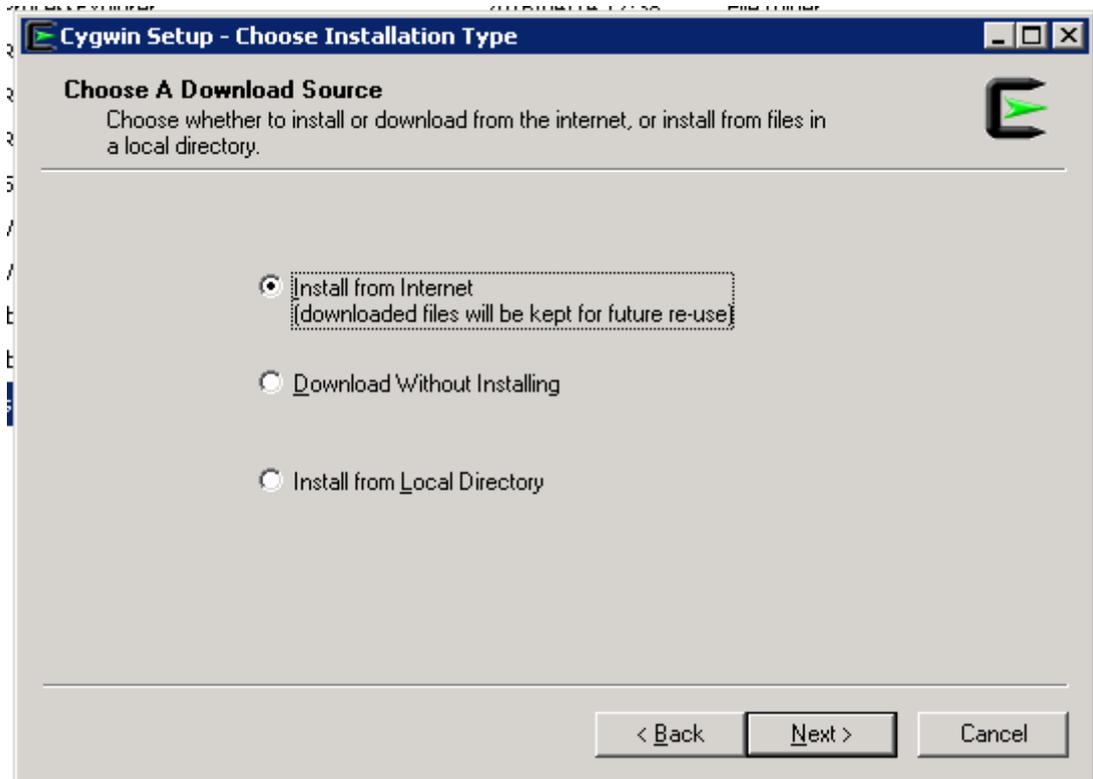
6. Just after the installation is done, squid should be automatically started. Let's stop it now by squid's icon tray or Windows Services or net command.

