

Xmanager 4 User Guide

Powerful PC X server for Windows

NetSarang Computer, Inc.

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Xmanager® User Manual

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Table of Contents

Xmanager Introduction	1
Features	1
System requirements.....	2
Installation and uninstallation	3
Technical support	3
License Agreements.....	3
Xmanager License Agreement	3
Xmanager Evaluation License Agreement	4
Getting Started	7
Starting with Xbrowser	7
Starting with Xstart	11
Managing Sessions	15
Xstart session	15
Dynamic session	16
Static session.....	17
Configuring properties of a session.....	18
Creating a Folder.....	19
Export Sessions.....	19
Import Sessions	19
Establishing Connections	21
Connecting with Xbrowser	21
Connecting with Xstart	21
Configuring firewall.....	23
Solving connection problems	25
Configuring Server Profiles	27
Managing Fonts	29
Configuring Keyboard and Mouse	33
Configuring keyboard.....	33
Configuring mouse	34
Managing Color	37
Using Window Mode	39
Security	43
Multiple Monitors	47
Copying, Saving and Printing X Applications	49
Logging Session	51
Reference	53
Xmanager	54

	ii
Xmanager system menu	56
Xmanager tray menu.....	58
Xmanager command line options	59
Xbrowser	61
Xbrowser main window	61
File menu	62
Edit menu.....	64
View menu	65
Tools menu	67
Help menu.....	68
Session Context Menu	68
Toolbar buttons	70
Address bar	71
Options dialog box.....	72
Xbrowser Properties dialog box	75
New Session Wizard	79
Session Import Wizard.....	80
Session Export Wizard	83
Columns dialog box	86
Secure XDMCP Setup dialog box	88
Xstart	91
Xstart main window.....	92
New Session dialog box	95
SSH Protocol Setup dialog box.....	95
Forwarding Rule dialog box	99
Password Setup dialog box.....	101
Public Key Authentication Setup dialog box	101
TELNET/RLOGIN/RSH/REXEC Protocol Setup dialog box	102
Registered Commands dialog box	103
Add Command dialog box	104
Xstart Advanced Options dialog box	105
Command tag definition.....	107
Xrcmd command line options.....	108
Xconfig	110
Xconfig main window.....	110
File menu	111
Edit menu.....	112
View menu	112
Help menu.....	113
Toolbar buttons	114
Properties dialog box	114
Window Mode Settings dialog box	125

Panning Settings dialog box	128
Add Font Server dialog box	129
Keyboard Settings dialog box	130
Add Keyboard dialog box	132
Mouse Settings dialog box	132
Sound Settings dialog box	134
Monitor Settings dialog box	134
Keyboard Editor	136
Keyboard Editor main window	136
File menu	137
Edit menu	138
View menu	138
Help menu	139
Toolbar buttons	139
Option bar	140
Normal layout	140
Compose layout	142
Select Keyboard Type dialog box	143
User-defined Keysym dialog box	143
Edit Key dialog box	144
Edit Compose Sequence dialog box	146
Common dialog box	148
Host Keys dialog box	148
User Keys dialog box	149
User Key Properties dialog box	150
User Key Generation Wizard	152
SSH Security Warning dialog box	157
SSH User Authentication dialog box	158
Fonts	159
Font format	159
Font name	159
Font directory	160
Font server	160
Font catalogue and font path element	160
Error Messages	161
Xmanager errors	161
Xstart errors	161
Xbrowser errors	162
Index	163

Xmanager Introduction

Xmanager is a powerful and easy-to-use PC X server software program that is running on a Windows platform. It allows you to bring remote UNIX/Linux desktops to your Windows PC seamlessly. You can also run remote X applications securely through the SSH (Secure Shell) protocol even when your Windows PC is inside a private network and a firewall is between your PC and the remote server.

Xmanager 3.0 incorporates a variety of new features such as multiple server profiles, multi-visual, multi-monitor support, multi-user configuration, multiple XDMCP sessions and SSH security enhancement. It offers many advanced options to meet the needs of professional users and also has been designed as simply as possible for beginners.

Features

This section explains key features in **Xmanager**.

Connection and Startup

- **Xbrowser** program for managing multiple **Xstart** and XDMCP sessions
- **Xbrowser** manages sessions for Xmanager, Xshell and Xftp
- XDMCP, SSH, RSH, REXEC, RLOGIN and TELNET connection protocols
- Up to 128 X client connections per Xmanager session
- Shortcuts for Xstart and XDMCP sessions
- Advanced prompt parsing and command scripting in **Xstart**
- Secure XDMCP for XDMCP connection to the outside of firewall or private network

Deployment

- Support for Windows 2000 SP4 and above
- Windows Terminal Server, Citrix XenServer for Windows
- Session sharing for Windows terminal service
- Silent Installation
- Multi-user configuration
- Easy distribution of sessions and server profiles
- Supports user defined session path

Security

- Integrated SSH1/SSH2 protocols with public key authentication
- SSH key generation wizard
- SSH agent support through **Xshell**
- Host-based Access control
- XDMCP connection through SSH Security Tunneling

X Server

- A high-performance X11R7 PC X server
- Supports GLX 1.3 and OpenGL 1.2 (Xmanager Enterprise Edition only)
- X Rendering extension protocol
- Multiple server configuration
- Multi-user support
- Multiple monitor support
- Support for multiple network adaptors
- Multiple XDMCP sessions
- Automatic display number allocation
- Single & multiple window mode
- Panning and Auto Raise support on local window manager
- Multi-visual support
- 256-color emulation in true-color video device
- Automatic color substitution for PseudoColor visual
- Backing Store support
- Full Planemask feature for 256-color applications
- Mouse wheel support
- 3 button mouse emulation
- Graphical keyboard editing
- On the fly keyboard switching with a hot key
- Sound file support for XBell request
- Local Resource Database
- Printing in multiple window mode
- Automatic Cut & Paste between X and MS Windows applications
- Tray icon

Fonts

- Font compiler
- Font server support
- BDF, PCF font format
- Automatic font substitution
- Additional font packages for each language and X application

System requirements

- **Processor:** Intel® compatible
- **Operating System:** Microsoft Windows® 2000 SP4 or later
- **Hard disk:** 100M bytes of free space
- **Network:** TCP/IP Winsock 1.1 compatible or later
- **Required software:** Internet Explorer® 6.0 or later

Installation and uninstallation

The **Xmanager** installation program is available for download at <http://www.netsarang.com/>. It is packaged with the widely used InstallShield® installation program. To begin the installation process, simply run the executable file after downloading it.

The **Xmanager** installation process includes several steps with options for you to modify the default installation. However, in most cases, just clicking **Next** button will be enough for the installation.

To uninstall **Xmanager**, follow the standard Add/Remove feature of Windows. In the **Control Panel**, double-click **Add/Remove Programs**, click **Xmanager** in the program list, and then click **Change/Remove** button.

IMPORTANT: The uninstallation process will not remove the registry information and data files generated by users. It can be used again when you need to re-install **Xmanager** later. If you want to remove all the files and registry information completely, you need to remove the following explicitly:

Registry information:

```
\HKEY_CURRENT_USER\Software\NetSarang\Xmanager  
\HKEY_CURRENT_USER\Software\NetSarang\Xmanager Enterprise
```

File and folders:

- %APPDATA%\NetSarang\Xmanager
- %APPDATA%\NetSarang\Xmanager Enterprise

Technical support

The overall guide and reference information are in this Help manual in detail. If you cannot find a solution in this manual, please visit our web site at:

<http://www.netsarang.com/support/main.html>

You can either post your questions on the **Xmanager** Q&A Forum or use our request support form on our online customer support page. Support request form is available at:

http://www.netsarang.com/support/request_form.html

We will be able to support you better if you describe your problem as detailed as possible.

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Getting Started

This section explains how to connect to a remote UNIX/Linux host and how to bring a remote **X** application or full remote desktop to your Windows desktop.

Xmanager provides two basic methods to access remote UNIX/Linux hosts: **Xbrowser** and **Xstart**. With **Xbrowser**, you can bring a full remote desktop to your Windows desktop through XDMCP (X Display Manager Control Protocol) and it is much easier for most users. With **Xstart**, you can get a single remote **X** application such as **xterm** and it is faster and simpler than XDMCP connection.

Once you have installed **Xmanager** successfully, you will be able to find **Xstart** and **Xbrowser** programs in the **Xmanager** folder on the desktop.

Starting with **Xbrowser**

Xbrowser helps you to find UNIX/Linux hosts on your network and connect to a host using XDMCP protocol.

To use **Xbrowser**, the remote Unix host should be configured to allow XDMCP service for remote **X** terminals. Usually one of **dtlogin**, **kdm**, **gdm** or **xdm** should be running on the host. For more information about configuring XDMCP service on the Unix host, please refer to the manual of your Unix server.

1. Open the **Xmanager** folder on your desktop.

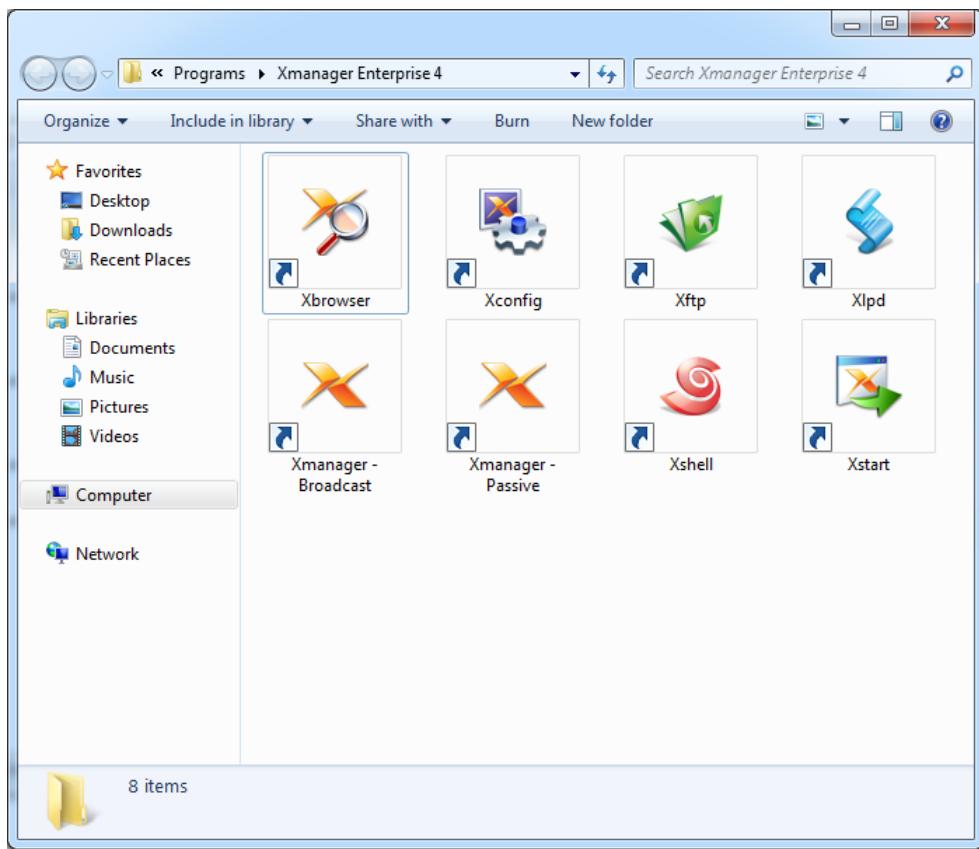


Figure 1: Xmanager Folder

2. Double-click **Xbrowser**.

RESULT: The Xbrowser window opens, as the figure below shows.

Notes

Xbrowser finds all UNIX/Linux hosts on your local network automatically. If UNIX/Linux host that you wish to access is in different network with the one of user's PC, open Options dialog box and register IP address or Broadcast address of the host, then try it again. If your UNIX host is not listed on the Xbrowser window, the host is not ready to serve XDMCP connections.

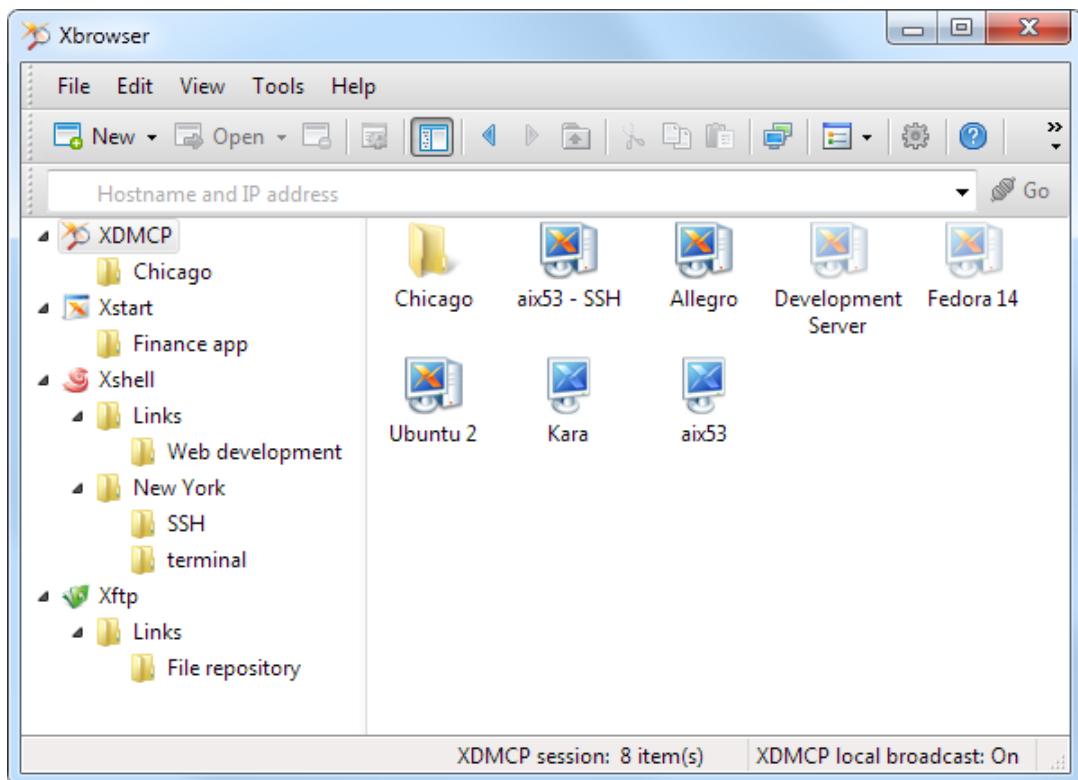


Figure 2: Xbrowser Main Window

3. Double-click the host you want to connect to.

RESULT: A graphic login window opens, as the figure below shows.

Notes

If you are not able to get a graphic login window, there may be a firewall between your PC and the remote host.

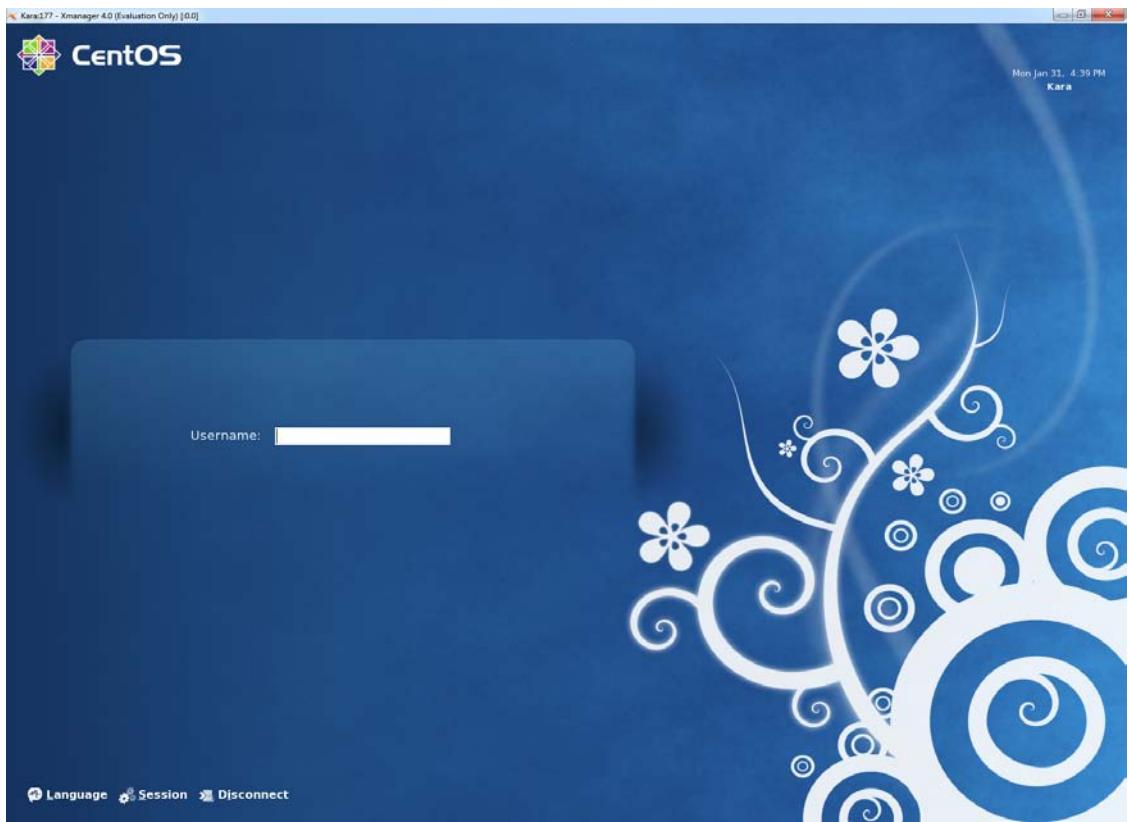


Figure 3: XDMCP Login Window

4. To log on to the host, enter your account name and password.
RESULT: A remote desktop opens, as the figure below shows.

Notes

If the remote desktop does not open after entering username and password, there may be an error in your login shell scripts.

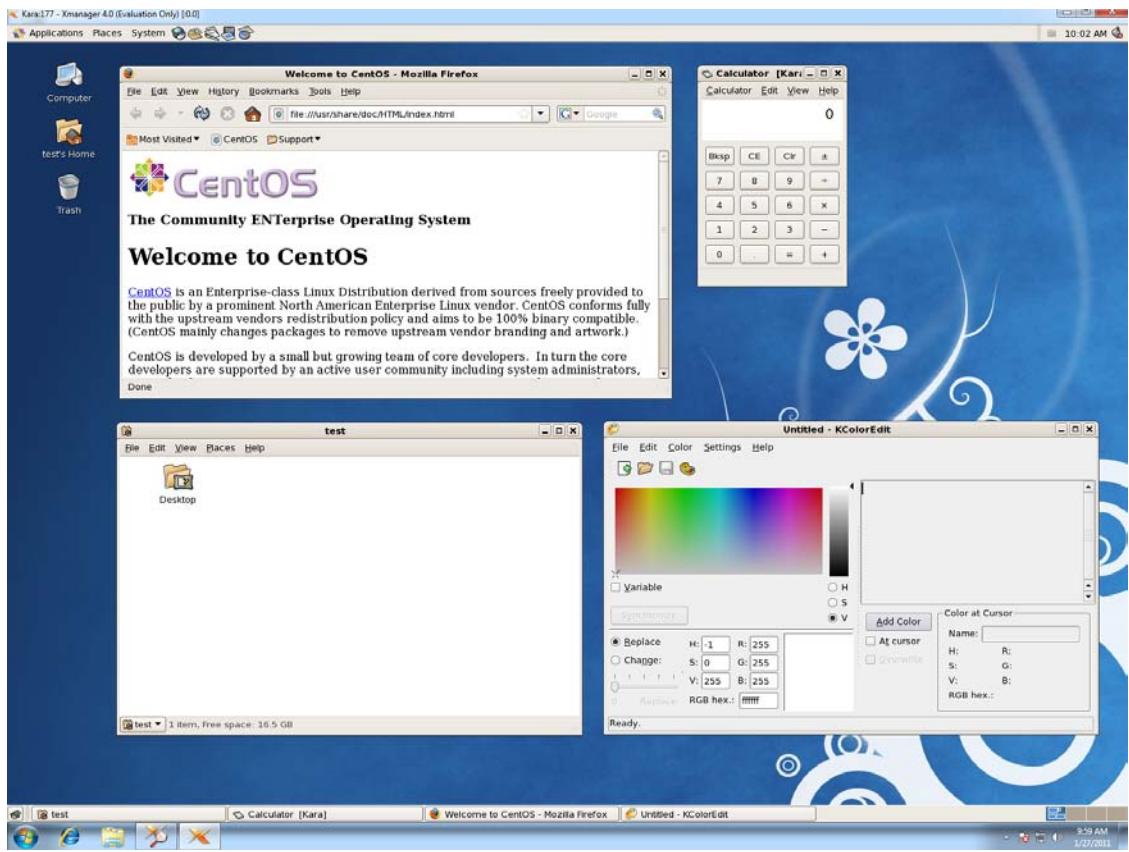


Figure 4: UNIX Desktop on Windows

If you experience any problem in using **Xbrower**, visit our support page at:

<http://www.netsarang.com/support/main.html>

From the support page, you can find some tips about configuring UNIX/Linux servers for XDMCP connections.

Starting with Xstart

Xstart helps you to run a remote **X** application. Once you have created an Xstart session, you can bring a remote **X** application on your Windows with a single click.

1. From the **Xmanager** folder, run **Xstart**.

RESULT: The **Xstart** window opens, as shown in the figure below.

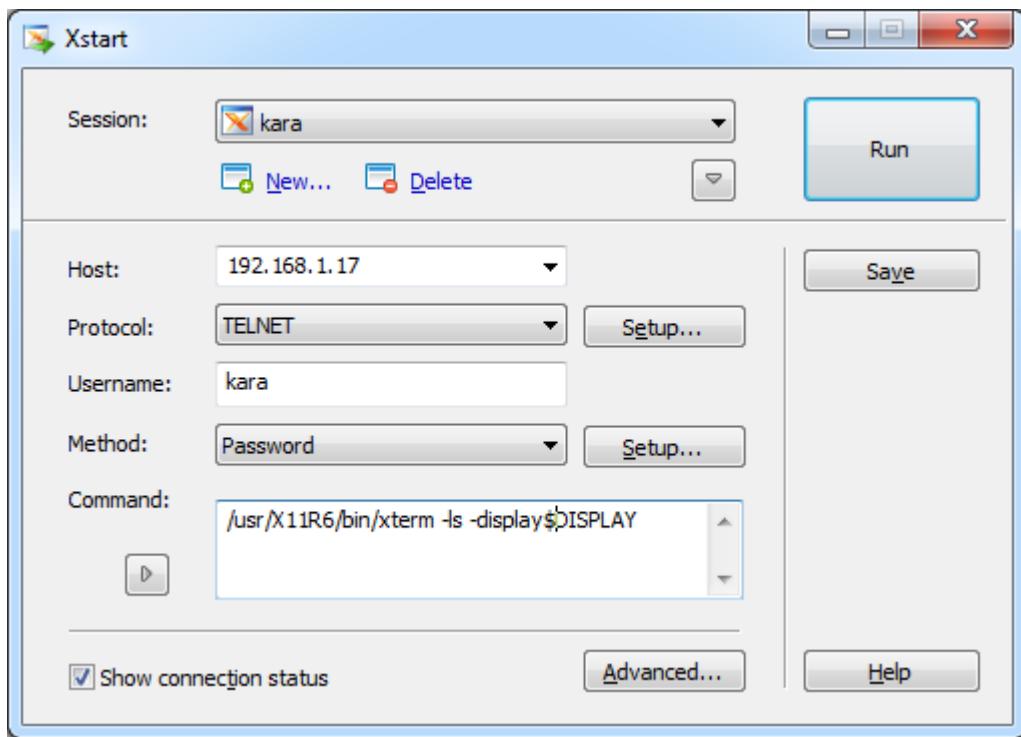


Figure 5: Xstart Main Window

2. Click **New**.

RESULT: A [New Session dialog box](#) appears, as you see below.

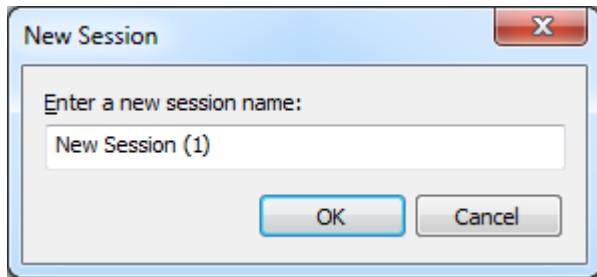


Figure 6: Xstart New Session Dialog Box

3. Enter a new session name, and click **OK**.
4. In the **Host** box, enter the hostname or IP address of the remote UNIX/Linux host.
5. In the **Protocol** box, select an appropriate protocol that is available on the host.
6. To set up protocol-specific options such as port and time-out, click **Setup**.
7. In the **Username** box, enter the user account on the host.
8. If you want to save the Password to the session, click the **Setup** button next to the Password field.

RESULT: **Password Setup** dialog box opens.

