RUT - Development handbook 2.13 Edit documents via remote login v2.1 en

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Abstract

This document shows how to connect a client computer to a remote server. It also shows how to run FrameMaker remotely on that server and how the transfer of documents to and from that server is carried out. It also states the necessary software needed to do this and provides an explained example of its use.

1 Field of application

FrameMaker documents may only be edited in FrameMaker, which is a commercial program. FrameMaker is locally accessible by the student at computers belonging to IDA. Before any editing take part, there is typically a need to transfer files to and from IDA, such as images and other documents external to the IDA network.

The process described in this document shows how to run FrameMaker on a remote UNIX system and how to transfer files to and from that system. This is specially useful when the writer, for various reasons, wants to work at home or at another location remote to IDA.

2 Prerequisites

2.1 General requirements

To be able to use the process in this document, the user must have the following items:

- A PC with Windows or Linux
- X Window server
- SSH client software
- Secure Copy (SCP) command line tool.
- An internet connection
- An account at the server, i.e. username and password

Almost all Linux distributions come bundled with both an SSH client and an X server. Windows users must install these separately. The SCP tool is mostly if not always included with the SSH client. The following section shows how to install a X server and a SSH client in Windows. Linux users may skip directly to section 3 "Realization".

2.2 Installing X server and SSH on Windows

Cygwin/X is a port of the X Window System to the Microsoft Windows family of operating systems. Cygwin/X runs on all recent consumer versions of Windows. Cygwin/X comes included with the openSSH client and will fit the purposes of the reader well.

To install Cygwin/X first visit the Cygwin/X website [1] and click on the "setup.exe" quick link. This will download the installer, which in turn will download and install the entire Cygwin/X package from the Cygwin website.

During the installation process, dialogs will appear where you can set various options for the installation process. In the "Select packages" dialog you may choose wich parts of the Cygwin/X system to install, be sure that the following components are selected for installation:

- ◾ `openssh`
- ◾ `X-startup-scripts`

3 Realization

This chapter describes how to use the SSH client to connect to a server and launch FrameMaker it also shows how to transfer files using the Secure Copy command line tool.

3.1 Overview

The connection between the user's computer and the UNIX server is done over the SSH protocol, using an SSH client or Secure Copy. While running FrameMaker the transmitted data is displayed using the X Window system, which requires a X server.

When attempting to run FrameMake remotely, a SSH connection must be established before FrameMaker can be launched.

When attempting to transfer files to and from a remote server, the Secure Copy command line tool is invoked directly from the terminal with the appropriate arguments.

3.2 Detailed description

This chapter shows step by step how to transfer a file to a remote server, establish a SSH connection using a SSH client, and finally how to start Frame-Maker.

Opening a terminal in Windows

Open Explorer and navigate to the subfolder `CYGWIN_FOLDER\usr\X11R6\bin` and start Cygwin/X by running the startup script `startxwin.bat.` The `CYGWIN_FOLDER` should be replaced by the location of your Cygwin/X installation. The default location for the Cygwin/X installation is `C:\cygwin`

Opening a terminal in Linux

Make sure the X Window system is running. It is usually run automatically at startup or by typing `startx` at a text terminal. In X, open a terminal window, such as `xterm` or `konsole`.

Transfering files to and from the remote server

Transfer of files to and from the remote server is done by using the `scp` command.

To transfer a file *to* a remote server, two arguments must be passed to the `scp` command. The first argument is the name of the file you wish to transfer to the remote server. The second argument is a combination of your username at the remote server, the name of the remote server and the target directory or file. The syntax is as follows:

```
scp filename username@servername:target
```

To transfer a file from the remote server, again two arguments must be passed to the scp command. The first argument is a combination of your username at the remote server, the name of the remote server and the name of the source file you wish to transfer from the remote server. The second argument is is the name of the target directory of file. The syntax is as follows:

```
scp username@servername:filename target
```

Establishing an SSH connection to run FrameMaker

The SSH client is started from the terminal with the `ssh` command. Two flags must be passed to this command. The `-X` flag enables X11 forwarding, which allows program windows to be displayed at the client computer. The `-l` flag (lowercase "L") is followed by the username. The last argument to the `ssh` command is the name of the server to connect to. Hence, the syntax is:

```
ssh -X -l username servername
```

An example of an SSH command line is given in section 7 "Examples with explanations". More information on the `ssh` command syntax can be found in the manual pages for `ssh` [2].

When connecting to an SSH server for the first time, a message similar to this will be displayed:

```
The authenticity of host [...] can't be established.
RSA key fingerprint is [...]
Are you sure you want to continue connecting (yes/no)?
```

Simply answer "yes" to add the server to a list of known hosts.