2. openssl/curl

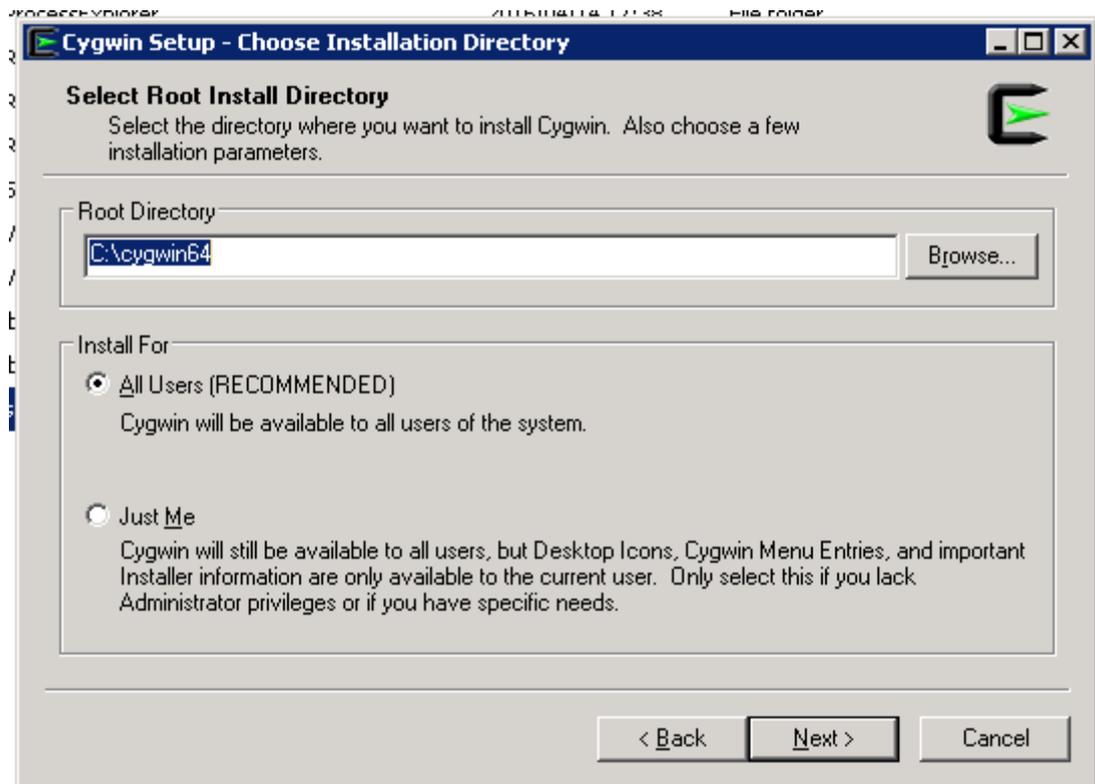
1. Download the installer from [Cygwin](http://www.cygwin.com) and start downloaded "setup-x86.exe" (32-bit installation. The direct link is <https://www.cygwin.com/setup-x86.exe>) or "setup-x86_64.exe" (64-bit installation. The direct link is

https://www.cygwin.com/setup-x86_64.exe).

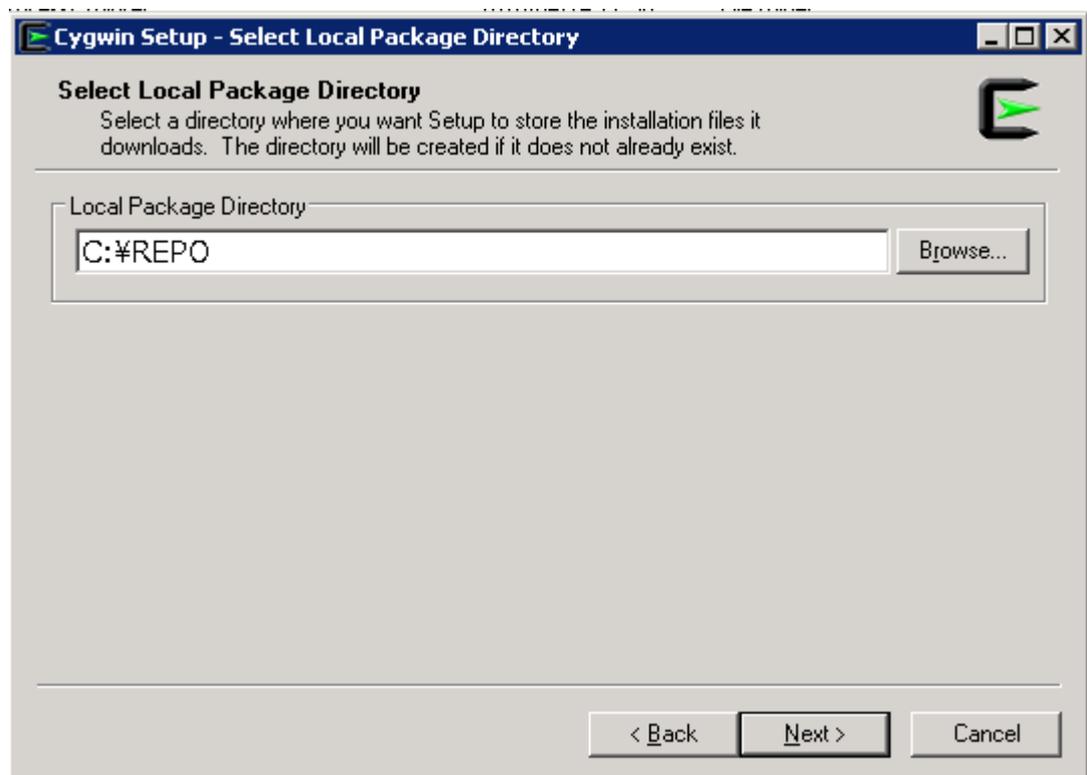
2. Select “Install from internet” in “Choose Installation Type” panel.