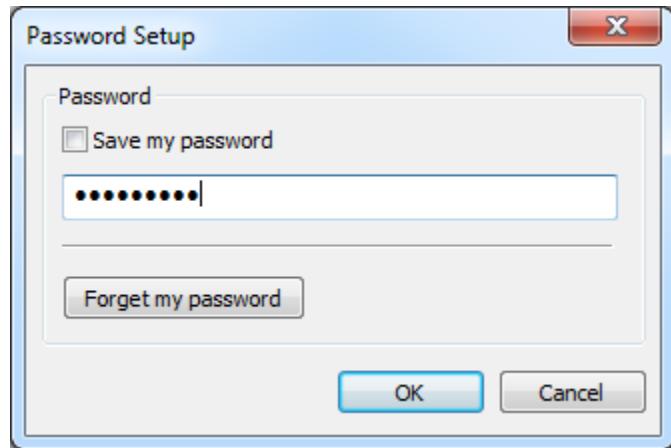


Figure 7: Password Setup Dialog Box

9. In the **Execution Command** box, enter a command that will be executed on the host. For example, enter the following to run an **xterm**:
`/usr/bin/X11/xterm -ls -display $DISPLAY`
10. Click **Run**.

RESULT: An **xterm** window opens, as shown in the figure below.

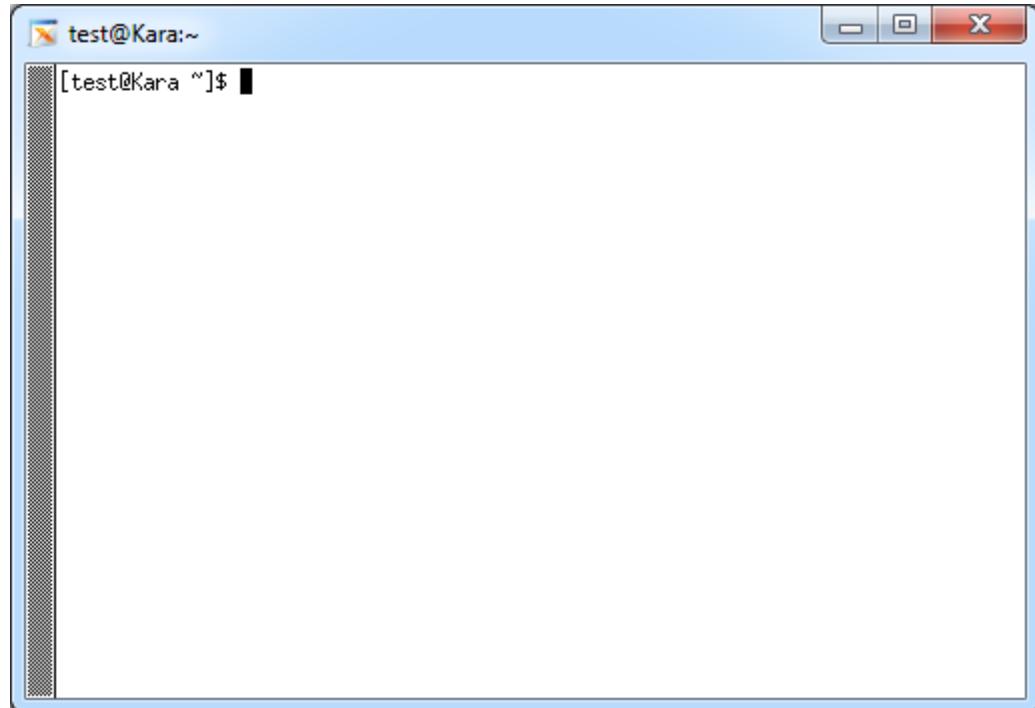


Figure 8: Xterm Window

If you experience any problem in using **Xstart**, visit our support page at:

<http://www.netsarang.com/support/support.html>

Most problems are caused by a firewall configuration on your systems and network. So, you may need to consult your system administrator to solve the problems.

Managing Sessions

A session contains properties of a connection to a remote host. By creating a session, you can specify different options and a server profile for each connection.

This section explains **Xstart** and **Xbrowser** sessions, creating a shortcut for a session and configuring a server profile for a session. For more information about **Xstart** and **Xbrowser**, refer to "Xstart" and "Xbrowser".

You can save the sessions in a folder and open all sessions in the folder simultaneously.

Xstart session

By creating an **Xstart** session, you can open remote X applications from PC. **Xstart** session automatically processes the login steps and runs the specified X application.

You can create **Xstart** sessions with both **Xstart** and **Xbrowser**.

To create a session on Xstart:

1. From the **Xmanager** folder, run **Xstart**.
RESULT: The Xstart window opens.
2. Click **New**.
RESULT: A New Session dialog box appears.
3. Enter a new session name, and click **OK**.
4. In the **Host** box, enter the hostname or IP address of the remote UNIX/Linux host.
5. In the **Protocol** box, select an appropriate protocol that is available on the host. The TELNET protocol is appropriate for most hosts.
6. To set up protocol-specific options such as port and time-out, click **Setup**.
7. In the **Username** box, enter the user account on the host.
8. If you want to save the Password to the session, click the **Setup** button next to the Password field.
RESULT: **Password Setup** dialog box opens.
9. In the **Execution Command** box, enter a command that will be executed on the host. For example, enter the following to run an **xterm**:
`/usr/bin/X11/xterm -ls -display $DISPLAY`
10. Click **Save**.

To create a session with Xbrowser:

1. From the **Xmanager** folder, run **Xbrowser**.
RESULT: The **Xbrowser** window opens.
2. In the **File** menu, point to **New**, and then click **Xstart Session**.
RESULT: A new **Xstart** session is created on the **Xbrowser** window.
3. Right-click on the new **Xstart** session.
RESULT: A menu appears.
4. Click **Properties**.
RESULT: A **Properties** dialog box opens.

5. Click the **General** tab.
6. In the **Host** box, enter the hostname or IP address of the remote UNIX/Linux host.
7. In the **Protocol** box, select an appropriate protocol that is available on the host. The **TELNET** protocol is appropriate for most hosts.
8. To set up protocol-specific options such as port and time-out, click **Setup**.
9. In the **Username** box, enter the user account on the host.
10. In the **Password** box, enter the password of the user account.
11. In the **Execution Command** box, enter a command that will be executed on the host. For example, enter the following to run an **xterm**:
`/usr/bin/X11/xterm -ls -display $DISPLAY`
12. Click **OK**.

Notes

You can also create an Xstart session with New Session Wizard provided by Xbrowser. To use it, point to New in the File menu, and then click New Session Wizard.

To create a shortcut for an Xstart session:

1. Run **Xstart**.
2. In the **Session** list, select a session.
3. Click **Shortcut**.
 RESULT: A **Browse for Folder** dialog box appears.
4. Select a folder in which you want to put a shortcut of the session.

Dynamic session

Xbrowser sends an XDMCP broadcast message to all hosts in your local network and shows the hosts which respond to the message as available sessions. Any hosts that responds to the messages shows up on the top level XDMCP folder.

Also, **Xbrowser** provides an option to find a host in a different network. You can disable the broadcast feature when there are too many hosts in your local network.

To find hosts in a different network:

1. Run **Xbrowser**.
2. In the **Tools** menu, click **Options**.
 RESULT: An Options dialog box opens.
3. In the **New Address** box, enter the hostname you want to find.
4. Click **Add**.
5. Click **OK**.

To disable local broadcast:

1. Run **Xbrowser**.
2. In the **Tools** menu, click **Options**.
 RESULT: An Options dialog box opens.
3. Clear the **Use local broadcast address** check box.
4. Click **OK**.

Static session

Static sessions are user created sessions. On Xbrowser, you can create *Passive*, *XDMCP Query*, *XDMCP Broadcast*, *XDMCP indirect*, and *Secure XDMCP* sessions. Unlike the Dynamic sessions which are available only when the remote hosts respond to the XDMCP broadcast message, the Static sessions are always shown on **Xbrowser**.

To create a Passive session:

1. Run **Xbrowser**.
2. In the **File** menu, point to **New**, and then click **New Session Wizard**.
RESULT: A [New Session Wizard](#) opens.
3. Select **Passive** and then click **Next**.
4. In the **X Server Profile** list box, select an appropriate server profile and then click **Next**.
5. In the **Name** box, enter a session name.
6. Click **Finish**.

To create an XDMCP Query/Broadcast/Indirect/Secure XDMCP session:

1. Run **Xbrowser**.
2. In the **File** menu, point to **New**, and then click **New Session Wizard**.
RESULT: A [New Session Wizard](#) opens.
3. Select **XDMCP** and then click **Next**.
4. In the **Connection Method** list box, select **Query**, **Broadcast**, **Indirect**, or **Secure XDMCP**.
5. In the **Host** box, enter the hostname of the remote host and then click **Next**.
6. In the **X Server Profile** list box, select an appropriate server profile and then click **Next**.
7. In the **Name** box, enter a session name.
8. Click **Finish**.

To create a shortcut for a static session:

1. Run **Xbrowser**.
2. Right-click on a session.
RESULT: A menu appears.
3. Click **Shortcut**.

To send a session to another user via email:

1. Run **Xbrowser**.
2. Right-click on a session.
RESULT: A menu appears.
3. Point to **Send To** and then click **Mail Recipient**.

To import a session:

1. Drag a session with a left-click.
2. Drop on the **Xbrowser** window.

Notes

You can only import static sessions saved as a file. Dynamic sessions cannot be imported.

To share a session with other users:

1. Run **Xbrowser**.
2. Right-click on a session.
RESULT: A menu appears.
3. Click **Sharing**.

Notes

A shared session is moved to a common folder and you should have an administrative privilege to do the task.

To save Dynamic sessions as Static sessions:

1. Run **Xbrowser**.
2. Select the Dynamic sessions and right-click on a session.
RESULT: A menu appears.
3. Click **Save as**.

Configuring properties of a session

A session contains basic connection information such as hostname and port. You also have the option to specify a display number and a server profile for **Xmanager** it invokes.

To allocate a static display number for a session:

1. Run **Xbrowser**.
2. Right-click on a session.
RESULT: A menu appears.
3. Click **Properties**.
RESULT: A [Xbrowser Properties dialog box](#) opens.
4. Click the [X Server tab](#).
5. Clear the **Allocate display number automatically** check box.
6. In the **Display Number** box, enter an appropriate display number.
7. Click **OK**.

To associate a session with a server profile:

1. Run **Xbrowser**.
2. Right-click on a session.
RESULT: A menu appears.
3. Click **Properties**.
RESULT: A [Xbrowser Properties dialog box](#) opens.
4. Click the [X Server tab](#).
5. In the **Server Profile** list, select an appropriate profile.
6. Click **OK**.

Creating a Folder

Xmanager supports folder. You can save the sessions in folder. To create a new folder:

1. Run **Xbrowser**.
2. Click on the File menu, point to New and then select the Folder menu.
RESULT: A new folder is created.
3. Enter the name for the folder.

Export Sessions

Xmanager supports exporting sessions. Sessions are exported to single file for easy import. You can import the exported session file from a different PC where Xmanager is installed and use it without extra configuration. To export sessions:

4. Run **Xbrowser**.
5. Click on the **File** menu, select the **Export** menu.
RESULT: The Import/Export wizard dialog box opens.
6. Select the products to export its sessions, and then click the **Next** button.
7. Select the folder where the exported session file will be saved and then click the **Next** button.
RESULT: Sessions are exported to a single file.
8. Click the **OK** button to close the Import wizard.

Import Sessions

Xmanager supports importing sessions. You can import sessions from the lower Xmanager versions from the same PC or the exported session file that is exported from a different PC. To import sessions:

1. Run **Xbrowser**.
2. Click on the **File** menu, select the **Import** menu.
RESULT: The Import/Export wizard dialog box opens.
- **To import sessions from the previously installed products on the same PC:**
 3. Select the **From the previously installed products on this computer** option, and click the **Next** button.
RESULT: Products and its sessions are listed.
 4. Select the products to import sessions from and then click the **Next** button.
RESULT: Sessions are imported and the result is displayed.
 5. Click the **OK** button to close the Export wizard.
- **To import sessions from the an exported session file:**
 3. Select the **From the following location** option.
 4. Enter the path of the exported session file or click the ... button to select the exported session file.
 5. Click the **Next** button to continue.

RESULT: Products and its sessions are listed.

6. Select the name of the products to import sessions from, and then click the **Next** button.
RESULT: Sessions are imported and the result is displayed.
7. Click the **OK** button to close the Export wizard.

Establishing Connections

Xmanager provides two convenient tools to connect to a remote host: **Xbrowser** and **Xstart**. **Xbrowser** is a comprehensive session management tool that you can use to manage not only **Xmanager** sessions but also **Xshell** and **Xftp** sessions. And, **Xstart** is useful when you want to run a single X application quickly and do not need the full desktop access such as Gnome and KDE.

This section explains a variety of connection methods and examples to manage with complex network environment and solve connection problems.

Connecting with Xbrowser

Xbrowser broadcasts an XDMCP query message to all the hosts in your local network and finds the hosts that respond to the query message automatically.

To connect to a host with XDMCP:

1. Run **Xbrowser**.
2. Double-click the host you want to connect to.

RESULT: **Xmanager** brings up and connects to the host with XDMCP protocol.

To connect to a host using the Address Bar:

1. Run **Xbrowser**.
2. In the Address bar, enter the hostname or the IP address of the remote host.
3. Press **Enter** key.

Connecting with Xstart

Using **Xstart**, you can quickly start the remote X applications on PC. **Xstart** supports *SSH*, *TELNET*, *RLOGIN*, *REXEC*, *RSH* and *LOCAL* connection protocols. Each connection protocol requires a corresponding server is running on the remote host. For example, *SSH* server is required on the remote host to use *SSH* protocol.

Use the *LOCAL* protocol when you run a local X application that is installed on your Windows. For more information about using **Xstart**, see "Xstart".

To run a remote X application with SSH protocol:

1. Run **Xstart**.
2. Click **New**.

RESULT: A New Session dialog box appears.

3. Enter a new session name, and click **OK**.
4. In the **Host** box, enter the hostname or IP address of the remote UNIX/Linux host.
5. In the **Protocol** box, select *SSH*.
6. To set up *SSH* protocol-specific options such as public key authentication, click **Setup**.
7. In the **Username** box, enter the user account on the host.

8. In the **Execution Command** box, enter a command that will be executed on the host. For example, enter the following to run an **xterm**:
`/usr/bin/X11/xterm -ls -display $DISPLAY`
9. Click **Run**.

To run a remote X application with *TELNET* protocol:

1. Run **Xstart**.
2. Click **New**.
RESULT: A New Session dialog box appears.
3. Enter a new session name, and click **OK**.
4. In the **Host** box, enter the hostname or IP address of the remote UNIX/Linux host.
5. In the **Protocol** box, select *TELNET*.
6. To set up *TELNET* protocol-specific options such as port and time-out, click **Setup**.
7. In the **Username** box, enter the user account on the host.
8. If you want to save the Password to the session, click the **Setup** button next to the Password field.
RESULT: **Password Setup** dialog box opens.
9. In the **Execution Command** box, enter a command that will be executed on the host. For example, enter the following to run an **xterm**:
`/usr/bin/X11/xterm -ls -display $DISPLAY`
10. Click **Run**.

To run a remote X application with *RLOGIN* protocol:

1. Run **Xstart**.
2. Click **New**.
RESULT: A New Session dialog box appears.
3. Enter a new session name, and click **OK**.
4. In the **Host** box, enter the hostname or IP address of the remote UNIX/Linux host.
5. In the **Protocol** box, select *RLOGIN*.
6. To set up *RLOGIN* protocol-specific options such as port and time-out, click **Setup**.
7. In the **Username** box, enter the user account on the host.
8. If you want to save the Password to the session, click the **Setup** button next to the Password field.
RESULT: **Password Setup** dialog box opens.
9. In the **Execution Command** box, enter a command that will be executed on the host. For example, enter the following to run an **xterm**:
`/usr/bin/X11/xterm -ls -display $DISPLAY`
10. Click **Run**.

To run a remote X application with *REXEC* protocol:

1. Run **Xstart**.
2. Click **New**.
RESULT: A New Session dialog box appears.
3. Enter a new session name, and click **OK**.

4. In the **Host** box, enter the hostname or IP address of the remote UNIX/Linux host.
5. In the **Protocol** box, select *REXEC*.
6. To set up REXEC protocol-specific options such as port and time-out, click **Setup**.
7. In the **Username** box, enter the user account on the host.
8. If you want to save the Password to the session, click the **Setup** button next to the Password field.
RESULT: **Password Setup** dialog box opens.
9. In the **Execution Command** box, enter a command that will be executed on the host. For example, enter the following to run an **xterm**:
`/usr/bin/X11/xterm -ls -display $DISPLAY`
10. Click **Run**.

To run a remote X application with RSH protocol:

1. Run **Xstart**.
2. Click **New**.
RESULT: A New Session dialog box appears.
3. Enter a new session name, and click **OK**.
4. In the **Host** box, enter the hostname or IP address of the remote UNIX/Linux host.
5. In the **Protocol** box, select *RSH*.
6. To set up RSH protocol-specific options such as port and time-out, click **Setup**.
7. In the **Username** box, enter the user account on the host.
8. In the **Execution Command** box, enter a command that will be executed on the host. For example, enter the following to run an **xterm**:
`/usr/bin/X11/xterm -ls -display $DISPLAY`
9. Click **Run**.

To run a local X application with Xstart:

1. Run **Xstart**.
2. Click **New**.
RESULT: A New Session dialog box appears.
3. Enter a new session name, and click **OK**.
4. In the **Protocol** box, select *LOCAL*.
5. In the **Execution Command** box, enter the full path of the local application. For example, enter the following to run an **xlogo**:
`C:\Program Files\Xapps\xlogo -display $DISPLAY`
6. Click **Run**.

Configuring firewall

You may need to alter the network settings when the remote hosts are on a different network over a gateway or when a firewall is between the PC and the remote host. Please keep in mind that **Xmanager** is a server (PC X server), and the connection is established from the remote X application to the **Xmanager**.

Port-forwarding is required for XDMCP connections when you are in a private network and you connect to a remote host over a router. Once you have configured port-forwarding on the

router, you should configure connection address for XDMCP connections.

If the firewall is forced to disconnect the idle connections, enable the Send keep-alive signal option for SSH sessions.

To enable the Send keep-alive signal option for SSH connections:

1. Run **Xstart**.
2. In the **Session** list, select a session.
3. In the **Protocol** list, select *SSH*.
4. Click **Setup**.

RESULT: An [SSH Protocol Setup dialog box](#) opens.

5. Click the **General** tab.
6. Select the **Send keep-alive signal** check box.
7. Click **OK**.

To configure port-forwarding rules on a router:

1. Connect to the router and go to the port-forwarding page.
2. Forward external TCP ports 6000 ~ 6010 to the ports 6000 ~ 6010 of your Windows. For example, assumes that the IP address of your PC is 192.168.1.2:

External Port	Port	Address
6000	6000	192.168.1.2
6001	6001	192.168.1.2
...		
6010	6010	192.168.1.2
3. Save the configuration.

Notes

Refer to the manual of your router to configure the port forwarding.

To configure a connection address for XDMCP sessions:

1. Run **Xbrowser**.
2. Right-click on the session you want to configure a connection address setting.
RESULT: A menu appears.
3. Click **Properties**.

RESULT: A [Xbrowser Properties dialog box](#) opens.

4. Click the **General** tab.
5. In the **Connection Address** area, select **Use following connection address** check box.
6. In the **Host** box of the **Connection Address** area, enter the IP address of the router.
7. In the **Port Number** box of the **Connection Address** area, enter "6001".

Notes

This number is a router side port number which is configured to perform port-forwarding from router to PC.

8. Click the **X Server** tab.

9. In the **Display Number** area, clear the **Allocate display number automatically** check box.
10. In the **Display Number** box, enter "1".

Notes

This number comes from the port number "6001" which is configured to perform port-forwarding from router to PC. If you subtract 6000 from the port number, the result will be the display number.

11. Click **OK**.

Solving connection problems

If you failed to establish connection to the remote host after following the previous instructions, these are some questions and information that can help you solve the problem.

To solve XDMCP connection problems:

1. Check the following:
 - Is a **dtlogin**, **kdm**, **gdm** or **xdm** running on the remote host?
 - Does the login window open?
 - Is the remote host on a different network?
 - Is there a firewall between your Windows and the remote host?
 - Does your Windows system have a firewall configuration?
 - The name server may have an incorrect entry for your PC.
 - The DISPLAY variable is configured incorrectly on your shell script.
2. See log messages.
 - To see **Xmanager** log files, click the system menu on **Xmanager** main window, point to **Log**, and then click **File**.
 - For CDE errors, read /var/dt/Xerrors when you cannot see the login window. Read \$HOME/.dt/startlog and \$HOME/.dt/errorlog when you failed to login.

To solve Xstart connection problems:

1. Run **Xstart**.
2. Select **Show status dialog box**.
3. Select **Show reply messages**.
4. Click **Run**.
RESULT: A **Reply Messages** dialog box opens.
5. Read the reply messages to find the reason of the problem.

Configuring Server Profiles

Xconfig is a tool that lets you manage server profiles. A server profile contains X Server related options such as window mode, fonts, color, and security. You can make multiple profiles on **Xconfig** and assign a different profile for each session.

When you create a session, Default Profile is assigned to the session. Two default profiles are created for you automatically when you install **Xmanager**.

To create a new server profile:

1. Run **Xconfig**.
2. In the **File** menu, click **New Profile**.
RESULT: A New Profile is created on the **Xconfig** window.
3. Double-click on the new profile.
RESULT: A [Properties dialog box](#) opens.
4. Configure options on the dialog box.
5. Click **OK**.

To set a profile as the default Xstart profile:

1. Run **Xconfig**.
2. Right-click on the profile that will be set as a default **Xstart** profile.
RESULT: A menu appears.
3. Click **Set as Default Xstart Profile**.

To set a profile as the default XDMCP profile:

1. Run **Xconfig**.
2. Right-click on the profile that will be set as a default **XDMCP** profile.
RESULT: A menu appears.
3. Click **Set as Default XDMCP Profile**.

To share a profile with other users on Windows:

1. Run **Xconfig**.
2. Right-click on the profile that will be shared with other users on the local machine.
3. Click **Sharing**.

To email a profile:

1. Run **Xconfig**.
2. Right-click on a profile.
RESULT: A menu appears.
3. Point to **Send To** and then click **Mail Recipient**.
RESULT: A mail composer opens with the profile attached.

To export a profile to a folder:

1. Run **Xconfig**.
2. Drag a profile and drop it on a folder.

To import a profile:

1. Run **Xconfig**.
2. Drag a profile and drop it on **Xconfig**.

Managing Fonts

Xmanager provides many fonts for X applications. When installing **Xmanager**, you can select font packs to install depending on the vendor of Unix server and your language.

Even though **Xmanager** includes many fonts required for most systems and applications, you can still add new fonts. Thus, this section explains how to: install additional fonts, add a font server and configure font options.

For more information about fonts, see "Fonts".

To install additional font packs:

1. Visit **Xmanager** download page at:
<http://www.netsarang.com/download/download.html>
2. Download additional font packs you want to install.
3. Run it on your Windows.
4. Follow the guidance of the installation wizard.

Notes

The font pack applies the new font directory to all server profiles. So, you do not have to add the new font directory using **Xconfig**.

To convert BDF fonts to PCF fonts:

1. Run bdftopcf.exe as following:
C:\tmp> %XMANAGER_INSTALL_DIR%\bdftopcf new.bdf -o new.pcf

To create or update FONTS.DIR using mkfntdir.exe:

1. Go to the font directory and run **mkfntdir.exe**:
%XMANAGER_INSTALL_DIR%\Fonts\NewFonts> ..\..\mkfntdir

To create and use a font directory:

1. Create a new directory under the following directory:
C:\Program Files\NetSarang\Xmanager2\Fonts
2. Copy new fonts to the new directory.
3. Run **mkfntdir.exe** on the new directory:
C:\Program Files\...\Fonts\NewFonts> ..\..\mkfntdir .
4. Run **Xconfig**.
5. Double-click on the profile you want to change the font catalogue.
RESULT: A [Properties dialog box](#) opens.
6. Click the **Font** tab.
7. Click **Add Font Directory**.
RESULT: A **Browse for Folder** dialog box opens.
8. Select the new font directory created above.
9. Click **OK**.

10. Restart **Xmanager**.

To use a font server:

1. Run **Xconfig**.
2. Double-click on the profile.
RESULT: A [Properties dialog box](#) opens.
3. Click the **Font** tab.
4. Click **Add Font Server**.
RESULT: An [Add Font Server dialog box](#) opens.
5. In the **Hostname** box, enter the IP address or hostname of the font server.
6. In the **Port** box, enter the port number of the font server.
7. Click **OK**.

 **Notes**

Make sure that a font server is running on the remote host. Usually the program name is xfs and the default port is 7100.

To change the default text font:

1. Run **Xconfig**.
2. Double-click on the profile.
RESULT: A [Properties dialog box](#) opens.
3. Click the **Font** tab.
4. In the **Default Font** box, enter a font name that will be used as a default text font.
5. Click **OK**.

 **Notes**

A default text font is used when an X application does not specify a font name to display characters.

To use font aliasing when a desired font is not found:

1. Run **Xconfig**.
2. Double-click on the profile.
RESULT: A [Properties dialog box](#) opens.
3. Click the **Font** tab.
4. Select the **Automatic Font Substitution** check box.
5. Click **OK**.