Starting FrameMaker

When the SSH connection is complete, you will see the prompt of the remote login shell. There, you can start FrameMaker by typing:

```
maker &
```

The "&"-sign at the end starts FrameMaker as a new process, leaving the terminal ready for other commands while FrameMaker is running.

See section 7 "Examples with explanations" for an example of a complete SSH session.

4 Results

By using this process, the reader may transfer files to and from a remote server and launch and use FrameMaker at that very same server. This gives the flexibility to work with documents and FrameMaker from more then one location.

The drawback of running FrameMaker remotely instead of locally is an increase of delay. Especially launching FrameMaker may take as much as a minute. Once FrameMaker is started, other delays are not that apparent.

4.1 Products

Section not applicable to this process.

4.2 Product templates

Section not applicable to this process.

5 Templates and forms

Section not applicable to this process.

6 Verification of results

Section not applicable to this process.

7 Examples with explanations

In the following an example of the use of the ssh and scp commands is given. First a file is transfered to a remote server. Secondly a connection via SSH to an IDA server is established and FrameMaker is launched. Finally a file is transfered from the remote server. The commands are typed in a terminal window. Bold text indicates example prompts and command output, while regular text indicates the commands typed by the user.

localhost$ scp logo.gif pum12@astmatix.ida.liu.se:~

Here, logo.gif is the filename, pum12 is the username of the account on the server. The SSH server at IDA is astmatix.ida.liu.se and the target directory ~ is the home folder of the pum12 account

pum12@astmatix.ida.liu.se's password:

Type the password associated with the username and press enter. Once the password has been accepted a transfer message appears.

logo.gif 100% 756   0.7KB/s   00:00

The file logo.gif has now been transfered. We now wish to launch Frame-Maker and start doing this by connecting to the remote server using SSH.

localhost$ ssh -X -l pum12 astmatix.ida.liu.se

Once again `pum12` is the username and `astmatix.ida.liu.se` is the servername at IDA.

pum12@astmatix.ida.liu.se's password:

Type the password associated with the username and press enter.

The authenticity of host 'astmatix.ida.liu.se (130.236.186.15)' can't be established.
RSA key fingerprint is
e6:5a:9d:db:07:52:f5:38:07:88:b9:78:b8:4b:eb:66.
Are you sure you want to continue connecting (yes/no)? yes

Answer "yes" to accept the host.

Warning: Permanently added 'astmatix.ida.liu.se, 130.236.186.15' (RSA) to the list of known hosts.

This message informs you that from now on, this host will be trusted.

astmatix$ maker &

This command should start FrameMaker in an external window and you can start editing documents.

Once we are done we wish to end the SSH session.

astmatix$ exit

The exit command will close the connection and returns us to the local system.

We now wish to transfer the file result.pdf from the remote server to the local machine.

localhost$ scp pum12@astmatix.ida.liu.se:~/result.pdf .

Here, ~/result.pdf is the filename of the file we wish to copy from the remote server, pum12 is the username of the account on the server. The SSH server at IDA is astmatix.ida.liu.se and the target directory . is the current working directory of the local system.

pum12@astmatix.ida.liu.se's password:

Type the password associated with the username and press enter. Once the password has been accepted a transfer message appears.

result.pdf 100% 2756 1.2KB/s   00:00

The file result.pdf has now been transfered.

8 Solutions to common problems

No common problems have been detected while evaluating this process. Should a problem arise, you can consult the Cygwin/X website [1] or the manual page for the `ssh` command [2].

9 Adjustment to the PUM-course

This process is adjusted to the PUM-course by using the SSH server at IDA, `astmatix.ida.liu.se`, as shown in section 7 "Examples with explanations". The username should be the same as the PUM account name, e.g. `pum12`.

10 Measurement of the process

10.1 Resource measurement

Section not applicable to this process.

10.2 Product measurement

Section not applicable to this process.

10.3 Forms for collection of data

Section not applicable to this process.

11 History of the process

Version	Ändringar	Författare	Datum
0.1	Document created.	Björn Nutti	2005-01-10
1.0	Update after inspection.	Björn Nutti	2005-01-13
1.1	Rewritten the whole document in english with Cygwin/X replacing PuTTy and X-Win32. Added Linux information.	Johan Lissing	2006-01-09
2.0	Corrected some spelling errors	Johan Lissing	2005-01-10
2.1	Added new content covering scp and changed existing content to better reflect the new content	Andreas Tell	2007-01-16

12 Changes not yet attended to

There is no information about SSH connections from a Macintosh computer.

13 References

13.1 Method description

[1] Hunt, Harold L, "Cygwin/X" (2004), WWW: `http://x.cygwin.com`.

[2] Ylonen, Campbell, et. al., OpenSSH manual page (2002), type `man ssh` to view the manual page.

13.2 Method evaluation

Section not applicable to this process.

13.3 Internal comments

None.