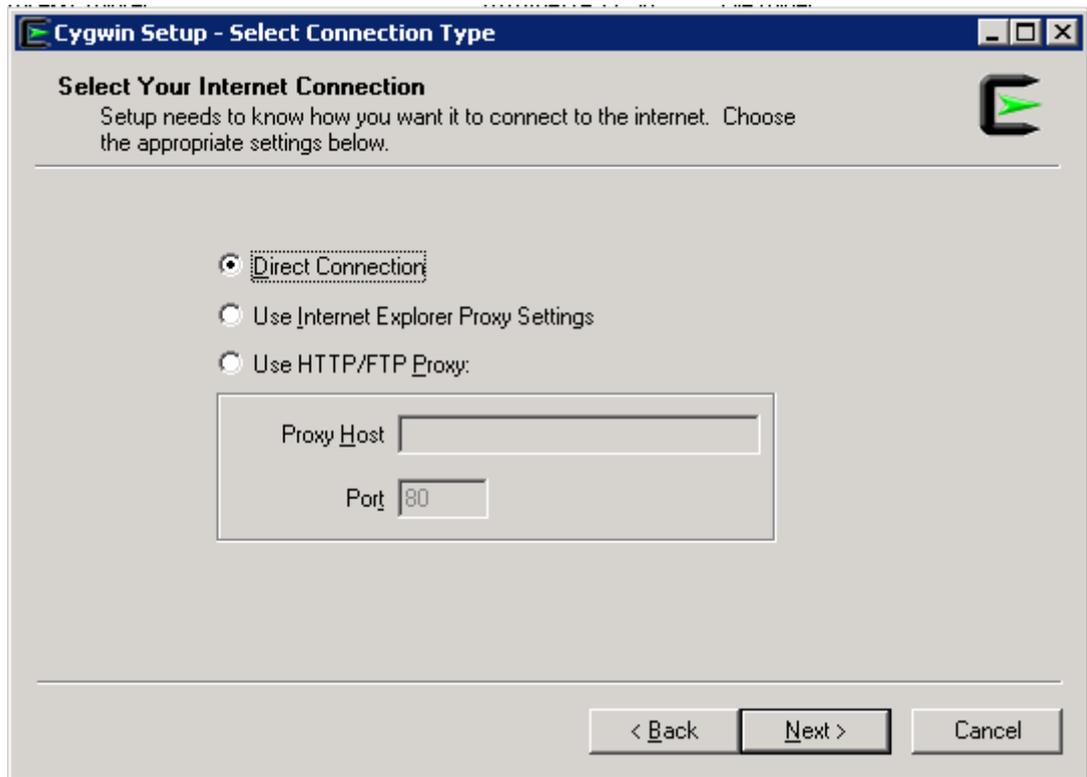
3. Default is okay in “Choose Installation Directory” panel.