To show missing font dialog box:

1. Run **Xconfig**.
2. Double-click on the profile.
RESULT: A [Properties dialog box](#) opens.
3. Click the **Font** tab.
4. Select the **Show Missing Font Dialog** check box.

5. Click **OK**.

Configuring Keyboard and Mouse

Xbrowser includes [Keyboard Editor](#) that allows you to define the custom keyboard layouts for international keyboards that are different from the standard AT keyboard. It also supports various mouse options for scrolling and swapping buttons.

Configuring keyboard

You can select a keymap file, specify a hot key to switch keymaps on the fly and edit a keymap file with [Keyboard Editor](#).

To add more Keymap files to the keyboard list:

1. Run **Xconfig**.
2. Double-click on a profile.
RESULT: A [Properties dialog box](#) opens.
3. Click the **Devices** tab.
4. Click **Keyboard Settings**.
RESULT: A [Keyboard Settings dialog box](#) opens.
5. Click **Add**.
RESULT: An [Add Keyboard dialog box](#) opens.
6. Select an appropriate keymap file.
7. Click **OK**.

To set a keymap as a default keymap:

1. Run **Xconfig**.
2. Double-click on a profile.
RESULT: A [Properties dialog box](#) opens.
3. Click the **Devices** tab.
4. Click **Keyboard Settings**.
RESULT: A [Keyboard Settings dialog box](#) opens.
5. In **Keyboard List**, select a keymap that will be used by default.
6. Click **Set Default**.
7. Click **OK**.

To switch keymaps on the fly:

1. While **Xmanager** is running, press **Ctrl+Alt+K**.
RESULT: A **Keyboard Selector** dialog box opens.
2. While keeping the **Ctrl+Alt** keys pressed, press and release the **K** key to select a keymap.

3. Release all keys.

Notes

In the **Keyboard Selector** dialog box, you can see only the keymaps those are in the **Keyboard List** of the [Keyboard Settings dialog box](#).

To edit a keymap file:

1. Run **Xconfig**.
2. Double-click on a profile.
RESULT: A [Properties dialog box](#) opens.
3. Click the **Devices** tab.
4. Click **Keyboard Settings**.
RESULT: A [Keyboard Settings dialog box](#) opens.
5. In **Keyboard List**, select a keymap.
6. Click **Edit**. RESULT: A [Keyboard Editor](#) opens.

Configuring mouse

Xmanager allows you to configure 3-button emulation, enable or disable mouse wheel support for easier scrolling, and switch middle/right buttons.

To emulate 3-button with a 2-button mouse:

1. Run **Xconfig**.
2. Double-click on a profile.
RESULT: A [Properties dialog box](#) opens.
3. Click the **Devices** tab.
4. Click **Mouse Settings**.
RESULT: A [Mouse Settings dialog box](#) opens.
5. Select the **Click the left and right buttons simultaneously** check box.
6. Click **OK**.

To scroll using the wheel in X applications:

1. Run **Xconfig**.
2. Double-click on a profile.
RESULT: A [Properties dialog box](#) opens.
3. Click the **Devices** tab.
4. Click **Mouse Settings**.
RESULT: A [Mouse Settings dialog box](#) opens.
5. Select the **Use Mouse Wheel** check box.
6. Click **OK**.

Notes

When the wheel is used for scrolling, the right-click may not work in some X applications such as the CDE desktop menu.

To switch a right-click to a middle-click:

1. Run **Xconfig**.
2. Double-click on a profile.
RESULT: A [Properties dialog box](#) opens.
3. Click the **Devices** tab.
4. Click **Mouse Settings**.
RESULT: A [Mouse Settings dialog box](#) opens.
5. Select the **Use Right Button as Middle Button** check box.
6. Click **OK**.

Managing Color

Xmanager supports 6 visual types simultaneously. If your video devie supports more than 16-bit colors, **Xmanager** sets the default visual as TrueColor. Otherwise, PseudoColor is used. The default visual is used by the X root window and most X applications.

However, some X applications such as old CAD tools are developed specifically for 256-color systems. These applications work only on PseudoColor visual, and you must set the visual to PseudoColor.

Xmanager can emulate PseudoColor visual on a true-color video device. When **Xmanager** emulates PseudoColor visual, the StoreColor request is a very expensive operation that slows down the performance. Therefore, **Xmanager** supports the full StoreColor feature optionally.

Some X applications are designed to run on specific UNIX/Linux RGB formats and may fail to run on TrueColor visual. To resolve this problem, **Xmanager** provides an option to set the the RGB format on TrueColor.

Also, **Xmanager** supports an RGB database file which translates color names to corresponding RGB values. You can edit the color database using a text editor.

To change the default server visual:

1. Run **Xconfig**.
2. Double-click on a profile.
RESULT: A [Properties dialog box](#) opens.
3. Click the **Color** tab.
4. In the **Choose Default Visual** list, select an appropriate visual.
5. Click **OK**.

To process the exact StoreColor requests in PseudoColor visual:

1. Run **Xconfig**.
2. Double-click on a profile.
RESULT: A [Properties dialog box](#) opens.
3. Click the **Color** tab.
4. Select the **Exact StoreColor for PseudoColor** check box.
5. Click **OK**.

To emulate 256-color visual in true-color video device:

1. Run **Xconfig**.
2. Double-click on a profile.
RESULT: A [Properties dialog box](#) opens.
3. Click the **Color** tab.
4. In the **Choose Default Visual** list, select *PseudoColor*.
5. Click the **Advanced** tab.
6. Select **When Mapped** for the **Backing Store** option.
7. Click **OK**.

To reverse the order of RGB fields in TrueColor visual:

1. Run **Xconfig**.
2. Double-click on a profile.
RESULT: A [Properties dialog box](#) opens.
3. Click the **Color** tab.
4. Select the **Reverse RGB Order for TrueColor** check box.
5. Click **OK**.

To change or edit RGB color database:

1. Run **Xconfig**.
2. Double-click on a profile.
RESULT: A [Properties dialog box](#) opens.
3. Click the **Color** tab.
4. In the **Color Database** area, click **Change** or **View**.
5. Click **OK**.

Using Window Mode

Xmanager provides a Single Window Mode for XDMCP sessions and a Multiple Window Mode for **Xstart** sessions. In Single Window Mode, the X application opens in a single Xmanager window. It is especially useful when you are running desktop X applications such as Gnome or KDE. Multiple Window mode opens each X application in its own window. It is also referred to as Seamless Integration mode because each X application gets an windows frame for resizing and minimizing just like Windows applications. This mode is useful when you do not need full desktop access. You can change the window mode by using **Xconfig**.

In a Single Window Mode, you can customize the size of the root window and add a scroll bar when the X desktop is larger than your Windows desktop.

In a Multiple Window Mode, **Xmanager** helps you to select a window manager and desktop background, enable window panning, and activate a window on mouse focus.

To use single window mode:

1. Run **Xconfig**.
2. Double-click on a profile.
RESULT: A [Properties dialog box](#) opens.
3. Click the **General** tab.
4. In the **Choose Window Mode to use** list, select *Single Window Mode*.
5. Click **OK**.

To customize root window size in single window mode:

1. Run **Xconfig**.
2. Double-click on a profile.
RESULT: A [Properties dialog box](#) opens.
3. Click the **General** tab.
4. In the **Choose Window Mode to use** list, select *Single Window Mode*.
5. Click **Settings**.
RESULT: A [Window Mode Settings dialog box](#) opens.
6. Click the **Single Window Mode** tab.
7. In the **Window Size** list, select an appropriate size.
8. Click **OK**.

To use multiple window mode:

1. Run **Xconfig**.
2. Double-click on a profile.
RESULT: A [Properties dialog box](#) opens.
3. Click the **General** tab.
4. In the **Choose Window Mode to use** list, select *Multiple Window Mode*.
5. Click **OK**.

To use window panning in multiple window mode:

1. Run **Xconfig**.
2. Double-click on a profile.
RESULT: A [Properties dialog box](#) opens.
3. Click the **General** tab.
4. In the **Choose Window Mode to use** list, select *Multiple Window Mode*.
5. Click **Settings**.
RESULT: A [Window Mode Settings dialog box](#) opens.
6. Click the **Multiple Window Mode** tab.
7. Select the **Use Panning** check box.
8. Click **OK**.

To use Auto Raise feature in multiple window mode:

1. Run **Xconfig**.
2. Double-click on a profile.
RESULT: A [Properties dialog box](#) opens.
3. Click the **General** tab.
4. In the **Choose Window Mode to use** list, select *Multiple Window Mode*.
5. Click **Settings**.
RESULT: A [Window Mode Settings dialog box](#) opens.
6. Click the **Multiple Window Mode** tab.
7. Select the **Auto Raise Window** check box.
8. Set **Interval**.
9. Click **OK**.

To select desktop background in multiple window mode:

1. Run **Xconfig**.
2. Double-click on a profile.
RESULT: A [Properties dialog box](#) opens.
3. Click the **General** tab.
4. In the **Choose Window Mode to use** list, select *Multiple Window Mode*.
5. Click **Settings**.
RESULT: A [Window Mode Settings dialog box](#) opens.
6. Click the **Multiple Window Mode** tab.
7. In the **Background** list, select an appropriate background.
8. Click **OK**.

To select a window manager in multiple window mode:

1. Run **Xconfig**.
2. Double-click on a profile.
RESULT: A [Properties dialog box](#) opens.
3. Click the **General** tab.

4. In the **Choose Window Mode to use** list, select *Multiple Window Mode*.
5. Click **Settings**.
RESULT: A [Window Mode Settings dialog box](#) opens.
6. Click the **Multiple Window Mode** tab.
7. In the **Window Manager** list, select an appropriate window manager.
8. Click **OK**.

Security

Xmanager supports host-based access control and also supports the public key user authentication method using **Xstart** with the SSH (Secure Shell) protocol.

Host-based access control manages a trusted hosts list, and only the X applications on the trusted hosts can connect to **Xmanager**. For an unauthorized X application, **Xmanager** posts a warning dialog box to allow the connection or not. Even though the host-based access control can prevent connections from unauthorized users, the network packets between **Xmanager** and X applications are not encrypted and vulnerable to intrusion.

Xmanager also supports SSH protocol for better security. The SSH connection is available only for **Xstart** sessions.

Xmanager offers password and public key user authentication along with a public key generation wizard. **Xmanager** shares the host key and user key database with **Xshell** and **Xftp** programs. Therefore, once you have created a user key, **Xmanager** can use it without further configuration steps.

To enable host-based access control:

1. Run **Xconfig**.
2. Double-click on a profile.
RESULT: A [Properties dialog box](#) opens.
3. Click the **Security** tab.
4. Select the **Enable Access Control** check box.
5. In the **Trusted Hosts** list, enter the hosts you will allow connections.
6. Click **Add**.
7. Click **OK**.

To warn for an unauthorized client connection:

1. Run **Xconfig**.
2. Double-click on a profile.
RESULT: A [Properties dialog box](#) opens.
3. Click the **Security** tab.
4. Select the **Warn Unauthorized Connections** check box.
5. Click **OK**.

To run a remote X application securely with SSH protocol:

1. Run **Xstart**.
2. Click **New**.
RESULT: A [New Session dialog box](#) appears.
3. Enter a new session name, and click **OK**.
4. In the **Host** box, enter the hostname or IP address of the remote UNIX/Linux host.
5. In the **Protocol** box, select **SSH**.
6. To set up SSH protocol-specific options such as public key authentication, select the Public

Key option for **Authentication** and click **Setup**.

7. In the **Username** box, enter the user account on the host.
8. In the **Execution Command** box, enter a command that will be executed on the host. For example, enter the following to run an **xterm**:
`/usr/bin/X11/xterm -ls -display $DISPLAY`
9. Click **Run**.

To open a user key manager:

1. Run **Xbrowser**.
2. In the **Tools** menu, click **SSH User Key Manager**.

To open a host key manager:

1. Run **Xbrowser**.
2. In the **Tools** menu, click **SSH Host Key Manager**.

To create a user key pair:

1. Run **Xbrowser**.
2. In the **Tools** menu, click **SSH User Key Generation Wizard**.
3. The User Key Generation Wizard will guide you through the whole generation process.

Notes

At the final step of the generation process, you can also register the public key on the remote SSH server.

To register a public key on the server:

1. Open the User Keys dialog box.
2. Select the user key you want to register.
3. Click **Properties**.
RESULT: The User Key Properties dialog box appears.
4. Click the **Public Key** tab.
5. In the **View public key format as** list, select an appropriate format depending on the type of your remote SSH server.
6. Click **Save as a file**.

Notes

After the public key is saved as a file, you should copy it to the remote server. How to register the copied key into your remote SSH account is different for each server and you may find it helpful to read "Step 4: Public Key Registration".

To import a private key to the database:

1. Open the User Keys dialog box.
2. Click **Import**.
RESULT: The **Open** dialog box appears.
3. Select the private key file you want to import and click **OK**.

4. In the **File Type** list, select the type of the private key.

Notes

If you select Auto Detect, **Xmanager** will determine the type automatically.

5. In the **Passphrase** box, enter the passphrase of the private key.
6. Click **OK**.

To export a user key to a file:

1. Open the [User Keys dialog box](#).
2. Select the user key you want to export.
3. Click **Export**.
RESULT: The **Save As** dialog box appears.
4. Enter a file name and click **OK**.

Notes

The exported file is in the NetSarang User Key format and it cannot be used in the applications provided by other vendors.

To change the name of a user key:

1. Open the [User Keys dialog box](#).
2. Select the user key's name you want to change.
3. Click **Rename**.

Notes

Notice that the key name is used as a file name. You must enter only valid characters for the name.

To change the passphrase of a user key:

1. Open the [User Keys dialog box](#).
2. Select the user key's passphrase you want to change.
3. Click **Properties**.
RESULT: The [User Key Properties dialog box](#) appears.
4. Click the **General** tab.
5. Click **Change Passphrase**.

To delete a user key from the database:

1. Open the [User Keys dialog box](#).
2. Select the user key you want to delete.
3. Click **Delete**.

Multiple Monitors

Xmanager allows you to select a monitor to open X window desktops when there are multiple monitors. You can choose a monitor from available monitors or a virtual screen which includes all monitors.

Make sure all monitors have video color greater than 16 bits, because **Xmanager** may not work correctly if one is 8-bit and others are greater than 8-bit.

To select a monitor for X desktop:

1. Run **Xconfig**.
2. Double-click on a profile.
RESULT: A [Properties dialog box](#) opens.
3. Click the **Devices** tab.
4. Click **Monitor Settings**.
RESULT: A [Monitor Settings dialog box](#) opens.
5. In the **Monitor to be used** list, select an appropriate monitor.
6. Click **OK**.

To use all monitors as a single X desktop:

1. Run **Xconfig**.
2. Double-click on a profile.
RESULT: A [Properties dialog box](#) opens.
3. Click the **Devices** tab.
4. Click **Monitor Settings**.
RESULT: A [Monitor Settings dialog box](#) opens.
5. In the **Monitor to be used** list, select *Virtual Screen*.

■ Notes

The **Virtual Screen** is shown when your system has multiple monitors.

6. Click **OK**.

To show a monitor selection dialog box at startup:

1. Run **Xconfig**.
2. Double-click on a profile.
RESULT: A [Properties dialog box](#) opens.
3. Click the **Devices** tab.
4. Click **Monitor Settings**.
RESULT: A [Monitor Settings dialog box](#) opens.
5. Select the **Show the Monitor Selector at startup** check box.
6. Click **OK**.

Copying, Saving and Printing X Applications

Xmanager allows you to copy text between X applications and Windows clipboard automatically. You can also copy the image of X application windows to the clipboard, save it as a bitmap file or send it to the printer when you are using the local window manager.

To configure automatic cut & paste:

1. Run **Xconfig**.
2. Double-click on a profile.
RESULT: A [Properties dialog box](#) opens.
3. Click the **Advanced** tab.
4. In the **Settings** list, select **Auto Cut & Paste**.
5. Click **OK**.

To copy text area from xterm to Windows Notepad:

1. In the **xterm** window, select text area with the left button.
RESULT: The selected area is highlighted.
2. Open **Notepad**.
3. In the **Edit** menu, click **Paste**.

To copy text area from Windows Notepad to xterm:

1. In the **Notepad** window, select text area with the left button.
RESULT: The selected area is highlighted.
2. Copy with the keys, **Ctrl+C**, or the menu options, **Edit -> Copy**.
3. Open **xterm**.
4. On the **xterm** window, right-click.

To copy an X application window to the Clipboard:

1. In the system menu on the title bar, point to **Copy** and then click **Window** or **Contents**.
RESULT: The window image is copied to the Clipboard.

Notes

You can use this feature only when you run an application with **Xstart**, in the Multiple Window mode and with a local window manager.

To save an X application window as a bitmap file:

1. In the system menu on the title bar, point to **Save** and then click **Window** or **Contents**.
RESULT: A **Save As** dialog box opens.

2. In the **File Name** box, enter an appropriate file name.
3. Click **OK**.

 **Notes**

You can use this feature only when you run an application with **Xstart**, in the Multiple Window mode and with a local window manager.

To print an X application window:

1. In the system menu on the title bar, point to **Print** and then click **Window** or **Contents**.
RESULT: A **Print** dialog box opens.
2. Click **Print**.

 **Notes**

You can use this feature only when you run an application with **Xstart**, in the Multiple Window mode and with a local window manager.

Logging Session

Xmanager saves the debugging information as a file in user folder. When multiple **Xmanager** sessions are running at the same time, each session generates log messages in a different file such as X0.LOG, X1.LOG and so on. The number on the log file indicates the display number of an **Xmanager** session.

When you experience a problem in using **Xmanager**, it is helpful to see the log file.

To view the log file of the current session:

1. Right-click the **Xmanager** tray icon or the title bar of **Xmanager** main window or click the small **Xmanager** icon on the title bar of **Xmanager** main window.
RESULT: A [Xmanager system menu](#) appears.
2. In the system menu, point to **Log** and then click **File**.
RESULT: **Notepad** opens the log file.

To view the log folder for all sessions:

1. Right-click the **Xmanager** tray icon or the title bar of **Xmanager** main window or click the small **Xmanager** icon on the title bar of **Xmanager** main window.
RESULT: A [Xmanager system menu](#) appears.
2. In the system menu, point to **Log** and then click **Folder**.
RESULT: The **Log** folder opens.

Reference

This section covers complete reference information about using **Xmanager**.

Xmanager is a powerful and easy-to-use PC X server software program that is running on a Windows platform. It allows you to bring remote UNIX/Linux desktops to your Windows PC seamlessly. You can also run remote X applications securely through the SSH (Secure Shell) protocol even when your Windows PC is inside a private network and a firewall is between your PC and the remote server.

Xmanager incorporates a variety of new features such as improved user interface, folder support and better interoperation with other NetSarang software. It offers many advanced options to meet the needs of professional users but also is designed as simply as possible for beginners.

Xmanager consists of a number of programs including **Xmanager**, **Xconfig**, **Xbrowser**, **Xstart** and some additional utilities:

- **Xmanager** is a PC **X** server program, and all **X** clients will open windows on MS Windows through **Xmanager**. **Xstart** and **Xbrowser** execute **Xmanager** when they are trying to run an **X** application remotely or get a full GUI desktop of a remote Unix.
- **Xconfig** creates and manages **Xmanager** profiles which configure many **Xmanager** options such as window mode, font set, color and so on.
- **Xbrowser** is an easy-to-use and very user-friendly interface program for browsing remote UNIX/Linux machines and connecting to the remote host through XDMCP protocol. It supports multiple XDMCP sessions simultaneously, and the user is able to create a shortcut icon for any of the hosts listed in the **Xbrowser** window.
- **Xstart** is a tool that lets you run a remote **X** application from your PC. It supports SSH, TELNET, RLOGIN, REXEC and RSH protocols to log on to a remote host, and it executes a remote command as easily as it is on your Windows PC.

Xmanager

Xmanager is an X server that brings remote X applications to Windows desktop.

Xmanager is a display server program running on the user's desktop. When you run a remote X application on Unix, it connects to **Xmanager** and sends various requests such as CreateWindow, PolyLines, PolyText and so on. **Xmanager** processes those requests on Windows desktop and delivers user inputs such as mouse click and key press to the X application.

By default **Xmanager** listens on the port, TCP 6000 for X applications. If you run another **Xmanager**, it will try to search another port greater than TCP 6000 for an unused one.

When you open multiple **Xmanager** sessions, each session gets a unique display number starting from 0 and it is displayed on the title bar of **Xmanager** such as [:0.0]. The first digit is the display number and the second one is the screen number. The screen number is always 0. **Xmanager** adds 6000 to the display number to get a TCP port. If it listens on TCP 6001, the display number will be 1.

If you run **Xmanager** from the Programs folder of the **Start** menu, **Xmanager** goes to an idle state and it waits for an X application to connect. Then, you can run a remote X application using **Xstart** or other tools. For **Xstart** sessions, **Xmanager** reads the default **Xstart** profile specified in **Xconfig**.

When **Xstart** executes a remote X application, it runs **Xmanager** before sending the command to the remote host. So, you do not need to run **Xmanager** ahead of time.

If you run **Xmanager Broadcast** from the **Programs** folder of the **Start** menu, **Xmanager** broadcasts an XDMCP query message on the network. Any hosts which respond to the query will be displayed on a chooser window, and you can select one to connect to the host with XDMCP. For XDMCP sessions, **Xmanager** reads the default XDMCP profile specified in **Xconfig**.

In a multiple window mode, **Xmanager** icon goes into the system tray. You can right-click on the tray icon to open a system menu. In the system menu, you can run other utilities, see the logs and open the **Xmanager Help** system. For example, see the figure below:

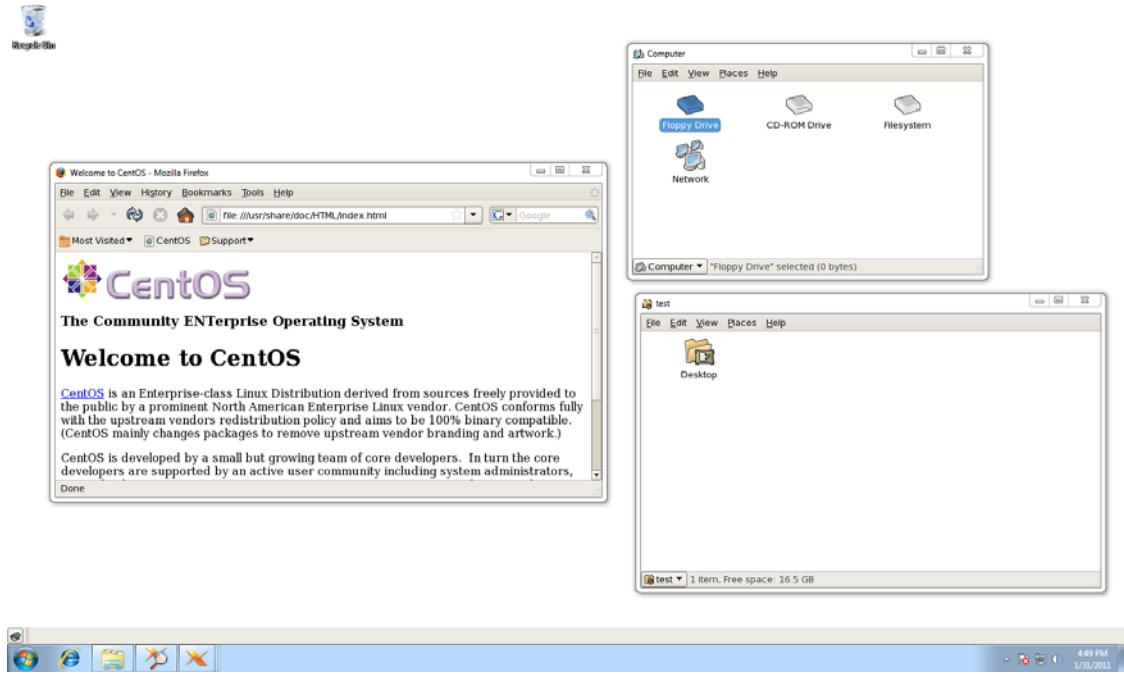


Figure 9: Xmanager Multiple Window Mode

In a single window mode, **Xmanager** opens a large main window in which **X** application windows appear, as the figure below shows.