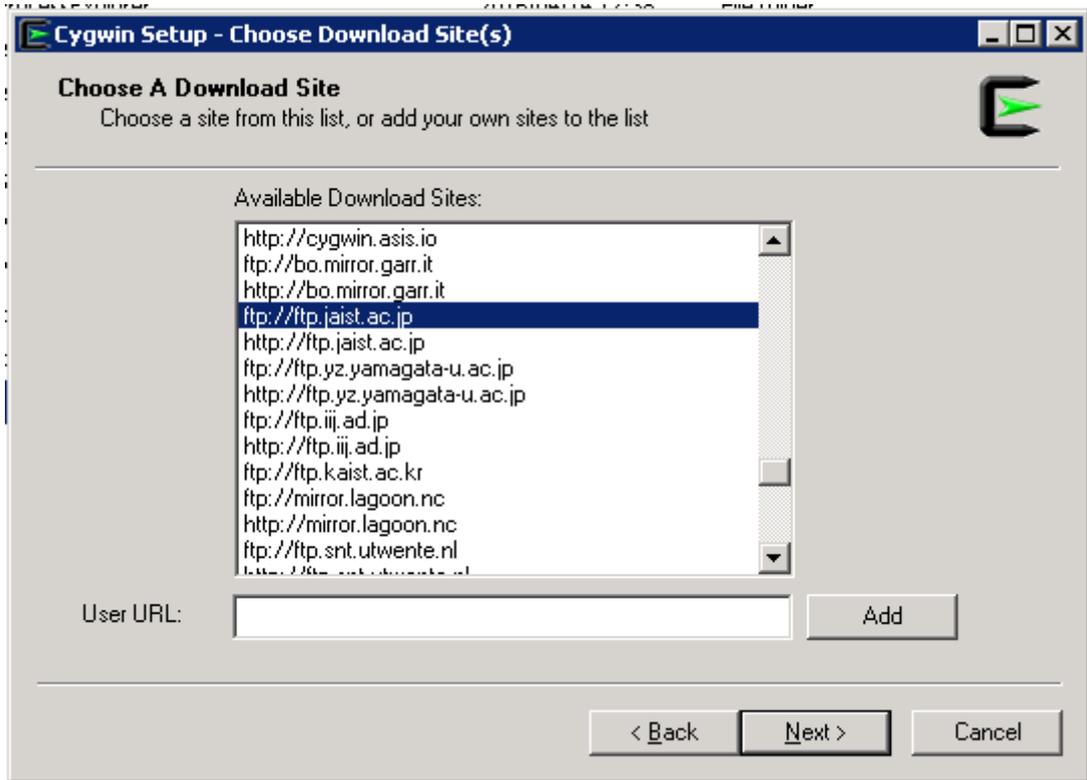
4. Specify the directory where setup will store the installation files in “Select Local Package Directory” panel. Default may be okay.



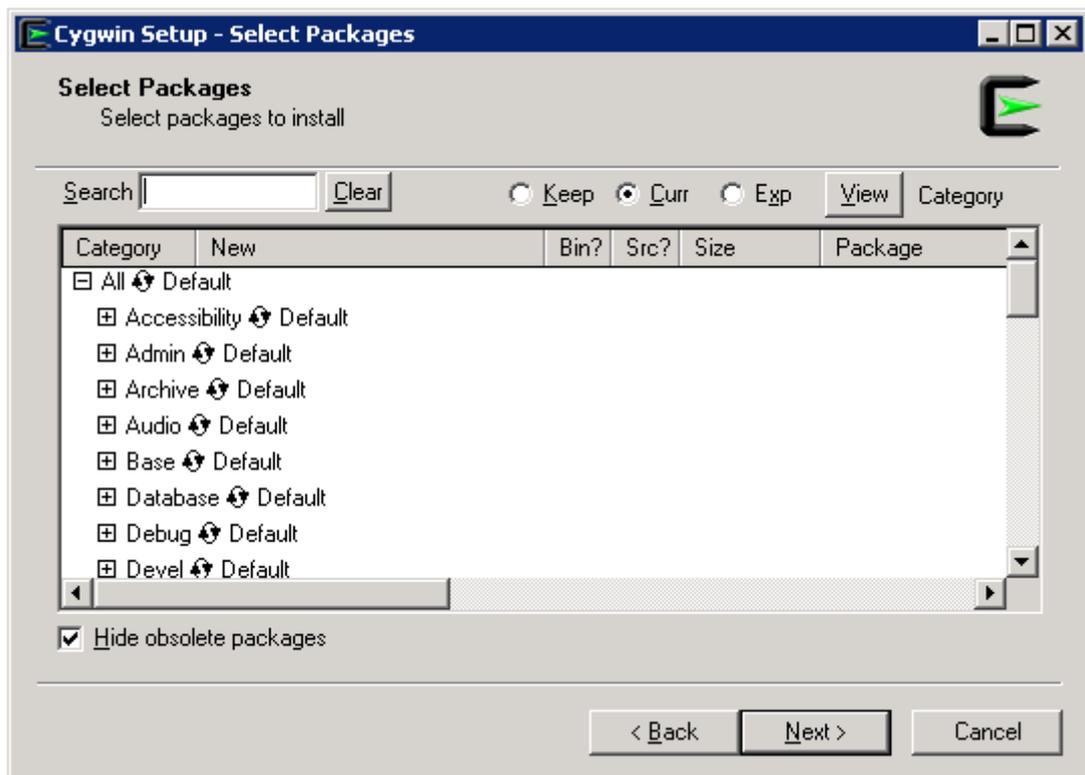
5. Select your preferred network connection in “Select Connection Type” panel. If you can access Internet directly, “Direct Connection” should be okay. Or if you need to use Proxy, you can select either IE Proxy settings or you can specify your own proxy.