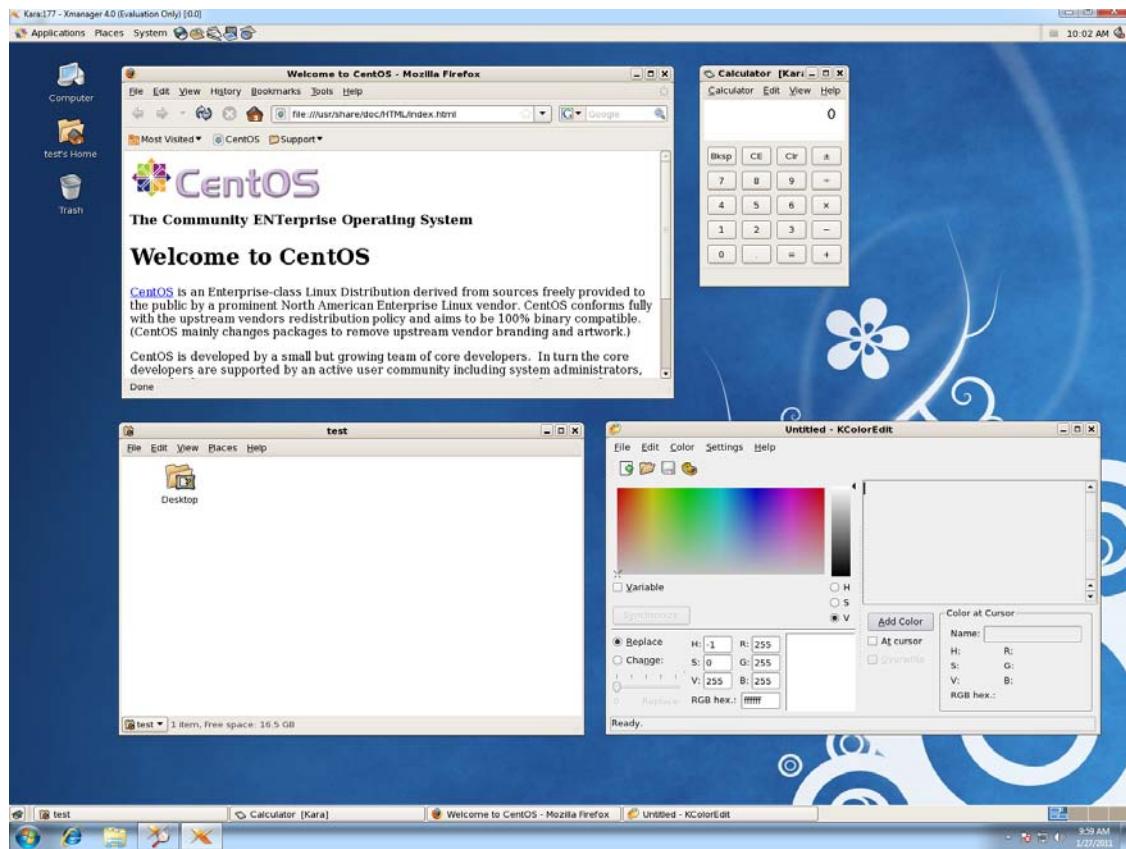


Figure 10: Xmanager Single Window Mode

Xmanager system menu

In the **Xmanager** system menu, you can run other utility programs, open a log file, open the [Properties dialog box](#) and get **Xmanager** Help system. You can open the menu by clicking the **Xmanager** icon on the title bar.

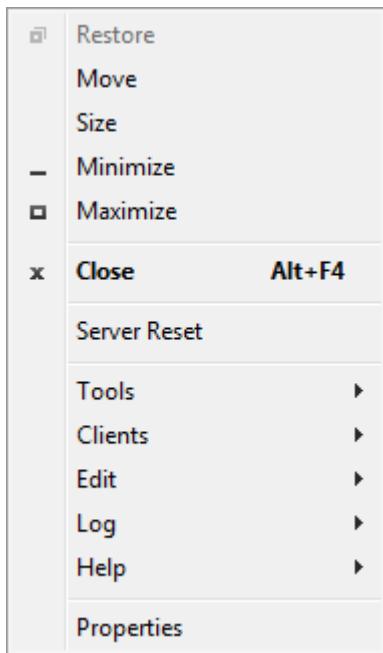


Figure 11: Xmanager System Menu

Restore

Returns the window to its original size when it is maximized or minimized.

Move

Moves the window.

Size

Changes the size of the window.

Minimize

Iconizes the window.

Maximize

Maximizes the size of the window.

Close

Terminates all **X** applications connected to **Xmanager** and closes **Xmanager**.

Server Reset

Terminates all **X** applications connected to **Xmanager** and resets **Xmanager** in its initial state.

Tools->Xbrowser

Runs the **Xbrowser** program.

Tools->Xstart

Runs the **Xstart** program.

Tools->Xconfig

Runs the **Xconfig** program.

Client

Starts **Xstart** session

Log->File

Opens the log file of this session.

Log->Folder

Opens the log folder for all **Xmanager** sessions.

Help->Xmanager Help

Opens the **Xmanager** Help system.

Help->About Xmanager

Opens the About dialog box which contains version and license information.

Properties

Opens the [Properties dialog box](#) for the **Xmanager** profile of this session.

Xmanager tray menu

In the **Xmanager** tray menu, you can run other utility programs, open a log file, open the [Properties dialog box](#) and get **Xmanager Help** system. You can open the menu by clicking the **Xmanager** icon on system tray.

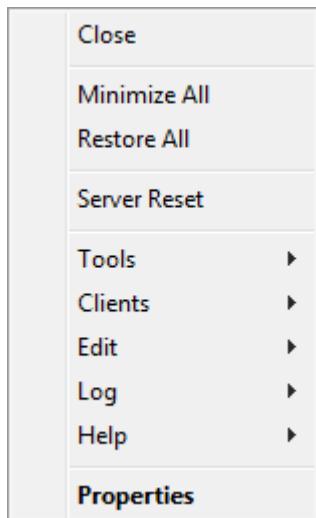


Figure 12: Xmanager Tray Menu

Close

Terminates all **X** applications connected to **Xmanager** and closes **Xmanager**.

Minimize All

Iconizes or hides all **X** application windows.

Restore All

Restores all **X** application windows to its original position and size.

Server Reset

Terminates all **X** applications connected to **Xmanager** and resets **Xmanager** in its initial state.

Tools->Xbrowser

Runs the **Xbrowser** program.

Tools->Xstart

Runs the **Xstart** program.

Tools->Xconfig

Runs the **Xconfig** program.

Client

Starts **Xstart** session

Log->File

Opens the log file of this session.

Log->Folder

Opens the log folder for all **Xmanager** sessions.

Help->Xmanager Help

Opens the **Xmanager** Help system.

Help->About Xmanager

Opens the About dialog box which contains version and license information.

Properties

Opens the [Properties dialog box](#) for the **Xmanager** profile of this session.

Xmanager command line options

Xmanager supports command line options to interface with other user applications. When you run **Xmanager** directly, it does not read an **Xstart** or **Xbrowser** session and you should specify the connection method and display number as command line options.

Xmanager command line usage:

```
Xmanager [-query hostname] [-broadcast] [-indirect hostname] [:digit]
```

Some examples are listed below.

Usage	Description
Xmanager	Runs as a passive mode with the default Xstart profile. The display number is 0 by default; if it is not available, another number is allocated automatically.
Xmanager : 1	Runs as a passive mode with the default Xstart profile. The display number is 1; if it is not available, Xmanager aborts.
Xmanager –query <i>host</i>	Connects to the host with the XDMCP query method. It uses the default XDMCP profile. The display number is 0 by default; if it is not available, another number is allocated automatically.
Xmanager –query <i>host</i> : 2	Connects to the host with the XDMCP query method. It uses the default XDMCP profile. The display number is 2; if it is not available, Xmanager aborts.
Xmanager –broadcast	Sends an XDMCP broadcast message to the local network and displays all available XDMCP hosts in a Chooser dialog box. It uses the default XDMCP profile. The display number is 0 by default; if it is not available, another number is allocated automatically.
Xmanager –indirect <i>host</i>	Connects to the host with the XDMCP indirect method. The remote host opens a chooser window through Xmanager . It uses the default XDMCP profile. The display number is 0 by default; if it is not available, another number is allocated automatically.

Xbrowser

Xbrowser is an easy-to-use and very user-friendly interface program for browsing remote UNIX/Linux machines which support XDMCP connections. By default it broadcasts an XDMCP (X Display Manager Control Protocol) query message to all the hosts in your local network and displays the hosts that respond to the query message.

To connect to a host, you can simply double-click on the host icon displayed in the **Xbrowser** window. Actually **Xbrowser** executes **Xmanager** with the hostname you selected. **Xbrowser** is able to run multiple **Xmanager** to get multiple XDMCP sessions simultaneously. Each XDMCP session launched by **Xbrowser** has a unique display number which starts from zero.

Xmanager allocates a display number for each XDMCP session automatically and you do not have to worry about configuring the display number.

Xbrowser allows you to create a new XDMCP session by copying existing one or using [New Session Wizard](#). Once you create a new session, it is stored on your PC and you can change its options or create a shortcut of the session.

Xbrowser can also create and display **Xstart** sessions. All **Xstart** sessions are shared by **Xstart** and **Xbrowser**. You can show or hide **Xstart** sessions on your preference.

Xbrowser main window

Xbrowser main window looks like a **Windows Explorer**. It consists of a menubar, a toolbar, an address bar, a workspace, and a status bar, as shown in the figure below.

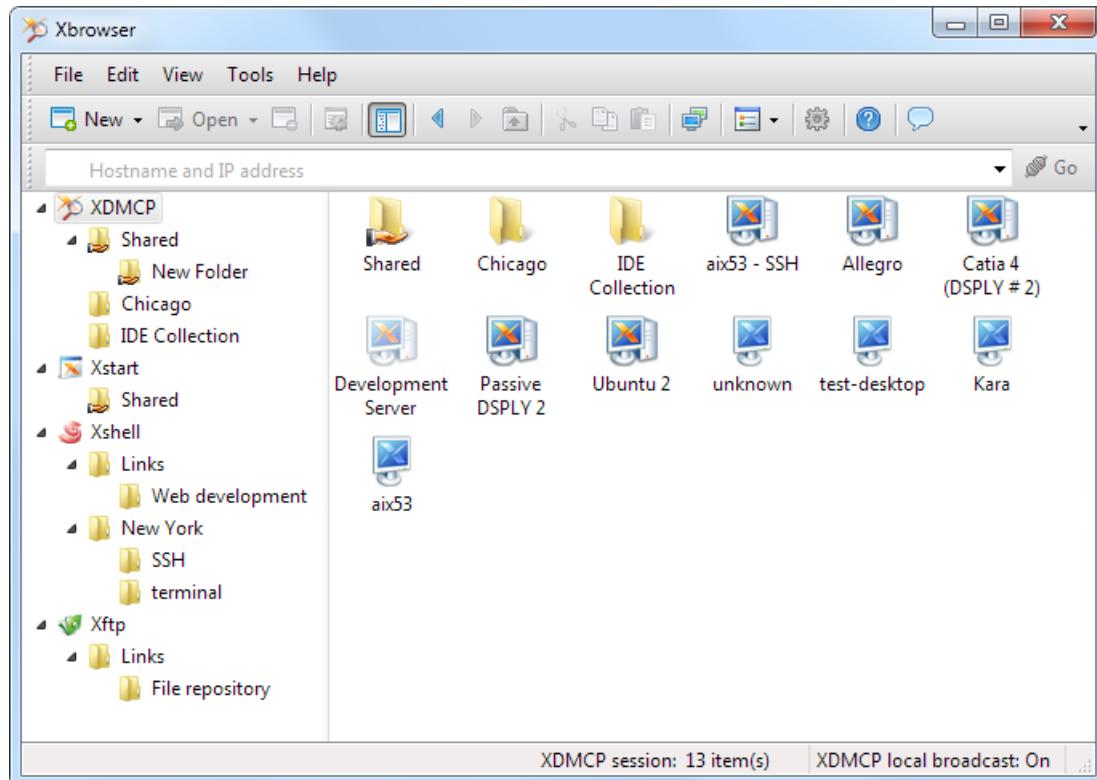


Figure 13: Xbrowser Main Window

The workspace displays the hosts which respond to an XDMCP query message. An icon on the workspace denotes the type of a session. **Xbrowser** supports three kinds of sessions: *Dynamic*, *Static* and *Xstart*.

The list below describes each session.

Icon	Session Type	Description
	Dynamic	Xbrowser sends a broadcast message on local LAN and finds these sessions dynamically. To find hosts in another subnet, you can add IP addresses in the Options dialog box . All dynamic sessions have the same configuration. To change the configuration of a session, right-click on the session, click Save As , right-click on the newly created session and then click Properties .
	Static	A Static session is bound to a specific remote host. You can create it by copying from a dynamic session or using New Session Wizard . If the remote host does not respond to the XDMCP query message, the icon appears dimmed. Passive and XDMCP broadcast sessions are also considered to be static sessions. You can create a shortcut of a session, save as a file, configure its options or send it to another user via email.
	Xstart	Xbrowser can create and manage Xstart sessions. You can also create these sessions in the Xstart program on your preference. Xbrowser and Xstart share all Xstart sessions. By double-clicking an Xstart session, you can run a remote X application as easily as it is on your Windows machine.

Xbrowser sends broadcast messages periodically and refreshes the workspace appropriately. By default the refresh cycle is 300 seconds. If a host does not respond to the message in a few seconds, the icon is changed to a dim shape.

In general, all UNIX/Linux systems support XDMCP service, and there should be no problem in finding a remote host in the **Xbrowser** window. In some cases, the remote host is not configured to service XDMCP requests and that makes the host not to be found on the list. Then you should contact your system administrator to set up XDMCP service in the remote host.

By default **Xbrowser** does not search a host that resides in another network segment. To search the host, you should add its IP address in the [Options dialog box](#). Be sure that XDMCP connection does not work if a firewall exists between your Windows and the remote host.

File menu

In the **File** menu, you can create and open sessions, create a shortcut of a session and view the properties of a session.

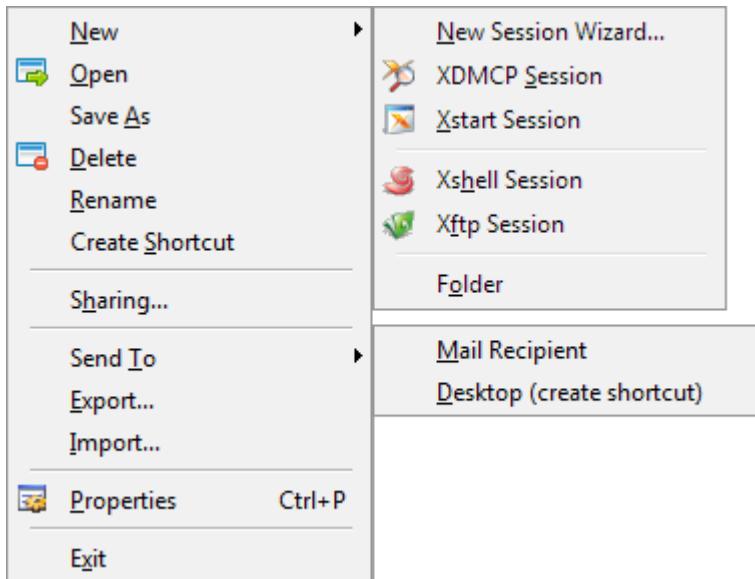


Figure 14: Xbrowser File Menu

New->New Session Wizard

Opens the [New Session Wizard](#). You can create an **Xmanager** or **Xstart** session using the wizard.

New->Static Session

Creates an **Static** session on the workspace. You can change its name and configure its options.

New->Xstart Session

Creates an **Xstart** session on the workspace. You can change its name and configure its options. You can also edit the newly created session in the **Xstart** program.

New->Xshell Session

Creates an **Xshell** session if **Xshell** is installed. You can change session name and configure its options.

New->Xftp Session

Creates an **Xftp** session if **Xftp** is installed. You can change session name and configure its options.

New->Folder

Creates a new folder.

Open

Opens the selected session. **Xbrowser** executes **Xmanager** with the information in the

session.

Save As

Saves the selected session as another name.

Delete

Deletes the selected session from the workspace.

Rename

Changes the name of the selected session.

Create Shortcut

Opens the **Browse for Folder** dialog box and create a shortcut on the folder you selected.

Sharing

Shares the session with all users in the system. Only the users who have an administrative privilege can use this command. Shared session is moved to the Shared folder.

Send To->Mail Recipient

Opens a mail composer with the session attached to the message. It is useful when an administrator creates a template session and wants to distribute it to other users. The **Password** value in the session is not readable by other users.

Send To->Desktop (create shortcut)

Creates a shortcut for a session on the **Desktop** folder.

Import

Opens the Import session wizard. You can import sessions.

Export

Opens the Export session wizard. You can export sessions. Password are not included in the exported sessions.

Properties

Opens the [Xbrowser Properties dialog box](#) for the selected session.

Exit

Quits the **Xbrowser** program.

Edit menu

In the **Edit** menu, you can copy, paste and select profiles.



Figure 15: Xbrowser Edit Menu

Cut

Moves the selected sessions and folders to the clipboard.

Copy

Copies the selected sessions and folders to the clipboard.

Paste

Pastes the sessions in the clipboard to current folder.

Select All

Selects all sessions and folders in the current folder.

View menu

In the **View** menu, you can show or hide **Toolbars** and **Status Bar**, change the listing style of the workspace and adjust columns in Details view.

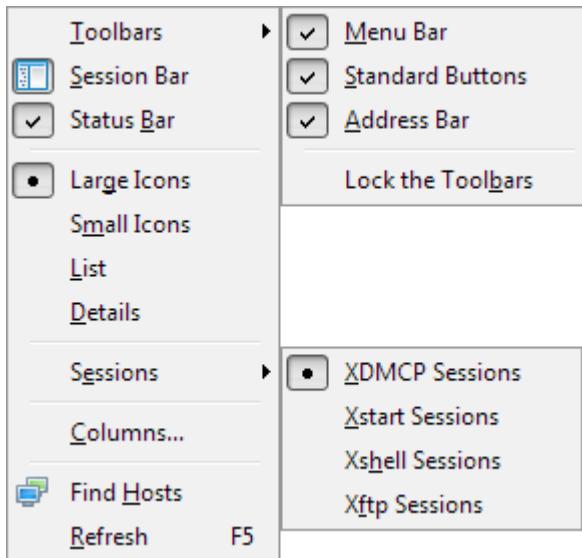


Figure 16: Xbrowser View Menu

Toolbars->Standard Buttons

Shows or hides the standard buttons.

Toolbars->Address Bar

Shows or hides the **Address** bar.

Toolbars – Lock the toolbars

Locks or unlocks toolbars from changing position.

Session Bar

Shows or hides the **Session window** where you can manage not only **Xmanager** sessions but also **Xshell**, **Xftp** sessions.

Status Bar

Shows or hides the **Status Bar**.

Large Icons

Changes the listing style to the **Large Icons** view.

Small Icons

Changes the listing style to the **Small Icons** view.

List

Changes the listing style to the **List** view.

Details

Changes the listing style to the **Details** view.

Sessions->XDMCP Sessions

Opens the XDMCP session root node.

Sessions->Xstart Sessions

Opens the **Xstart** session root node.

Sessions->Xshell Sessions

Opens the Xshell session root node.

Sessions->Xftp Sessions

Opens the Xftp session root node.

Columns

Opens the [Columns dialog box](#). You can customize the columns that will be displayed in **Details** view.

Find Hosts

Sends out the broadcast message to local network and the hosts specified in the Options dialog box.

Refresh

Sends a broadcast message to your local network and the registered hosts, then refreshes the session list accordingly.

Tools menu

In the **Tools** menu, you can run **Xstart** and **Xconfig** programs, create and manage SSH user keys, and configure **Xbrowser** options.



Figure 17: Xbrowser Tools Menu

Launch Xstart

Runs the **Xstart** program.

Launch Xconfig

Runs the **Xconfig** program.

SSH Host Key Manager

Opens the [Host Keys dialog box](#).

SSH User Key Manager

Opens the [User Keys dialog box](#).

SSH User Key Generation Wizard

Opens the [User Key Generation Wizard](#).

Options

Opens the [Options dialog box](#). The dialog box allows you to edit broadcast addresses and change the refresh interval.

Help menu

In the **Help** menu, you can open **Xmanager Help** system and get information about the current version.

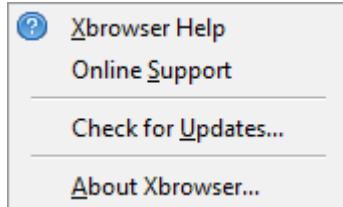


Figure 18: Xbrowser Help Menu

Contents and Index

Opens **Xmanager** Help system.

Online Support

Opens an Internet browser and goes to the support page of **Xmanager**.

Check for Updates

Checks the newest version of **Xmanager** to help with upgrading it.

About Xbrowser

Opens the **About** dialog box which contains the version and license information. Also in this dialog box you can enter product key to register Xmanager.

Session Context Menu

By clicking right mouse button in a session, you can open Session Context Menu.

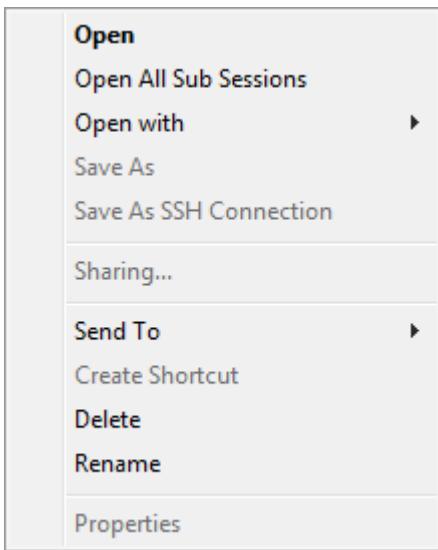


Figure 19: Session Context Menu

Open

Opens the selected session. If multiple sessions are selected, all of selected sessions are opened.

Open All Subsessions

Opens all sessions saved under the selected folder.

Open With->SSH

Opens Xshell (terminal emulator) and makes SSH connection to the selected host.

Open With->TELNET

Opens Xshell (terminal emulator) and makes TELNET connection to the selected host.

Open With->RLOGIN

Opens Xshell (terminal emulator) and makes RLOGIN connection to the selected host.

Open With->FTP

Opens Xftp (file transfer client) and makes FTP connection to the selected host.

Open With->SFTP

Opens Xftp (file transfer client) and makes SFTP connection to the selected host.

Save As

Copies the selected session to a new session. If it is XDMCP dynamic session, it will be saved as XDMCP static session.

Save as SSH connection

Creates Secure XDMCP static session if it is XDMCP dynamic session. In this case SSH server must be running on the remote host.

Sharing

Starts/Stops sharing the selected session with other users of the system. Shared session is moved to the Shared folder.

Send to

Sends the selected session file to other users through email or creates a shortcut in the desktop folder.

Create Shortcut

Opens the **Browse for Folder** dialog box and allows you to create a shortcut for the current session.

Delete

Deletes the selected session.

Rename

Changes the name of the selected session.

Properties

Opens **Properties** dialog box to change settings of the session.

Toolbar buttons

Xbrowser provides a number of toolbar buttons for commonly used tasks and commands. You can also perform the same tasks from the menu bar.

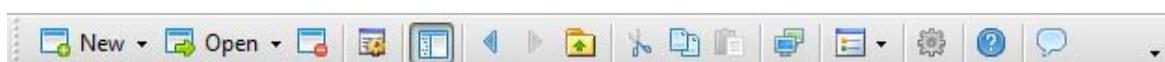


Figure 20: Xbrowser Toolbar Buttons

The list below describes the toolbar buttons.

Button	Name	Description
	New	Opens New Session Wizard. It allows you to create Xstart or XDMCP sessions step by step.
	Open	Starts the selected session. You can also start terminal session and file transfer session by selecting the submenu.
	Delete	Deletes the selected session.
	Properties	Opens the Xbrowser Properties dialog box for the selected session.

	Session bar	Shows the Session bar.
	Back	Moves to backward in the visited folders.
	Forward	Moves to forward in the visited folders
	Up one level	Moves up one level in folder tree
	Cut	Cuts the selected sessions and folders
	Copy	Copies the selected sessions and folders to the Clipboard
	Paste	Pastes the sessions and folders from the Clipboard
	Find hosts	Sends out the broadcast message to local network and the hosts specified in the Options dialog box.
	View	Changes the listing style of the workspace.
	Options	Opens the Options dialog box and allows you to configure Xbrowser options.
	Help	Opens the Xmanager Help system.

Address bar



Figure 21: Xbrowser Address Bar

The syntax in the **Address bar** is:

```

hostname
xdmcp://hostname
xstart://sessionname
xsession://sessionname
ssh://[username[:password]@]hostname[:port][/]
telnet://[username[:password]@]hostname[:port][/]
rlogin://[username[:password]@]hostname[:port][/]
ftp://[username[:password]@]hostname[:port][/]
sftp://[username[:password]@]hostname[:port][/]

```

Available protocols are *xdmcp*, *xstart*, *xsession*, *ssh*, *telnet*, *rlogin*, *ftp* and *sftp*. The *xdmcp* protocol is used when a protocol is not specified. The *xdmcp* protocol uses UDP port 177 as a default port.

Some examples are listed below.

Usage	Description
<i>foobar.com</i> xdmcp://foobar.com	Connects to the <i>foobar.com</i> using XDMCP protocol.

xstart://mysession	Opens an Xstart session named <i>mysession</i> .
xsession://cdesession	Opens a static Xbrowser session named <i>cdesession</i> .
ssh:// <i>myhost</i> :22/	Opens Xshell and it connects to <i>myhost</i> , port 22 with SSH protocol. The Xshell program must be installed in your Windows to be able to run an SSH command.
telnet:// <i>user:pass@myhost</i>	Opens Xshell and it connects to <i>myhost</i> , port 23 with <i>TELNET</i> protocol. The username and password are sent automatically after connected. The Xshell program must be installed in your Windows to be able to run a telnet command.
rlogin:// <i>user@myhost</i>	Opens Xshell and it connects to <i>myhost</i> , port 513 with RLOGIN protocol. The username is sent automatically after connected. The Xshell program must be installed in your Windows to be able to run an RLOGIN command.
ftp:// <i>anonymous@myhost</i>	Opens Xftp and it connects to <i>myhost</i> , port 21 with FTP protocol. The username is sent automatically after connected. The Xftp program must be installed in your Windows to be able to run an FTP command.
sftp:// <i>user:pass@myhost/</i>	Opens Xftp and it connects to <i>myhost</i> , port 22 with SFTP (Secure Shell File Transfer Protocol) protocol. The username and password are sent automatically after connected. The Xftp program must be installed in your Windows to be able to run an SFTP command.

Options dialog box

The **Options** dialog box allows you to specify broadcast addresses and a refresh interval. You can open the dialog box by clicking **Options** on the **Tools** menu.

XDMCP tab

In the **XDMCP** tab, you can set XDMCP broadcast options and specify the hosts to exclusively search for when sending out the broadcast message.

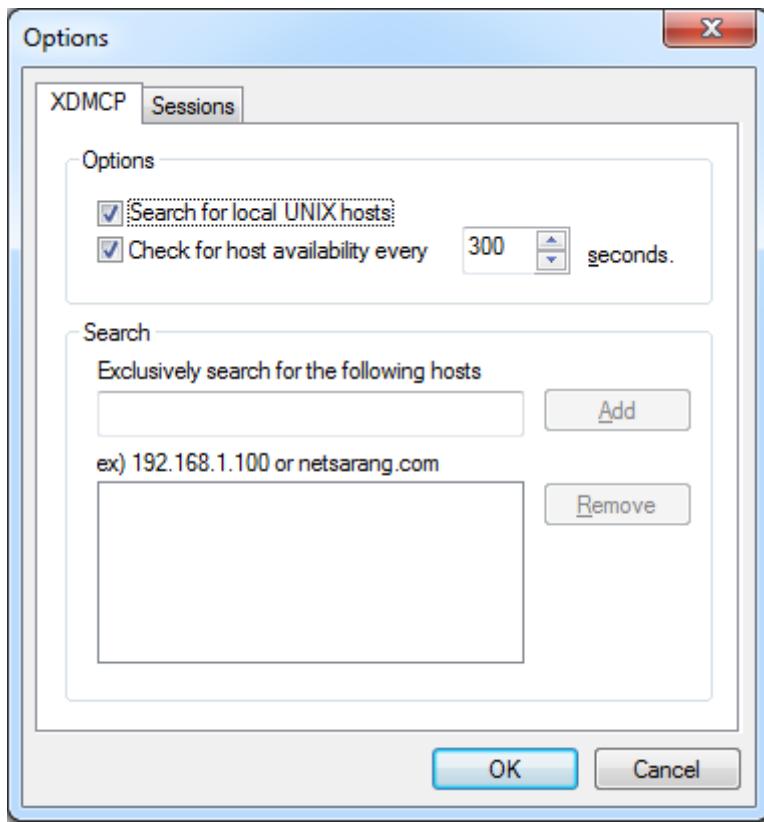


Figure 22: Xbrowser Options Dialog Box, XDMCP Tab

Search for local UNIX hosts

Xbrowser sends a broadcast packet to the local broadcast address, 255.255.255.255, UDP port 177. Thus, all hosts in the local network listen the packet at the same time. This feature is a very efficient way to send a small packet to all hosts in the local network simultaneously.

If your local network has too many hosts and you want to limit the hosts displayed in the **Xbrowser** window, turn off this option and add your preferred hosts to the Registered Addresses list.

Check for host availability every __ seconds

Select this check box if you want to update the state of each session periodically. At the intervals you specified, **Xbrowser** sends a broadcast message again and refreshes the workspace accordingly.

Exclusively search for the following hosts

Enter the IP address or hostname of the remote host you want to browse for XDMCP connection. By default, **Xbrowser** searches for all UNIX/Linux hosts in the same local network. If some hosts are outside the local network, you can add them here.

To send a broadcast message to another network, set the host number part of the IP address to all ones. For example, when you want to search for all hosts in 192.168.1.xxx, add 192.168.1.255 to the list. This works for most networks, but some routers do not allow

broadcast feature across networks.

Add

Adds a new address to the **Registered Addresses** list.

Registered host list

Xbrowser sends an XDMCP broadcast message to the hosts in this list.

Remove

Removes the selected host from the **Registered Addresses** list.

Sessions tab

In the **General** tab, you can set XDMCP and connection address settings of a session

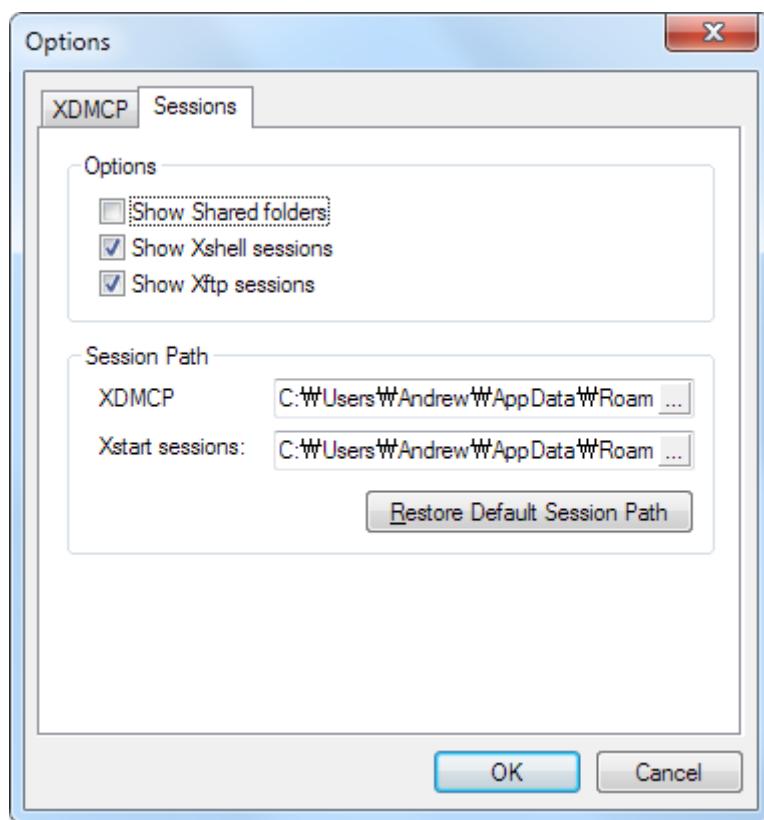


Figure 23: Xbrowser Options Dialog Box, Sessions Tab

Figure 24: Xbrowser Options Dialog Box

Show Shared folder

Displays the Shared folder node on the Session bar.

Show Xshell sessions

Displays the **Xshell** node on the Session bar.

Show Xftp folder

Displays the **Xftp** folder on Xbrowser.

Session Path

Defines the root session directory for XDMCP and Xstart sessions. For example, you can set a network folder as the session path and share the sessions with other users.

XDMCP

Sets where the XDMCP sessions are saved.

Xstart

Sets where the Xstart sessions are saved.

Xbrowser Properties dialog box

The **Properties** dialog box allows you to customize the settings of a session. You can open it by clicking **Properties** on the **File** menu or the **Properties** button on the toolbar.

In the dialog box, you can configure XDMCP settings, a connection address, a server profile and a display number.

General tab

In the **General** tab, you can set XDMCP and connection address settings of a session.

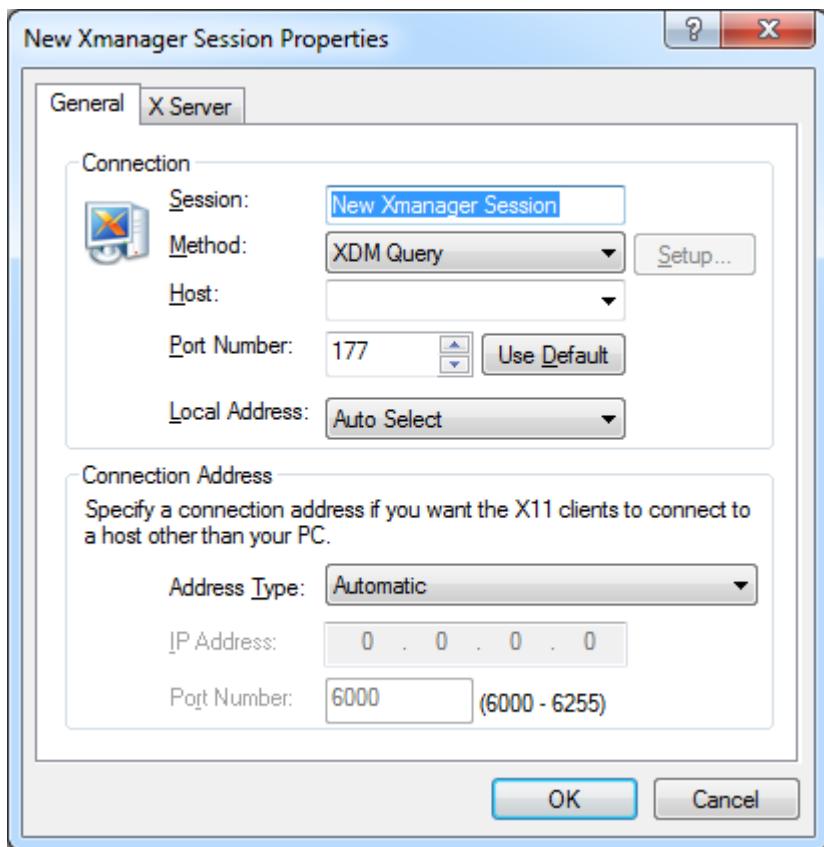


Figure 25: Xbrowser Properties Dialog Box, General Tab

Connection Method

Select one of connection methods: *Passive (No XDMCP)*, *XDMCP Query*, *XDMCP Broadcast*, *XDMCP Indirect*, and *Secure XDMCP*.

Passive method just executes **Xmanager** in background mode. By default, **Xmanager** enters into the system tray and waits for **X** applications to connect. It is useful when you want to run **Xmanager** ahead and open **X** applications using **Xstart** or a telnet client.

XDMCP Query is a default method for dynamic sessions. It connects to the specified host directly and brings a graphic login window to your Windows.

XDMCP Broadcast is a method that **Xmanager** opens a **Broadcast Chooser** dialog box which looks like a simple **Xbrowser**.

XDMCP Indirect is a similar method to *XDMCP Broadcast* except that the **Chooser** dialog box is displayed by the remote host, not by **Xmanager**.

Secure XDMCP is useful when **Xmanager** cannot establish *XDMCP* connection because of private network with firewall. If SSH server is running on the remote server, you can make *XDMCP* connection to the remote host using SSH tunneling.

XDMCP

Enter the name of the session. This text is displayed on **Xbrowser** as the name for the session.

Host

Enter the IP address or hostname of the remote host you want to connect to.

Make sure that a display manager is running on the remote host. Most unix machines are using one of **dtlogin**, **kdm**, **gdm** and **xdm** as the display manager.

Port Number

Enter the port number of the remote display manager. The default value is UDP port 177.

Use Default

Sets the port number to UDP port 177.

Local Address

Select one of the IP addresses of your Windows. This option is used only your Windows has multiple IP addresses.

If you select *Auto Select* in the list, **Xmanager** tries to find an appropriate IP address for the connection. When **Xmanager** fails to find an appropriate one, it displays an **IP Selector** dialog box in which you can select a correct one.

The display manager on the remote host will connect to the IP address you have selected. If you choose an inappropriate IP address, the display manager cannot get access to **Xmanager** and fails to open a login window.

Connection address

This option is required when you connect using port forwarding in a limited network environment such as firewall or proxy server, and when Secure XDMCP is selected and automatic connection address feature malfunctions due to XDM server settings, etc. When your Windows resides in a private network with a firewall, **Xmanager** cannot get a remote login window with an XDMCP connection. It is because that the firewall blocks incoming connections and the remote display manager cannot reach at **Xmanager** on your Windows.

To use this feature, you need to allocate a listening port in the firewall and forward incoming connections to your Windows.

Address Type

If you wish to make XDMCP connection in a limited network environment with proxy server or firewall, select *User Defined*. In case of Secure XDMCP, if *Auto Select* of connection address fails, select IP address or loopback address (127.0.0.1) of SSH server.

IP Address

If **Connection Address** is *User Defined* mode, type in IP address of the proxy server or firewall server. The remote display manager connects to this address, and the proxy server forwards the connection to your Windows.

Port Number

If **Connection Address** is *User Defined* mode, enter a TCP port number you allocated in the proxy server.

As an example, let us assume that your Windows has a private IP address, 192.168.1.100 and the firewall server has a private IP address, 192.168.1.1. The firewall has also a public IP

address, 210.100.xxx.10 for Internet connections and the IP address of a remote Unix host is 210.100.xxx.100.

In this case, you need to configure the firewall to forward incoming connections (210.100.xxx.10, 6010) to **Xmanager** (192.168.1.100, 6010) on your Windows. This is called port forwarding and you should contact your administrator to configure it.

Now, enter 210.100.xxx.100 in the **Host** box of the **Connection** area, select **User Defined** as **Address Type** in Connection Address area, enter 210.100.xxx.10 in the **IP Address** box, and then enter 6010 in the **Port Number** box. Click the **X Server tab**, turn off the **Allocate display number automatically** option, and then enter 10 (It means the TCP port 6010) in the **Display Number** box.

X Server tab

In the **X Server** tab, you can select a server profile and allocate a display number manually.

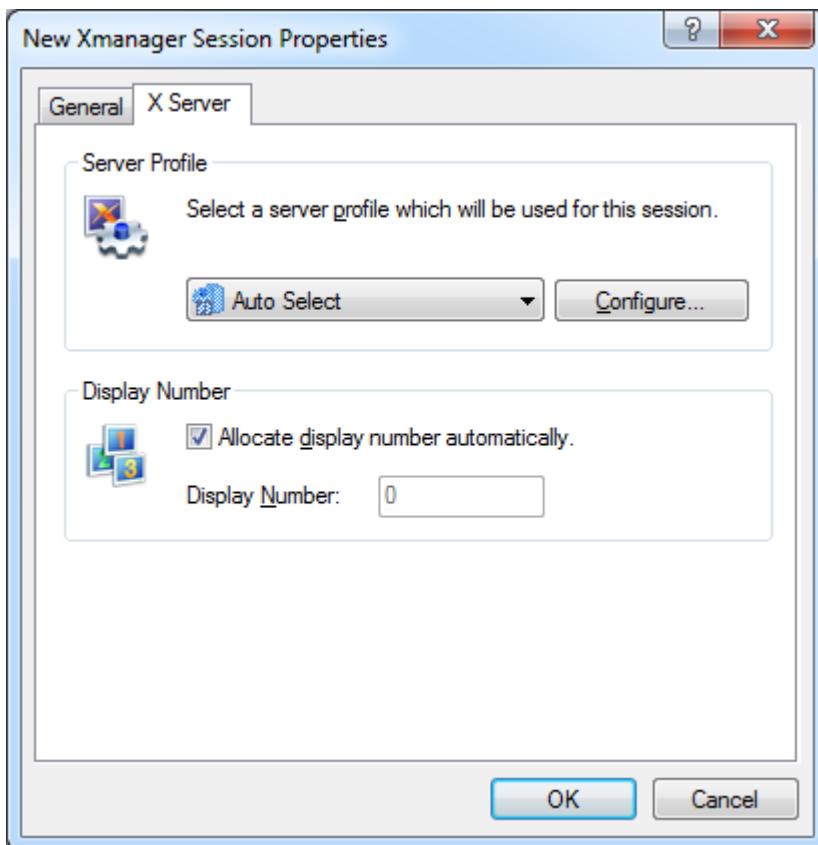


Figure 26: Xbrowser Properties Dialog Box, X Server Tab

Server Profile

Select an **Xmanager** profile for this session. A server profile defines a window mode, fonts and other **Xmanager** options for advanced users and you can create a new profile using **Xconfig** utility.

Configure

Opens a [Properties dialog box](#) for the selected profile. You can change **Xmanager** options in the dialog. Be aware that the changes will affect all sessions using the same server profile.

Allocate display number automatically

Select this check box for automatic allocation of a display number. By default, **Xmanager** tries to listen on TCP port number 6000, and if the port is already being used, it tries to open another port in the range of 6001 ~ 6255.

If you need to fix a specific port for this session, clear this check box, and enter an appropriate display number in the **Display Number** box.

Display Number

Enter a display number in this box. A display number should be in the range of 0 ~ 255. When you open multiple **Xmanager** sessions, each session gets a unique display number starting from 0 and it is displayed on the title bar of **Xmanager** such as `[:0.0]`. The first digit is the display number and the second one is the screen number. The screen number is always 0.

Xmanager adds 6000 to the display number to get a TCP port. If you enter 10 on the **Display Number** box, **Xmanager** will open a TCP port 6010 to communicate with **X** applications.

Be aware that some Unix machines do not understand 3-digit display numbers, and it is safe to use a number less than 100.

New Session Wizard

The **New Session Wizard** allows you to create **Xstart** and XDMCP sessions step by step. You can open it by pointing to **New** on the **File** menu and then clicking **New Session Wizard**.

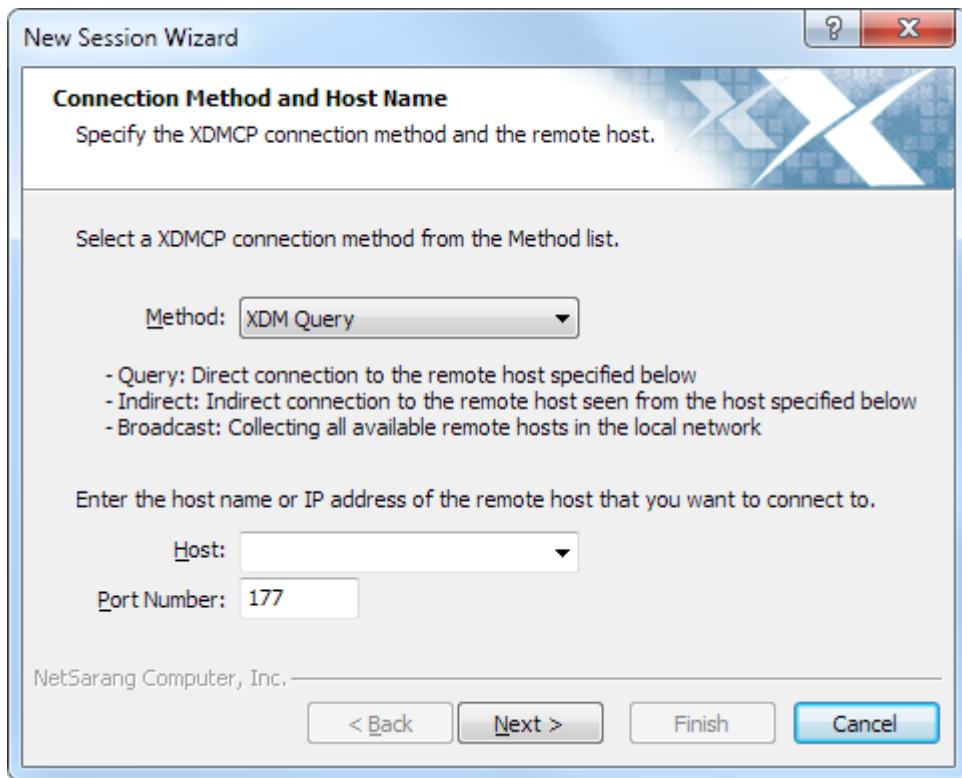


Figure 27: Xbrowser New Session Wizard

The **New Session Wizard** is a simple way to create both **Xstart** and XDMCP sessions for beginners. For advanced users, an **Xstart** program is available to create and manage **Xstart** sessions.

The **New Session Wizard** provides three types of sessions: *Xstart*, *XDMCP* and *Passive*.

Xstart sessions are useful when you want to run a remote **X** application. Once you create an **Xstart** session, you can run a remote **X** application such as an **xterm** in one click as you run a Windows application. It connects to the remote host and run a specified command automatically to open a remote **X** application on your Windows.

XDMCP sessions are used to get a graphic login window and full desktop environment of the remote host. **Xmanager** supports CDE, KDE, GNOME and all other GUI desktops for UNIX/Linux machines.

Passive sessions are used when you want to run **Xmanager** ahead and run **X** applications later using **Xstart** or any terminal program such as **telnet**. When **Xmanager** starts, it just sits idle and waits for connections from **X** applications.

Session Import Wizard

The **Session Import Wizard** allows you to import sessions that are created from previous or different versions of **Xmanager**. You can start the wizard by clicking **Import** from the **File** menu.

Step 1: Select import mode

In this step, choose how you want to import sessions.

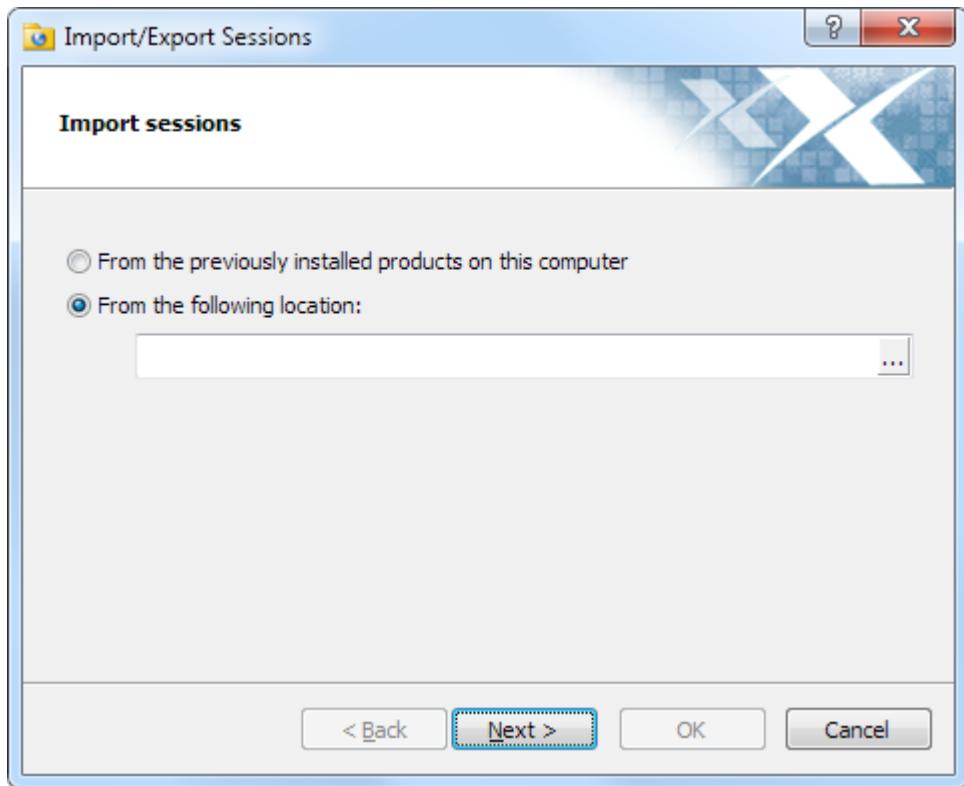


Figure 28: Session Import Wizard, Step 1

From the previously installed products on this computer

Select this option if you want to import sessions from the previously installed Xmanager versions on the same computer.

From the following location

Select this option to import the sessions with an exported session file from another computer.

Step 2: Select sessions to import

In this step, choose sessions that you want to import

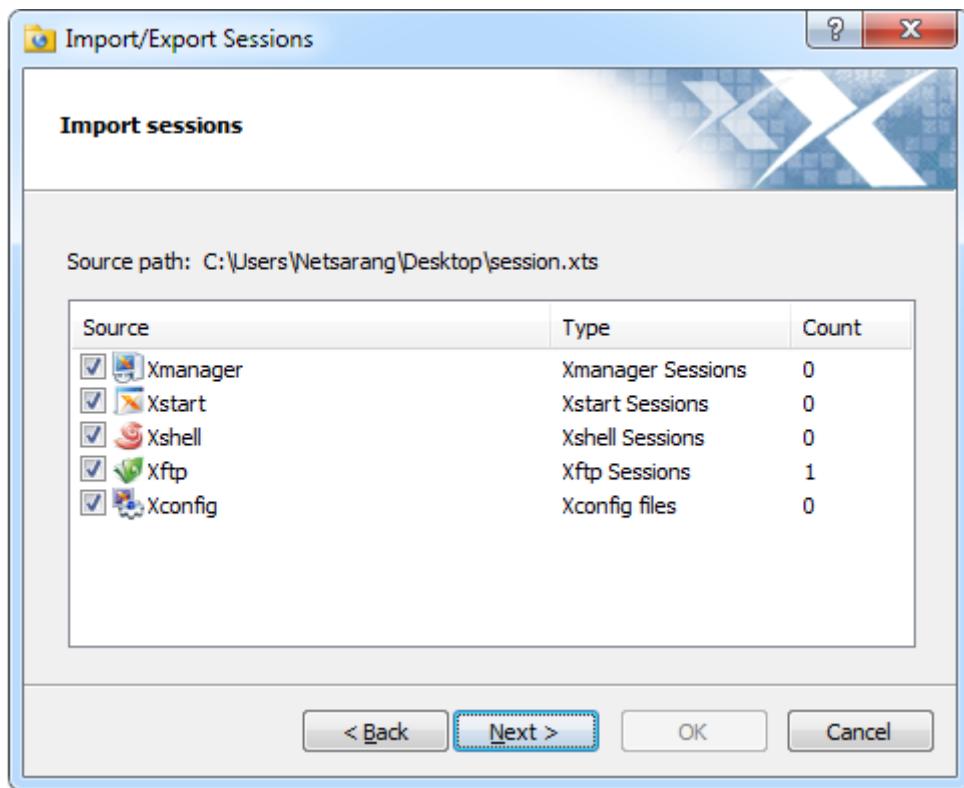


Figure 29: Session Import Wizard, Step 2

Source

All sessions that are created from the different versions of **Xmanager** are listed. Select sessions you want to import

Type

Shows the session type such as Xstart session and Static session.