6. Specify the nearest download site in “Choose Download Site(s)” panel. In the example below, “<ftp://ftp.jaist.ac.jp>” is selected. If your network can’t access ftp, then you can try http (for example, “<http://ftp.jaist.ac.jp>”)

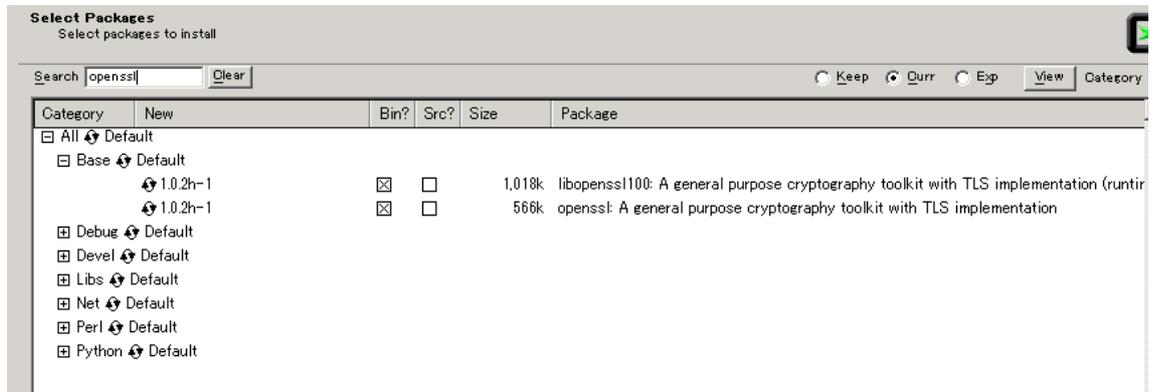


- After some files are downloaded, you will see “Select Packages” panel.