Count

Shows the number of sessions that will be imported for the product.

Step 3: Importing sessions

You can view the progress and status of the current import process.

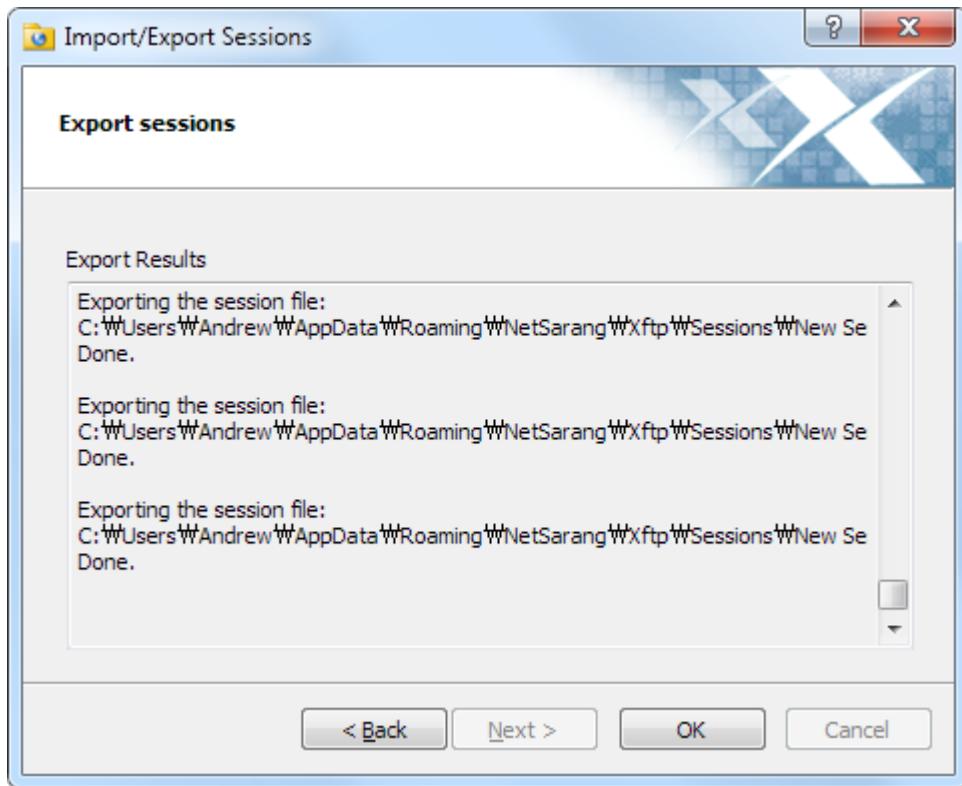


Figure 30: Session Import Wizard, Step 3

Progress

You can view the progress of import process. As each session is copied, its result is displayed on the screen. Also, number of files imported is summarized at the end of the process.

Session Export Wizard

The **Session Export Wizard** allows you to export sessions. You can start the wizard by clicking **Export** from the **File** menu.

Step 1: Select sessions to export

In this step, select the products to export its sessions.

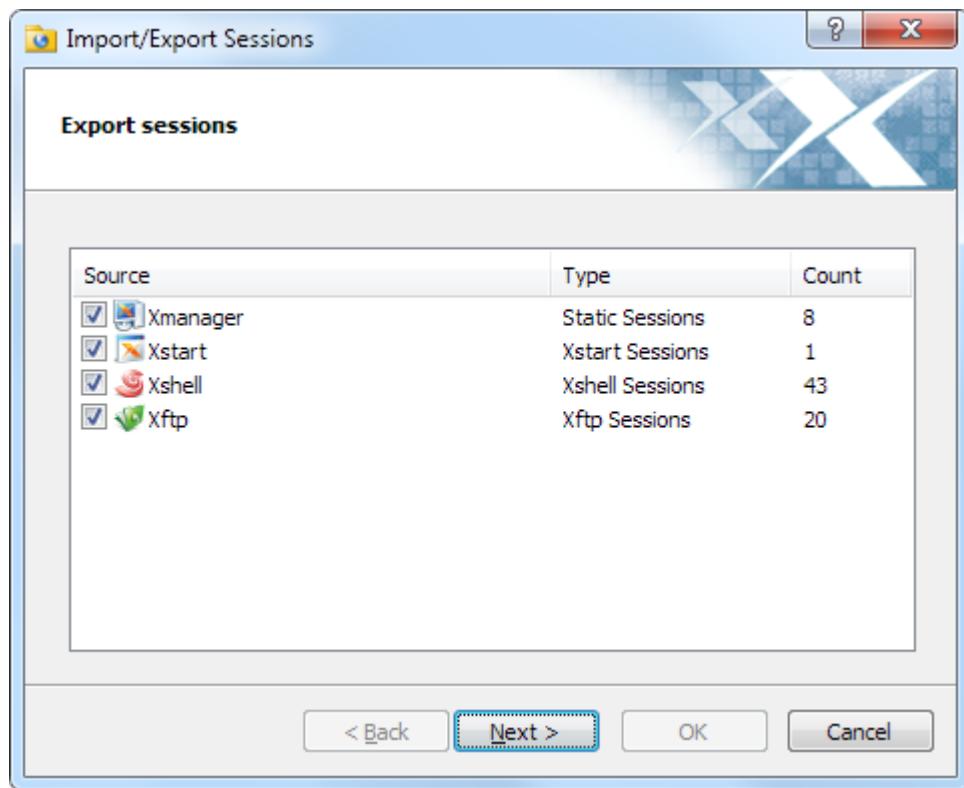


Figure 31: Session Export Wizard, Step 1

Source

All sessions that will be exported are listed. Select sessions you want to export.

Type

Shows the session type such as Xstart, Static, Xshell and Xftp sessions.

Count

Shows the number of sessions that will be exported for the product.

Step 2: Select where to save the exported file

In this step, you can select the name and folder in which the exported file will be saved.

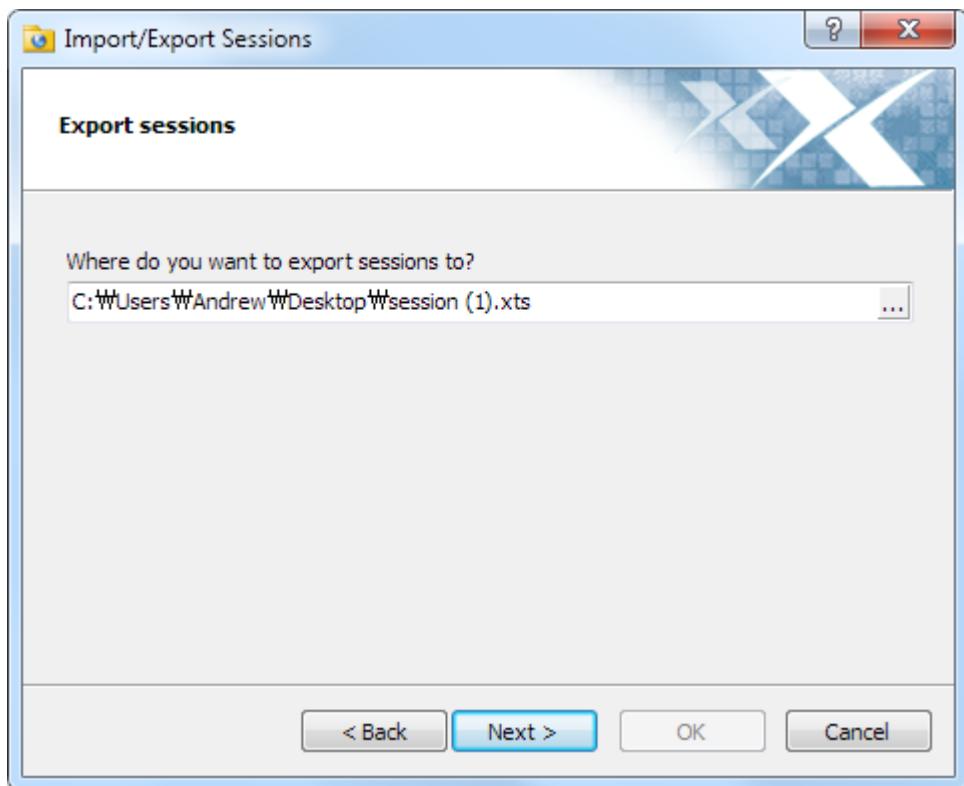


Figure 32: Session Import Wizard, Step 3

Path

Enter the filename and path in which the exported session file will be saved.

Step 3: Exporting sessions

You can view the progress and status of the current export process.

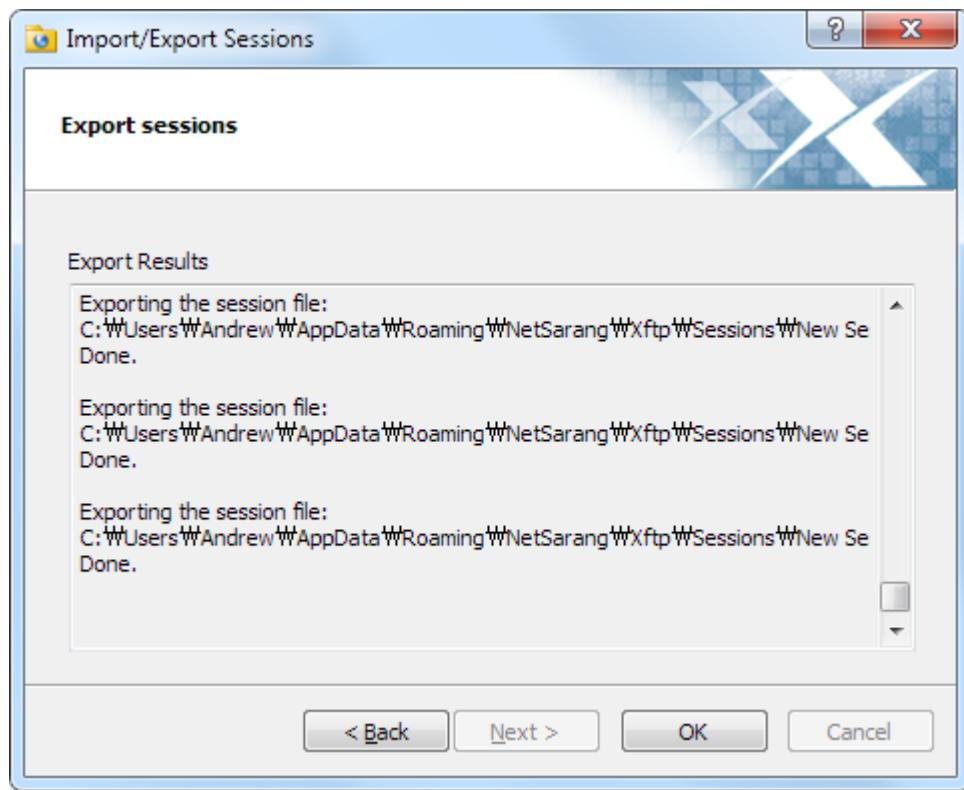


Figure 33: Session Export Wizard, Step 3

Progress

You can view the progress of export process. As each session is copied, its result is displayed on the screen. Also, number of files imported is summarized at the end of the process.

Columns dialog box

The **Columns** dialog box allows you to adjust the columns of **Xbrowser** when it is in **Details** view. You can open the dialog box by clicking **Columns** in the **View** menu.

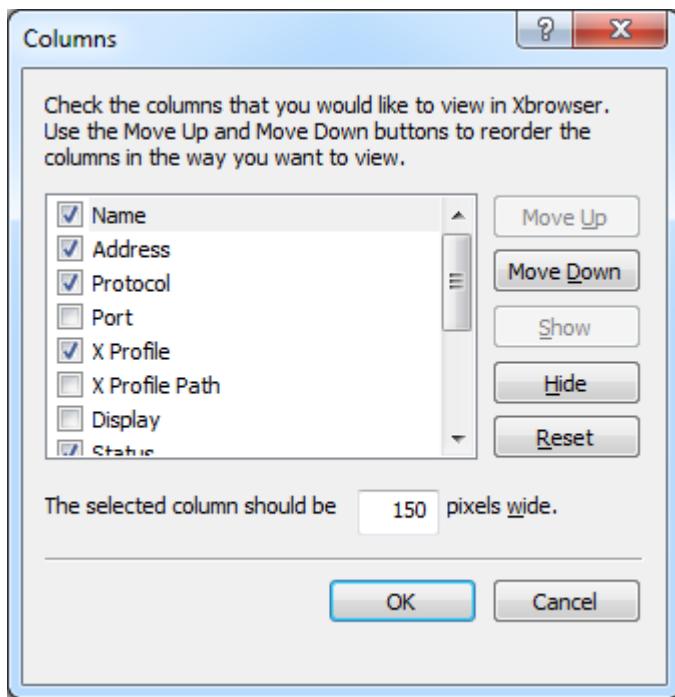


Figure 34: Xbrowser Columns Dialog Box

Columns

Shows the columns you can display in the **Xbrowser** window. Check or uncheck a column name to show or hide it.

The list below describes the columns.

Column Name	Description
Name	This column shows the name of each session.
Address	The IP address of a remote host.
Protocol	The connection protocol for each session.
Port	The connection port for each session.
X Profile	Xmanager profile that will be used for the session.
X Profile Path	The path of the Xmanager profile.
Display	The display number Xmanager will use.
Status	The system status message received from the remote display manager. This column is applicable only to XDMCP sessions.
User Name	Login account on a remote host. This column is applicable only to Xstart sessions.
Command	The command that will be executed automatically. This column is applicable only to Xstart sessions.
Created	The creation time of a session.
Accessed	The last access time of a session.

Modified	The last modification time of a session.
----------	------------------------------------------

Move Up

Moves the selected column by one to the top.

Move Down

Moves the selected column by one to the bottom.

Show

Shows the selected column. The column appears in the **Xbrowser** window.

Hide

Hides the selected column. The column disappears from the **Xbrowser** window.

Reset

Restores the default configuration of the **Columns** list.

The selected column should 000 pixels wide

Enter an appropriate width of the selected column in the pixels unit.

Secure XDMCP Setup dialog box

In **Secure XDMCP Setup** dialog box, you can configure SSH connection of *Secure XDMCP* static session. To open the dialog box, in **General** tab of **Xbrowser Session Properties** dialog box, select *Secure XDMCP* for Connection Method, then click **Setup**.

SSH tab

In **SSH** tab, you can configure connection settings and user authentication for SSH connection.

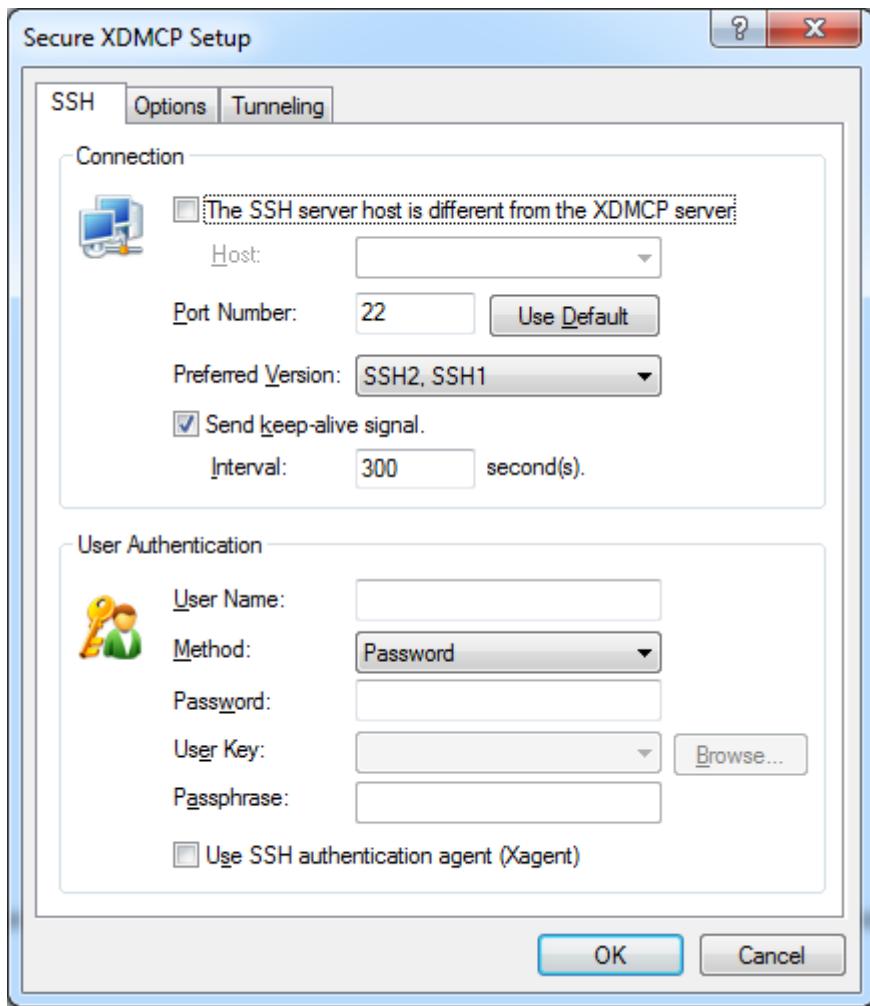


Figure 35: Xbrowser Secure XDMCP Setup dialog box, SSH tab

The SSH server host is different from XMDCP server.

Secure XDMCP is a connection method that X clients connects to **Xmanager** of PC through SSH tunneling. If SSH server is not running on XDM host server, a proxy server for SSH tunneling is required. This option is to configure this SSH proxy server.

Host

Enter hostname or IP address of the proxy server for SSH tunneling. In this case, you need to configure SSH proxy server so that it can bind to not only loopback address(127.0.0.1) but external connections.

For more information about **Secure XDMCP Setup** dialog box, see "**SSH Protocol Setup** dialog box, The **General** tab".

Options tab

In **Options** tab, you can configure security, performance and pseudo terminal options.

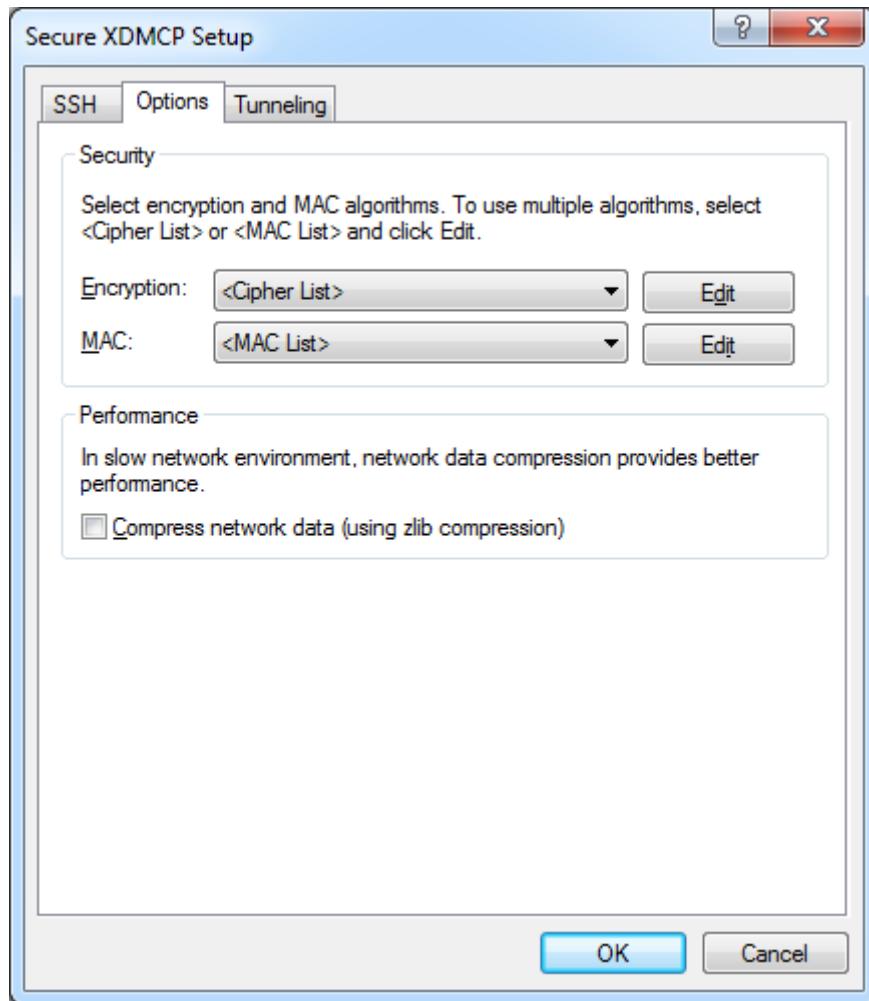


Figure 36: Xbrowser Secure XDMCP Setup dialog box, Options tab

For more information about **Options** tab, see “[SSH Protocol Setup dialog box, The Options tab](#)”.

Tunneling tab

In **Tunneling** tab, you can set TCP/IP, Dynamic forwarding and X11 Forwarding rules. For these options to take effect, connection protocol must be set to SSH in Connection.

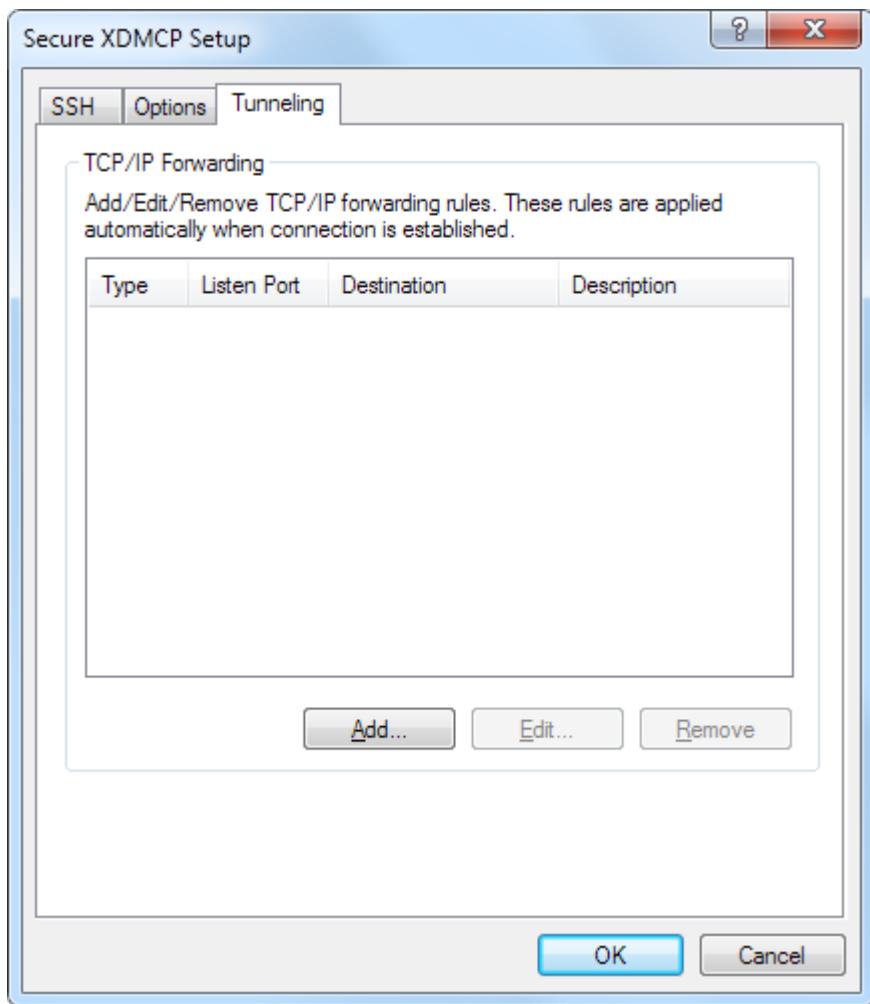


Figure 37: Xbrowser Secure XDMCP Setup dialog box, Tunneling tab

For more information about **Tunnel** tab, see “**SSH Protocol Setup dialog box, The Tunneling tab**”.

Xstart

Xstart is a tool that lets you run an **X** application of a remote host from your Windows. **Xstart** automatically processes the login steps to the remote host and runs any **X** application you specified. It is a handy and powerful tool to bring a remote **X** application to your Windows desktop.

Xstart supports a lot of connection protocols: *SSH*, *TELNET*, *RSH*, *REXEC*, *RLOGIN* and *LOCAL*. It provides SSH protocol for secure connections as well as other protocols for legacy systems. Using the SSH protocol, you can run any **X** applications over a secure tunnel even if there is a firewall between your Windows and the remote host.

Xstart provides a simple interface to create a session for each remote command. All **Xstart**

sessions created here will also be available in the **Xbrowser** program. You can create a shortcut for a session on any Windows folder, and run the remote command with just one click such as you run a Windows application.

When you run a session, **Xstart** executes **Xmanager** first and then sends a command to the remote host. You do not have to run **Xmanager** ahead. But if an **Xmanager** program is already running and it is using the same server profile with the session, **Xstart** will not execute another **Xmanager**.

Xstart main window

The **Xstart** main window allows you to create, save, delete and run sessions.

In order to run **Xstart**, click the **Start** menu, point to **Programs**, point to **Xmanager2** and then click **Xstart**.

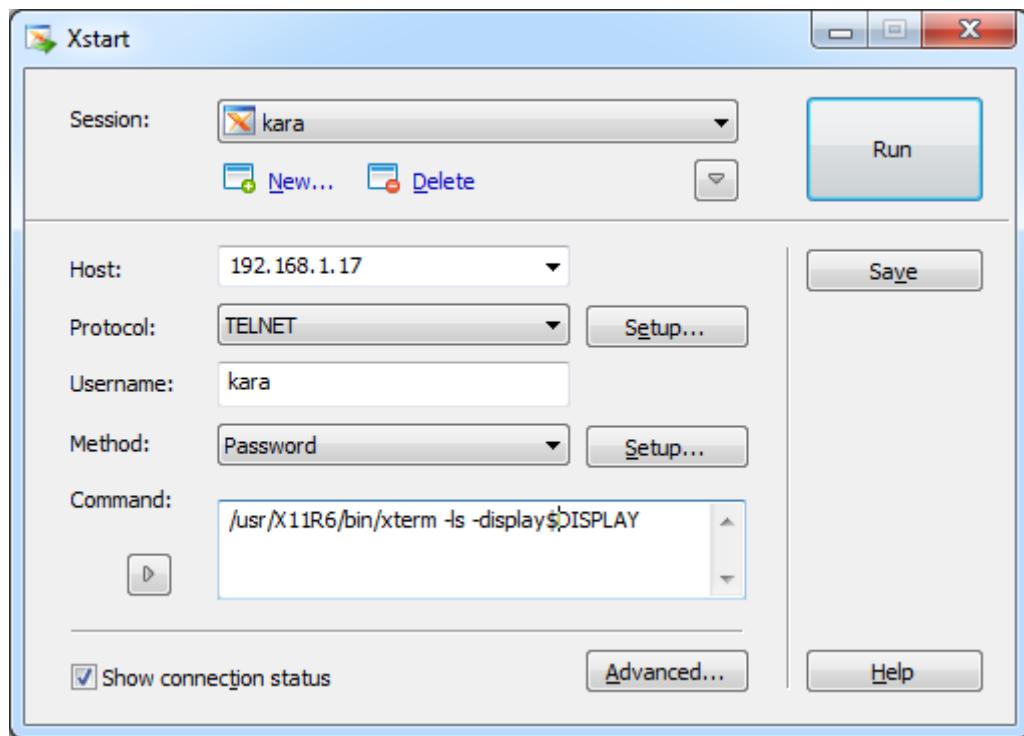


Figure 38: Xstart Main Window

Session

Select a session you want to edit or run. To create a new session, click **New**.

Host

Enter the IP address or hostname of the remote UNIX/Linux host. It is faster and more stable to enter an IP address than a hostname, because **Xstart** does not have to connect to a name server.

Protocol

Select a protocol that will be used for connecting to a remote host. **Xstart** supports *SSH*, *TELNET*, *RSH*, *REXEC*, *RLOGIN* and *LOCAL* protocols. Before selecting a protocol, confirm that the remote host is configured to support it.

SSH is a protocol for a secure connection to a remote host. It offers public key user authentication, strong data encryption and X11 forwarding features. Using *SSH* protocol, you can run remote **X** applications with strong encryption over insecure network. It also makes it easy to have connection with remote hosts beyond a firewall, thus one who is in a private network can run **X** applications in another network using X11 forwarding.

TELNET is a legacy protocol for remote terminal emulation. **Xstart** supports it for the hosts that do not have an *SSH* server. *TELNET* is supported in most hosts including Unix, Linux and VMS, so you can take advantage of it when the hosts do not support other protocols.

RSH is a simple protocol to connect to a remote host and run a specified command. It does not require a password and be careful in using it for security. For more information about *RSH*, refer to the man page of the **rsh** command from the remote host.

REXEC is a remote execution protocol to run a command on a remote host. It does the same thing with the *RSH* protocol, but requires a password for a connection. In addition it is simpler to use than *RSH*.

RLOGIN is a simple remote shell protocol to connect to a remote host and get a login shell. It is similar to *TELNET* but user authentication works the same way as *RSH*. For more information about *RLOGIN*, refer to the man page of the **rlogin** command from the remote host.

LOCAL is used when an **X** application is installed on your Windows, not on a remote host.

Setup

Opens a **Protocol Setup** dialog box for the selected protocol. You can configure a connection port, time-out value and other options specific to the protocol.

Username

Enter the user account on the remote host.

Authentication

Select a user authentication method. You can choose one of *Password*, *Public Key* and *Keyboard Interactive*. The method you selected will be tried first, and when it fails, you can change to another one during logon process.

Save (Check Box)

Select this check box when you want to save the password. For security reasons, it is not recommended.

Execution Command

Enter a remote command to run on the remote host.

As an example, when you want to run an xterm the command looks like:

```
/usr/bin/X11/xterm -display $DISPLAY
```

For *SSH* and *TELNET* protocols, you can remove the “-display \$DISPLAY” option from the command.

The “\$DISPLAY” variable is converted to an appropriate value by **Xstart**. In general, it is

converted to "192.168.1.100:0.0" when the IP address of your Windows is "192.168.1.100". If you want to specify the value explicitly, enter the command as in the following:

```
/usr/bin/X11/xterm -display 192.168.1.100:0.0
```

Xstart also understands the "\$PCADDR" variable and converts it to the IP address of your Windows. For an example:

```
/usr/bin/X11/xterm -display $PCADDR:0.0
```

When your Windows has multiple IP addresses, **Xstart** selects an appropriate one automatically.

Registered Commands (Arrow Button)

Click this button to select a predefined command on a menu. By selecting a command on the menu, you can enter a long command just with a single click.

Click **Add/Remove** to open the [Registered Commands dialog box](#), which allows you to add frequently used commands on the menu.

Show reply messages

Select this check box when you want to see the reply messages from the remote host. It is useful when **Xstart** fails to run a remote **X** application successfully.

Advanced

Opens the [Xstart Advanced Options dialog box](#). You can configure a server profile and advanced prompt options in the dialog box.

New

Opens the [New Session dialog box](#). Click this button to create a new session.

Save

Saves changed values of the current session.

Save As (Down Arrow Button)

Copies the current session to a new session. Any changes in the current session apply only to the new session.

Delete

Deletes the current session permanently.

Shortcut (Down Arrow Button)

Opens the **Browse for Folder** dialog box and allows you to create a shortcut for the current session.

Rename (Down Arrow Button)

Opens the Rename dialog box to receive the new name for the session. Use this feature to change the name for the selected session.

Run

Connects to the remote host and run the specified command.

Close

Closes **Xstart**.

Help

Opens **Xmanager** Help system.

New Session dialog box

The **New Session** dialog box allows you to enter a session name to create a new session. To open the dialog box, click **New** on the **Xstart** main window.

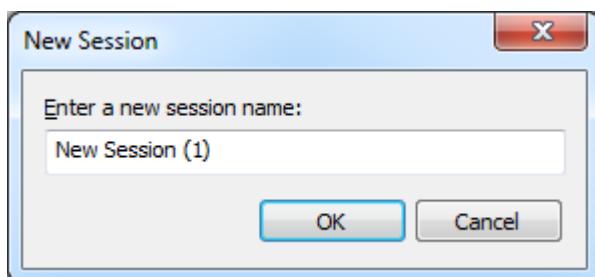


Figure 39: Xstart New Session Dialog Box

Enter a new session name

Enter a new session name. A session name is used as a file name and you should avoid to use special characters (/:*?"<>|) in the name.

SSH Protocol Setup dialog box

The **SSH Protocol Setup** dialog box allows you to configure a number of SSH options. You can open it by selecting **SSH** in the **Protocol** list of **Xstart** and then clicking **Setup**.

The General tab

In the **General** tab, you can configure SSH version, port and user authentication method.

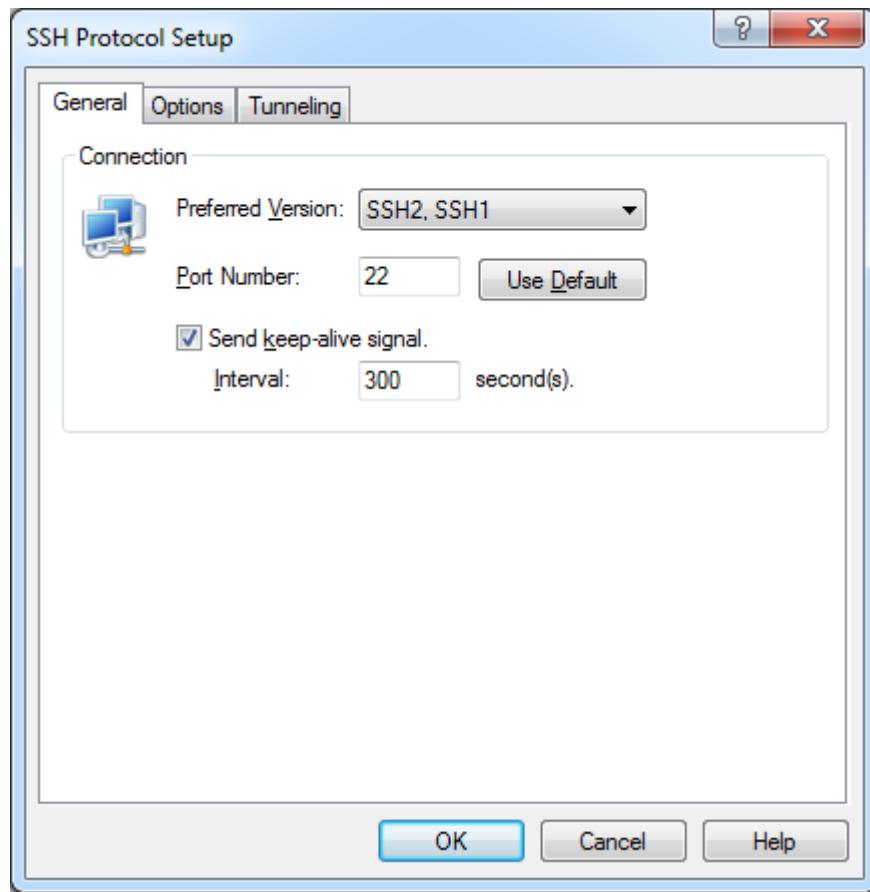


Figure 40: Xstart SSH Protocol Setup Dialog Box, General Tab

Preferred Version

Select an SSH protocol you want to use. SSH2 is recommended since it provides better security and more functionalities than SSH1.

Port Number

Enter the port number for an SSH connection.

Use Default

Sets the **Port Number** value to 22.

Send keep-alive signal

Sends keep-alive messages to the remote host. It is useful when the connection is terminated unexpectedly on idle time. In some network environments, a gateway or a firewall system may terminate connections without notice when the connections are idle for a specified time period.

Interval

Enter the time interval that **Xstart** will send keep-alive messages.

The Options tab

In the **Options** tab, you can configure security, performance and pseudo terminal options.

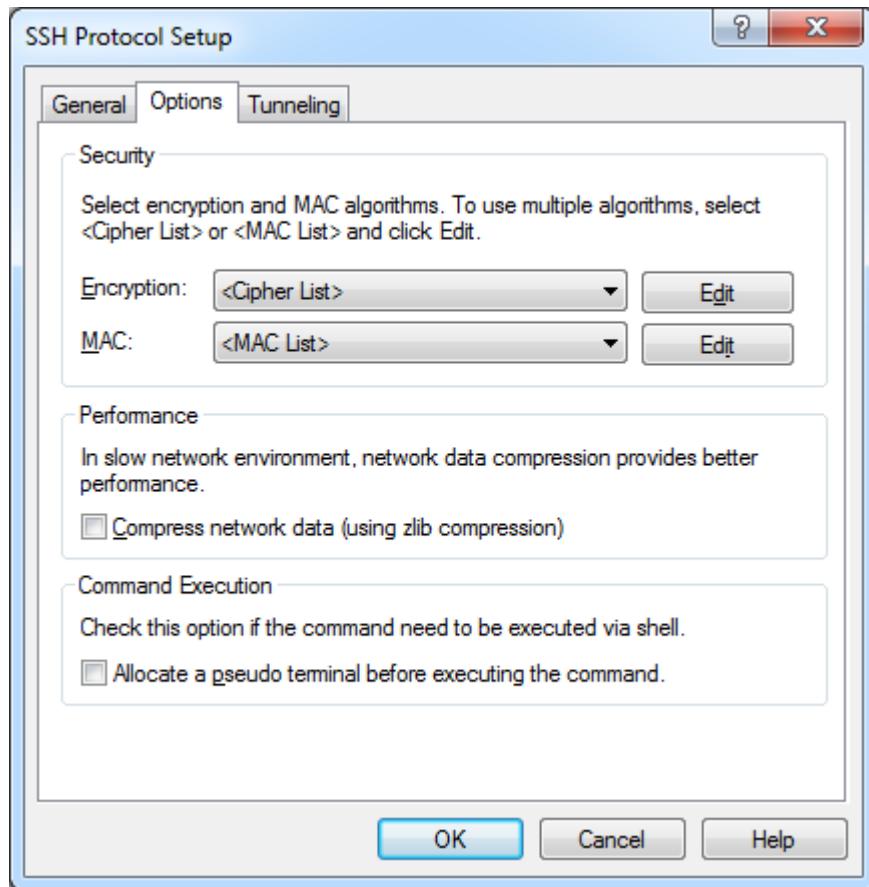


Figure 41: Xstart SSH Protocol Setup Dialog Box, Options Tab

Encryption

Encryption algorithms are used to encrypt and decrypt network traffics. You can select a preferred encryption algorithm in the list. When you select the Cipher List, multiple algorithms are tried in order of appearance in the list. To edit the **Cipher List**, click **Edit**.

MAC

A MAC(Message Authentication Code) ensures data integrity and it provides increased security of SSH2 protocol over SSH1. You can select a preferred MAC algorithm in the list. When you select the MAC List, multiple algorithms are tried in order of appearance in the list. To edit the MAC List, click **Edit**.

Compress network data

Select this check box to compress all data traffic with the zlib algorithm. Compression will provide better performance in a slow network environment.

Allocate a pseudo terminal before executing the command

Select this check box when you want to allocate a pseudo terminal on the remote host and then run a command on the pseudo terminal. A pseudo terminal is required for some **X** applications, and it ensures that shell environment variables are configured correctly as a normal logon.

The Tunneling tab

In **Tunneling** tab, you can set TCP/IP, Dynamic forwarding and X11 Forwarding rules. For these options to take effect, connection protocol must be set to SSH in Connection.

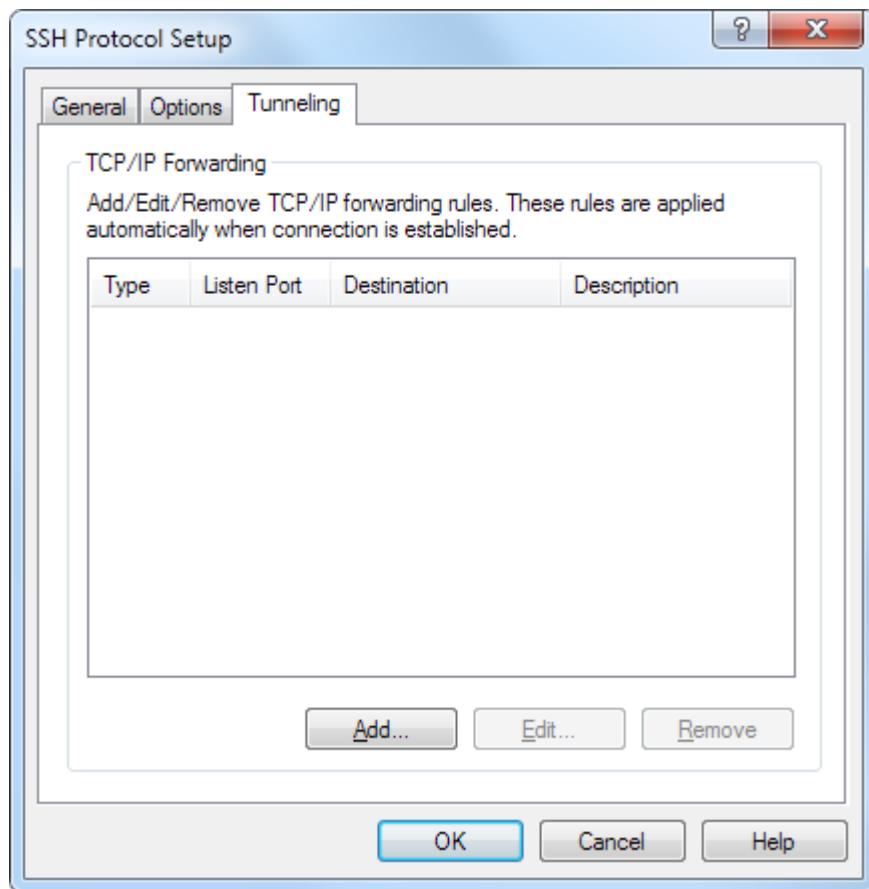


Figure 42: Xstart SSH Protocol Setup Dialog Box, Tunneling Tab

Add

Opens the Forwarding Rule dialog box dialog box. It allows you to add a new TCP/IP forwarding rule for this session. Currently open sessions are not affected by the new forwarding rule. To apply it, close and open the session again.

Edit

Opens the Forwarding Rule dialog box dialog box and allows you to change the values of the

rule selected in the list. The modified values will apply the next time the session starts.

Remove

Removes the forwarding rule selected in the list. The changes are not applied to the currently open session. To apply it, close and open the session again.

Forwarding Rule dialog box

The **Forwarding Rule** dialog box allows you to add a new TCP/IP port-forwarding rule to a session. To open this dialog box, on Xstart, select SSH for Protocol and click on the Setup button. And then, in the session **SSH Protocol Setup** dialog box, click the Tunneling tab.

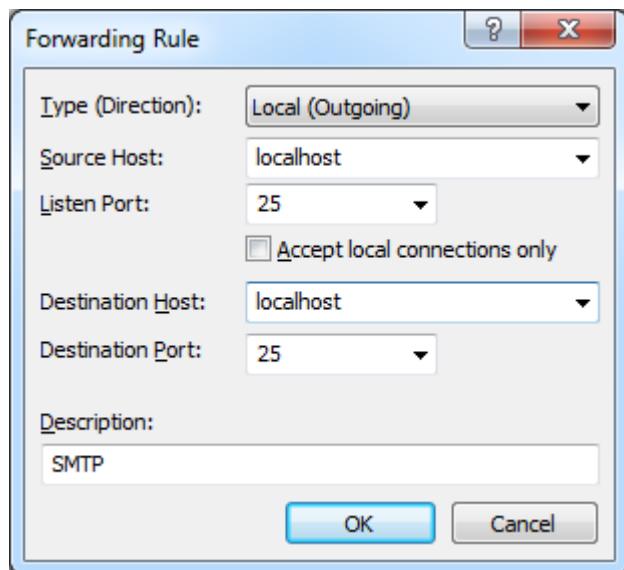


Figure 43: Forwarding Rule

Type (Direction)

Select *Local(Outgoing)*, *Remote(Incoming)*, or *Dynamic(SOCKS4/5)* depending on the type of the connection.

Most client programs such as POP3, telnet, and ftp are running on your local machine and try to connect to the remote server. So you need to select *Local(Outgoing)* for those client programs.

For some server programs such as PC X server, and ftp server, the connection comes from the remote server (in which ssh server is running) to your local machine (in which **Xmanager** is running). You need to select *Remote(Incoming)* for this kind of connections.

Source Host

When the host is assigned to multiple IP addresses, and you want to only allow a specific IP address to forward network traffic, you can use this option to specify the IP address to forward network packets here.

NOTES

Usually the PC has multiple IP addresses when it is connected via VPN.

Listen Port

Enter or select the port to which the client program will try to connect.

For *Local(Outgoing)* connections, the listen port is allocated by **Xmanager** in your local machine. When a client program in your local machine connects to the listen port, **Xmanager** forwards the connection to the ssh server over a secure tunnel and the ssh server again redirects the connection to the destination port of the destination host.

For *Remote(Incoming)* connections, the listen port is allocated by the SSH server in the remote host. When a client program in the remote host connects to the listen port, the SSH server forwards the connection to **xmanager** over a secure tunnel and **Xmanager** again redirects the connection to the destination port of the destination host.

Dynamic(SOCK4/5) forwarding works the same as Local forwarding. It uses the SOCKS protocol and its default port number is 1080.

Accept local connections only

Local, and *Dynamic* forwarding only accept connections from a PC where this session is currently running.

Remote forwarding only accepts connections originated from the server where the session is connected to.

Destination Host

Enter the hostname or IP address of the host to which you want to forward connections. If you want to forward a POP3 connection, the destination host will be the host in which the mail server is running. For *Incoming* connections, it will be "*localhost*" in most cases.

Destination Port

Enter the port number of the destination host to which you want to forward connections. If you want to forward a POP3 connection, the destination port will be the port the mail server is listening (the default POP3 port is 110). Destination port is not needed for *Dynamic port forwarding*.

Description

Enter the description for the selected forwarding rule.

Password Setup dialog box

The **Password Setup** dialog box allows you to enter the password for the selected session. To open the dialog box, click select Password for Authentication and click the **Setup** button.

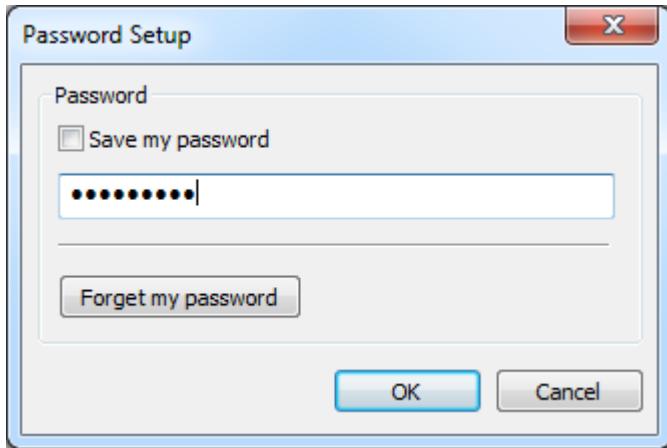


Figure 44: Password Setup Dialog Box

Save my password

To save the password for the session, select this option. Otherwise, the password is used for one time only.

Password

Enter the password for user authentication.

Forget my password

Removes the password for the selected session.

Public Key Authentication Setup dialog box

The **Public Key Authentication Setup** dialog box allows you to choose, create and view the user key for the selected session. You can also enter the passphrase for the selected user key. To open the dialog box, click select Public Key for Authentication and click the **Setup** button. This option is only available for SSH sessions.

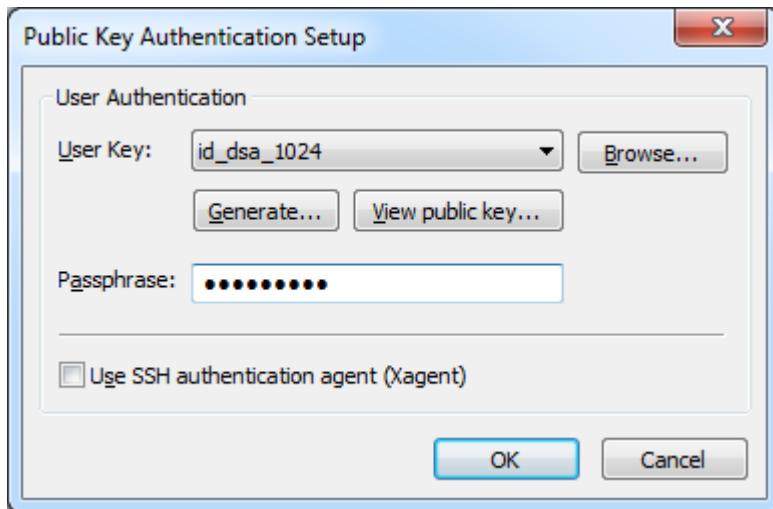


Figure 45: Public Key Authentication Setup Dialog Box

User Key

Select the user key that will be used when the Public Key authentication is selected. If this box is left blank, a prompt dialog box asking for a user key will appear when required. If there is no user key in the list, you should create a new key and register it into the remote SSH server.

Browse

Opens the User Keys dialog box. You can import and export user keys in the User Keys dialog box.

Generate

Opens the [User Key Generation Wizard](#).

View public key

Opens the [Host Keys dialog box](#).

Passphrase

Enter the passphrase of the user key you selected. It is encrypted and saved in the session file. For better security, just leave it blank.