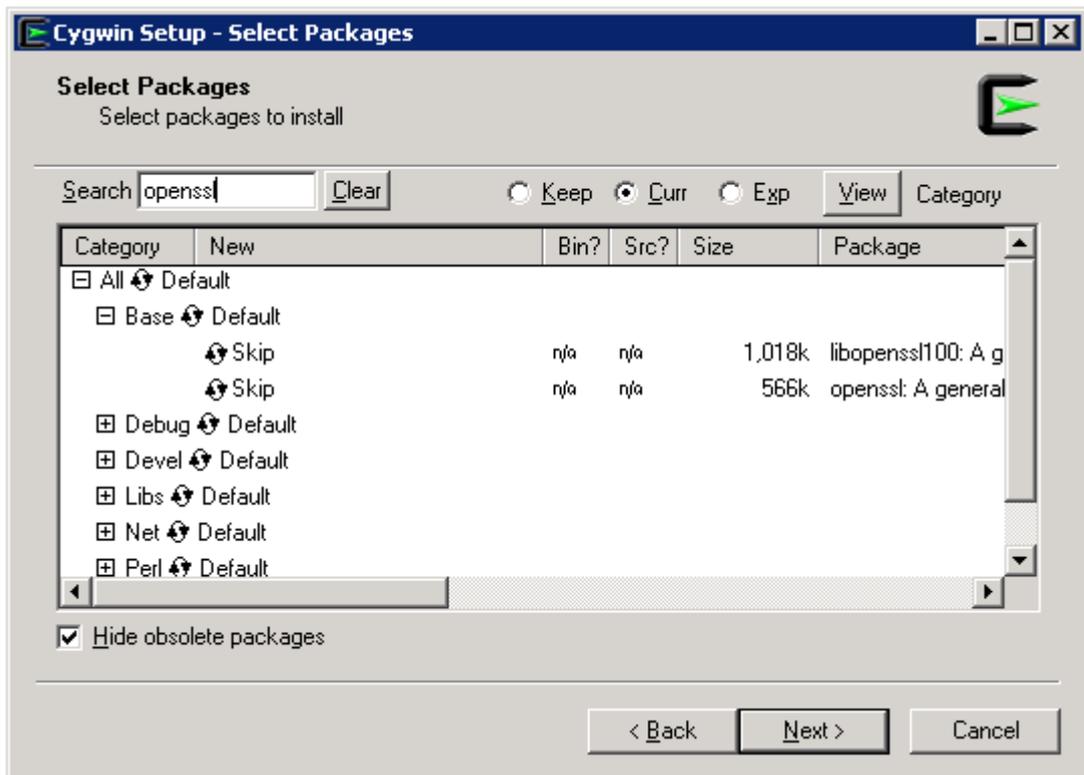
- Type “openssl” in “Search” and open “Base” category, so you will see something

like



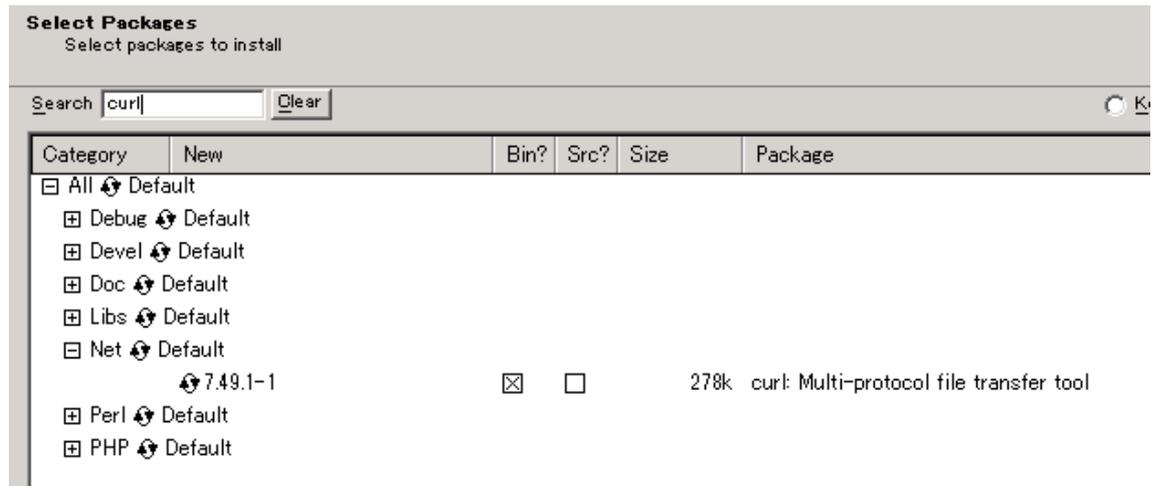
If both has a check mark in “Bin?” column like above, openssl will be installed.

However, if you will see “n/a” like



you need to click  Skip icon so that “Bin?” will be a checkmark.

9. Type “curl” in “Search” and open “Net” category, then do the same steps above.



10. You can add other packages as you like. (But for this Proxy, openssl and curl are enough.)
11. Click “Next” and the download starts. Once it is completed, click “Finish”.
12. Add a path to Cygwin’s bin directory to your PATH environment variable.

Configuration of squid

1. Port number: You need to decide the proxy’s port number. It is recommended to use the same port number of RTC on WAS. If you want to use the different port number, please follow this [technote](#).
2. Directories for Certificate, Cache and Coredump files
 - Three directories are necessary. For example,
 - Certificate: C:\Squid\certs
 - Cache: C:\Squid\cachedir (Note: The size of cache files will be huge, so you need to decide it carefully.)
 - Coredump: C:\Squid\coredump
3. Certificate for SSL: The certificate is needed since this Proxy uses SSL to connect to both RTC SCM client and server. Here is an instruction.
 - Make sure that cygwin’s bin directory is in your PATH environment variable.
 - Create Certificates at Certificate directory. For example:


```
openssl req -x509 -sha256 -newkey rsa:2048 -keyout /cygdrive/C/Squid/certs/privkey.pem -out /cygdrive/C/Squid/certs/server.pem -days 1000 -nodes
```

Note: The notation of Windows’s path for Cygwin is as follows:
/cygdrive/<windows drive name>/folder name1/folder name2/.../file name
 “cygdrive” is a fixed name here.
 - Example

```

C:\Squid\certs>openssl req -x509 -sha256 -newkey rsa:2048 -keyout
/cygdrive/C/Squid/certs/privkey.pem -out /cygdrive/C/Squid/certs/server.pem -days 1000 -nodes
Generating a 2048 bit RSA private key
.....+++
.....+++
unable to write 'random state'
writing new private key to '/cygdrive/C/Squid/certs/privkey.pem'
-----

You are about to be asked to enter information that will be incorporated
into your certificate request.

What you are about to enter is what is called a Distinguished Name or a DN.

There are quite a few fields but you can leave some blank

For some fields there will be a default value,

If you enter '.', the field will be left blank.

-----

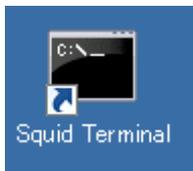
Country Name (2 letter code) [AU]:JP
State or Province Name (full name) [Some-State]:Tokyo
Locality Name (eg, city) []:Chuoku
Organization Name (eg, company) [Internet Widgits Pty Ltd]:MyCompany
Organizational Unit Name (eg, section) []:MyGroup
Common Name (e.g. server FQDN or YOUR name) []:proxy.mycompany.com
Email Address []:jtsadmin@rtserver.mycompany.com

```

One line

4. squid Cache: You need to initialize squid cache by

- Stop squid if it runs
- Open “Squid Terminal” on the desktop. (Note: Please don’t use a command prompt window)



- Run “squid -z”

Note: If you want to clean up the cache, 1) Stop squid 2) Delete Cache directory 3) Create Cache directory again and 4) “squid -z”.

5. squid.conf

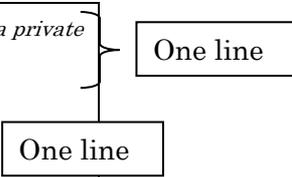
- Update squid.conf (For example, C:\Squid\etc\squid\squid.conf) accordingly.

(See [squid doc](#) in detail.)

- Example

```
https_port <proxy server port number> cert=<path to a certificate(pem)> accel key=<path to a private key(pem)>
cache_peer <rtc server name> parent <rtc server port number> 0 no-query originserver
name=httpsAccel ssl login=PASSTHRU sslflags=DONT_VERIFY_PEER
cache_peer_access httpsAccel allow all
cache_replacement_policy heap GDSF
memory_replacement_policy heap GDSF
cache_dir aufs <path to a cache directory> <max directory cache size (Mbytes)> 256 256
cache_mem <max memory cache size > MB
cache_store_log none
coredump_dir <path to a coredump directory>
acl localnet src <IP address which squid can accept>
http_access allow localnet
http_access allow localhost
refresh_pattern . 0 20% 4320
cachemgr_passwd disable all
maximum_object_size 1024 MB
maximum_object_size_in_memory 16 MB
buffered_logs on
visible_hostname <proxy server name>

#cache_effective_user squid
#cache_effective_group wheel
#debug_options ALL,2
max_filedescriptors 3200
logfile_rotate 7
```



- <proxy server port number>: Proxy server's port number. For example, 9443
- <path to a certificate(pem)>: Path to a certificate file. For example, /cygdrive/C/Squid/certs/server.pem
- <path to a private key(pem)>: Path to a private key file. For example, /cygdrive/C/Squid/certs/privkey.pem
- <rtc server name>: RTC server name. For example rtcserver.mycompany.com This server name must be DNS-aware name. If this server name isn't registered to DNS, you can use IP address

instead.

- *<rtc server port number>*: RTC Server port number. For example 9443
- *<path to a cache directory>*: Path to a cache directory. For example, /cygdrive/C/Squid/cachedir
- *<max directory cache size (Mbytes)>*: Max directory cache size in Mbytes. For example, 200000
- *<max memory cache size >*: Max memory cache size. For example, 4096 MB
- *<path to a coredump directory>*: Path to a coredump directory. For example /cygdrive/C/Squid/coredump
- *<IP address which squid can accept>*: IP address this proxy can accept. For example, 192.168.0.0/16
- *<proxy server name>*: Proxy server name. For example, proxy.mycompnay.com

- Actual squid.conf sample (You can start to edit squid.conf by copy & paste-ing the following squid.conf example.

```
https_port 9443 cert=/cygdrive/D/Squid/certs/server.pem accel key=/cygdrive/D/Squid/certs/privkey.pem

cache_peer rtserver.mycompany.com parent 9443 0 no-query originserver name=httpsAccel ssl login=PASSTHRU sslflags=DONT_VERIFY_PEER

#cache_peer 192.168.43.10 parent 9443 0 no-query originserver name=httpsAccel ssl login=PASSTHRU sslflags=DONT_VERIFY_PEER

cache_peer_access httpsAccel allow all

cache_replacement_policy heap GDSF

memory_replacement_policy heap GDSF

cache_dir aufs /cygdrive/D/Squid/cachedir 30000 256 256

cache_mem 100 MB

cache_store_log none

coredump_dir /cygdrive/D/Squid/coredump

acl localnet src 192.0.0.0/8

http_access allow localnet

http_access allow localhost

refresh_pattern . 0 20% 4320

cachemgr_passwd disable all

maximum_object_size 4096 MB

maximum_object_size_in_memory 2 MB

buffered_logs on

visible_hostname localhost

max_filedescriptors 3200

logfile_rotate 7
```

Installation Verification of squid

1. Start RTC server if it doesn't run
2. Start squid by its icon tray in the toolbar.
3. Make sure that cygwin's bin directory is in your PATH environment variable.
4. Run curl as follows
 - `curl -k https://<proxy server>:<proxy port number>/ccm/service -v -u <rtc user id>`
 - For example, `curl -k https://proxy.mycompany.com:9443/ccm/service -v -u jtsadmin`
 - If you will see either 40x or 302 as the response code, your proxy works as being expected.
5. When you will see the access log file (for example, C:\Squid\var\log\squid\access.log), you might see something like:

```
...
1469093176.730      69 192.168.43.10 TCP_MISS/200 2548 POST ...
1469093176.783      1 192.168.43.10 TCP_MEM_HIT/200 710 ...
...
```

6. You can check Squid request status in the access.log For example,
TCP_MISS: The data isn't in the cache
TCP_HIT: The data is in the directory cache
TCP_MEM_HIT: The data is in the memory cache.
As for Squid request status please see [this wiki](#).
As for access.log format, please see [this doc](#).
7. The size of the log files (access.log and cache.log) might be getting huge, so you can rotate the log files by "squid -k rotate". In detail, please see [this wiki](#).

RTC SCM URL

RTC Eclipse client and SCM Command line tool need to use the following URL for RTC SCM URL.

- `https://<proxy server name>:<proxy server port number>/ccm/`