Use SSH authentication agent (Xagent)

Select this option to use Xagent for SSH public key authentication. **Xagent** is an SSH authentication agent. **Xagent** keeps a record of every user key in the **Xshell** user key database, and asks for the passphrase of a user key when it is required. When the passphrase of a user key is provided, **Xagent** decodes the user key and holds it in memory.

TELNET/RLOGIN/RSH/RExec Protocol Setup dialog box

In the **Protocol Setup** dialog box, you can change the port number for the selected protocol and the time-out value to terminate a connection. You can open it by clicking **Setup** on the **Xstart** main window when the protocol is TELNET, RLOGIN, RSH or REXEC.

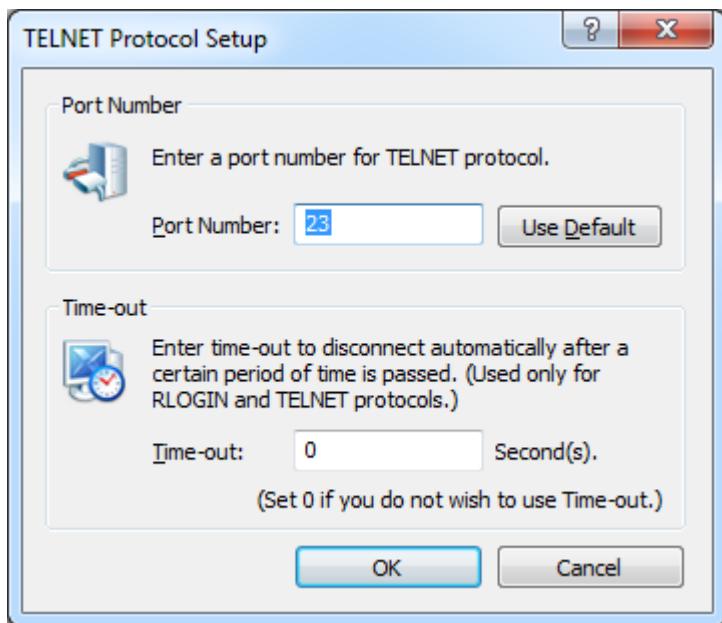


Figure 46: Xstart TELNET Protocol Setup Dialog Box

Port Number

Enter a port number for the selected protocol. Make sure that the remote server is listening the same port for the protocol.

Use Default

Sets a default port number for the selected protocol. The default port for each protocol is following:

- TELNET: 23
- REXEC: 512
- RLOGIN: 513
- RSH: 514

Time-out

Enter a time-out value to terminate the connection. This time-out value is used only for TELNET and RLOGIN protocols.

After a successful logon, a TELNET or RLOGIN shell is allocated on the remote server, and **Xstart** executes a command on the shell prompt. **Xstart** disconnects from the server after the specified time-out and it also closes the login shell. If the time-out is 0, the connection is active while **Xmanager** is running.

Be aware that the **X** application invoked from the shell may also be closed when the connection is closed prematurely.

Registered Commands dialog box

This dialog box adds a predefined command on the menu and allows you to enter a long

command into the **Execution Command** box with a single click on the menu. To open the dialog box, click the arrow button on the right of the **Execution Command** box, and then click **Add/Remove**.

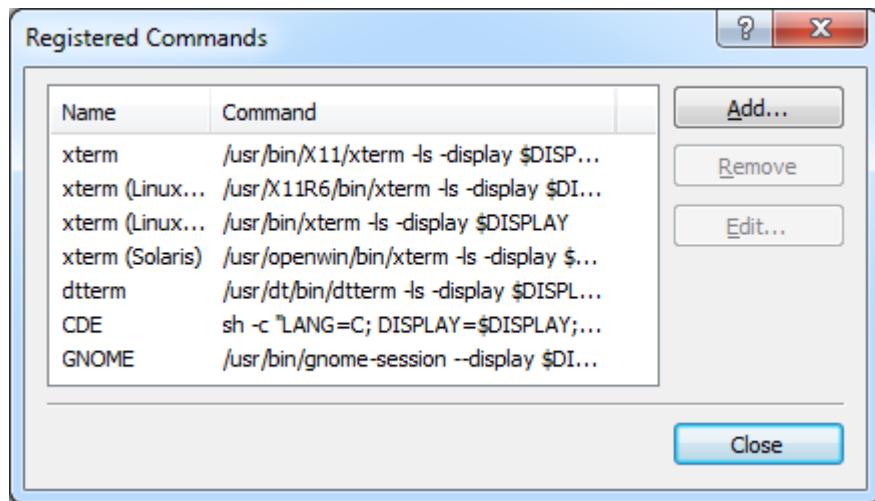


Figure 47: Xstart Registered Commands Dialog Box

Add

Opens the [Add Command dialog box](#). You can add a new command in the dialog box.

Remove

Removes the selected command from the list.

Add Command dialog box

The dialog box creates a new command and adds it to the list on the [Registered Commands dialog box](#). To open it, click **Add** on the [Registered Commands dialog box](#).

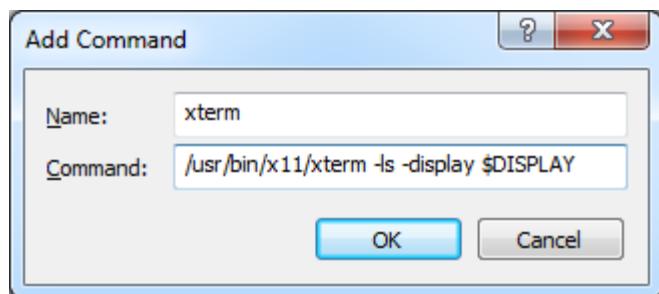


Figure 48: Xstart Add Command Dialog Box

Name

Enter a name that will appear as a label on the menu.

Command

Enter a command that will be entered into the **Execution Command** box of **Xstart**.

Xstart Advanced Options dialog box

The **Advanced Options** dialog box allows you to configure **Xmanager** profile and prompt options. You can open it by clicking **Advanced** in **Xstart**.

The X Server tab

For the **X Server** tab, see the [X Server tab of the Xbrowser Properties dialog box](#).

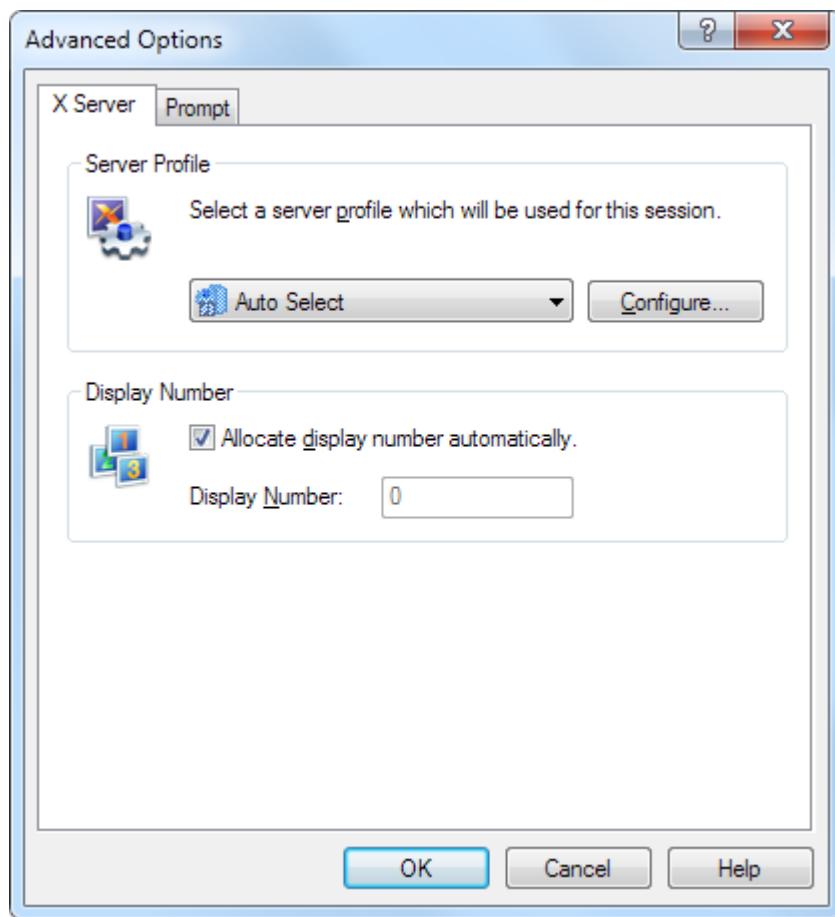


Figure 49: Xstart Advanced Options Dialog Box, Prompt Tab

The Prompt tab

In the **Prompt** tab, you can specify login prompts and shell command prompts for a remote host.

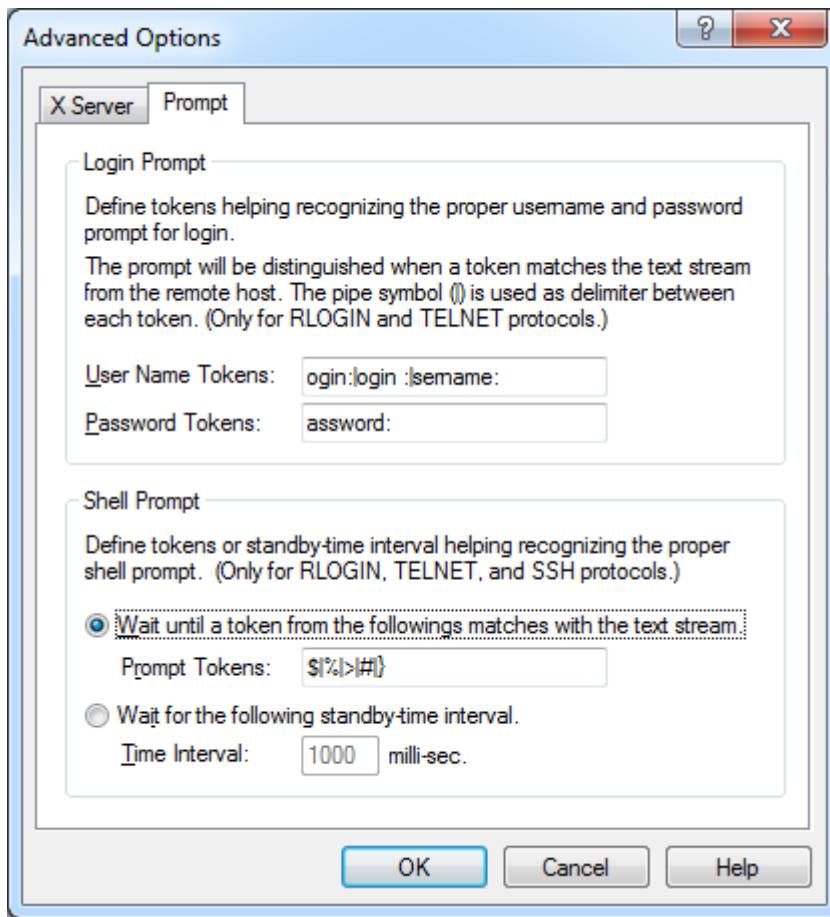


Figure 50: Xstart Advanced Options Dialog Box, Prompt Tab

When you click **Run** on **Xstart**, it tries to log on to a remote host followed by searching for a shell prompt to run a command.

The logon step requires the user to enter a user name and a password. Most Unix systems are using "login:" and "Password:" to prompt the user to enter account information. **Xstart** allows you to specify the prompt strings for the hosts having different prompts. Logon prompts are used only for TELNET and RLOGIN protocols.

After a successful logon step, **Xstart** tries to find a shell prompt such as "\$" or "#". If a shell prompt is found, it sends the command you entered in the **Execution Command** box. Shell prompt is used when TELNET or RLOGIN protocol is selected, also when SSH protocol is configured to run a shell.

User Name Tokens

Enter a string for a user name prompt. Once the string is received from the remote host, **Xstart** recognizes it as a user name prompt. You can specify multiple tokens by separating them with the bar (|) characters.

Password Tokens

Enter a string for a password prompt. Once the string is received from the remote host, **Xstart** recognizes it as a password prompt. You can specify multiple tokens by separating them with the bar (|) characters.

Wait till a token from the followings matches with the text stream

Enter a string for a shell prompt. Once the string is received from the remote host, **Xstart** recognizes it as a shell prompt. If a shell prompt is found, **Xstart** sends a command to the remote host. You can specify multiple tokens by separating them with the bar (|) characters.

Wait for the following standby-time interval

Select this option when the shell prompt is not clear or interferes with other messages. Once this option is selected, **Xstart** does not try to find a shell prompt. Instead it sends the command immediately after the specified time interval.

Command tag definition

Xstart offers some command tags which allow you to automate a routine command sequence. The command tags are entered in the **Execution Command** box.

Command tags are defined below:

TAG	Description
<%CR%>	Sends a carriage return character (\r).
<%LF%>	Sends a new line character (\n).
<%SEND="string"%>	Sends a string. Xstart does not process DISPLAY and PCADDR variables in the string.
<%WAIT="string1 string2"%>	Waits for the string1 or string2.
<%SLEEP=n%>	Sleeps for <i>n</i> seconds.
<%POPUP="string"%>	Pops up the Reply Messages dialog box when the specified string is received.

All tags are processed in sequence except for the POPUP tag which is valid till the command is completed entirely.

Notes

Command tags are supported in TELNET and RLOGIN protocols. To use in the SSH protocol, select the **Allocate a pseudo terminal before executing the command** check box in the [Options](#) tab of the [SSH Protocol Setup dialog box](#).

Examples

1. The command below is a multi-logon example. After **Xstart** logs on to a host successfully, it connects to another host using **telnet**, and then run an **xterm**:

```
telnet host2<%CR%><%WAIT="login: "%>root<%CR%>
<%WAIT="Password: "%>password<%CR%><%WAIT="$ "%>xterm
```

2. The command below pops up the **Reply Messages** dialog box when a "password:"

string is received. This is useful when your password is expired once a month and you should enter a new password before a command prompt appears:

```
<%POPUP="assword:"%>xterm -ls -display $DISPLAY
```

Xrcmd command line options

Xstart offers command line options for advanced users who want to integrate **Xstart** with their own applications.

Actually **Xstart** provides only a user-interface for creating and managing sessions. When you run a command using **Xstart**, it invokes **Xrcmd.exe** and passes all session information to the program. Thus, you have to use **Xrcmd.exe**, not **Xstart**. You can find the **Xrcmd** program in the folder **Xmanager** is installed.

The command line syntax of Xrcmd:

```
Xrcmd -protocol ssh|telnet|rexec|rsh|rlogin|local -host hostname  
-user username [-password password] [-userkey keyname]  
[-passphrase userkeypass] [-shell] [-zlib] [-status] [-result]  
[-dispno nnn] [-timeout nnn] [-port nnn]  
-command command
```

Notes

The –command option should be at the end of the Xrcmd command.

Options:

-protocol <i>protocol</i>	Specify the connection protocol.
-host <i>hostname</i>	Specify the remote host.
-user <i>username</i>	Specify the user account on the remote host.
-password <i>xxxx</i>	Specify the password of the user account. If this option is not provided, a prompt dialog box appears on connection.
-userkey <i>keyname</i>	Specify the user key name. This option is useful only for SSH connections.
-passphrase <i>userkeypass</i>	Enter the passphrase of the user key. This option is useful only for SSH connections.
-shell	Runs the command after allocating a shell (pseudo terminal). This option is useful only for SSH connections.
-zlib	Compresses network data with the zlib algorithm. This option is useful only for SSH connections.
-status	Shows the status dialog box while connecting to the remote host.
-result	Shows the Reply Messages dialog box.
-dispno <i>nnn</i>	Specify the display number Xmanager will use. If this option is not provided, Xmanager allocates an appropriate one.
-timeout <i>nnn</i>	Closes the connection after <i>nnn</i> seconds.

<code>-port <i>nnn</i></code>	Specify the connection port for the protocol. If this option is not provided, the default port of the protocol will be used.
<code>-command <i>command</i></code>	Specify the remote command which will be executed on the remote host.

An example:

```
Xrcmd -protocol telnet -host mylinux -user myname -status  
-command /usr/bin/X11/xterm -ls
```

Xrcmd connects to *mylinux* with the *TELNET* protocol, logs on as *myname*, and then runs an *xterm* command on the remote host. A status dialog box opens while connecting to the host.

Xconfig

Xconfig is a powerful tool for configuring and managing **Xmanager** profiles. A profile contains **Xmanager** options such as window mode, fonts, color, security, etc. You can create multiple profiles using **Xconfig** and specify a different profile for each session.

When you run a session in **Xbrowser** or **Xstart**, the session brings up **Xmanager** with the profile selected in the session. If you want to configure a different window mode for a session, you can create a new profile in **Xconfig**, change the window mode and select it in the session.

Xconfig main window

Xconfig main window consists of a menubar, a toolbar, a workspace and a status bar.

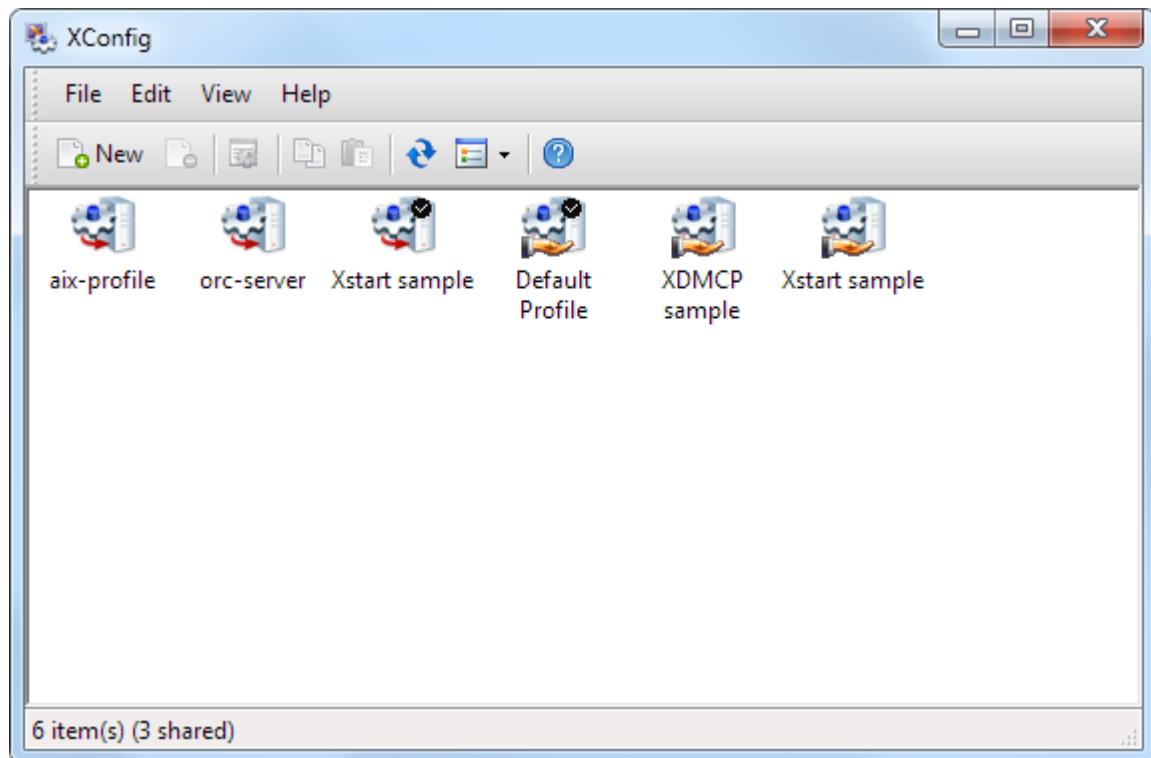


Figure 51: Xconfig Main Window

The workspace displays all available **Xmanager** profiles. You can select one of these profiles into an **Xbrowser** or **Xstart** session.

A sharing profile has a hand on its icon and it can be modified only by a user who has an administrator's privilege. A default XDMCP or **Xstart** profile is indicated by a small black dot on the icon.

File menu

In the **File** menu, you can create and delete a profile and edit the properties of a selected profile.

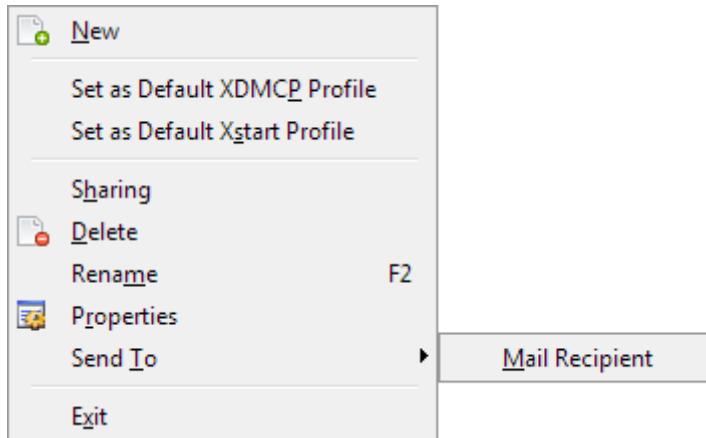


Figure 52: Xconfig File Menu

Set as Default XDMCP Profile

Sets the selected profile as a default XDMCP profile. A default XDMCP profile is applied to the dynamic sessions in **Xbrowser**.

Set as Default Xstart Profile

Sets the selected profile as a default **Xstart** profile. A default **Xstart** profile is applied to the sessions created by **Xstart**.

Sharing

Shares the profile with all users in the system. A sharing hand appears on the icon. Only the users who have an administrative privilege can use this command. A shared profile is stored in a system folder.

Delete

Deletes the selected profile from the list. When you delete a profile that is being used by a session, the session will use a default profile instead of the deleted one.

Rename

Changes the name of the selected profile.

Properties

Opens a [Properties dialog box](#) for the selected profile.

Send To->Mail Recipient

Opens a mail composer with the profile attached to the message. It is useful when an administrator creates a template profile and wants to distribute it to other users.

Exit

Quits the **Xconfig** program.

Edit menu

In the **Edit** menu, you can copy, paste and select profiles.



Figure 53: Xconfig Edit Menu

New Profile

Creates a new profile on the workspace. The new profile is copied from the default **Xstart** profile.

Copy

Copies the selected profile into memory.

Paste

Pastes the copied profile to the workspace.

Select All

Selects all profiles at once.

View menu

In the **View** menu, you can show or hide **Toolbar** and **Status Bar**, and change the listing style of the workspace.

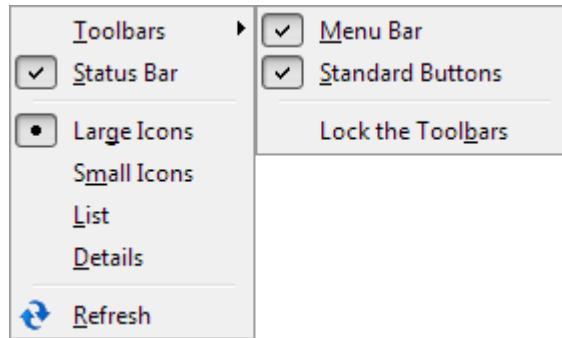


Figure 54: Xconfig View Menu

Toolbar

Shows or hides the **Toolbar**.

Status Bar

Shows or hides the **Status Bar**.

Large Icons

Changes the listing style to the **Large Icons** view.

Small Icons

Changes the listing style to the **Small Icons** view.

List

Changes the listing style to the **List** view.

Details

Changes the listing style to the **Details** view.

Refresh

Reloads all profiles and refreshes the list.

Help menu

In the **Help** menu, you can open **Xmanager** Help system and get information about the current version.

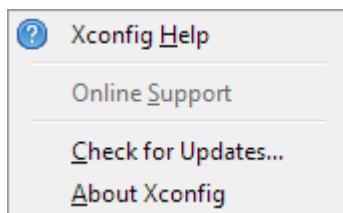


Figure 55: Xconfig Help Menu

Contents and Index

Opens **Xmanager** Help system.

Online Support

Opens an Internet browser and goes to the support page of **Xmanager**.

Check for Updates

Checks the newest version of **Xmanager** to help with upgrading it.

About Xconfig

Opens an **About** dialog box which contains the version and license information.

Toolbar buttons

Xconfig provides a number of toolbar buttons for commonly used tasks and commands. You can also perform the same tasks from the menu bar.

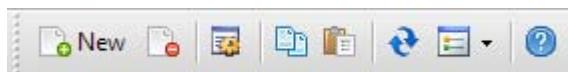


Figure 56: Xconfig Toolbar Buttons

The list below describes the toolbar buttons.

Button	Name	Description
	New	Creates a new profile on the workspace. The new profile is copied from the default Xstart profile.
	Delete	Deletes the selected profile from the list.
	Properties	Opens a Properties dialog box for the selected profile.
	Copy	Copies the selected profile into memory.
	Paste	Pastes the copied profile to the workspace.
	Refresh	Reloads all profiles and refreshes the list.
	Views	Changes the listing style of the workspace.
	Help	Opens Xmanager Help system.

Properties dialog box

The **Properties** dialog box allows you to customize the settings of a profile. You can open it by clicking **Properties** on the **File** menu or the **Properties** button on the toolbar.

In the dialog box, you can configure **Xmanager** options such as a window mode, fonts and other advanced options.

The General tab

In the **General** tab, you can set the window mode and default profiles for XDMCP and **Xstart** sessions.

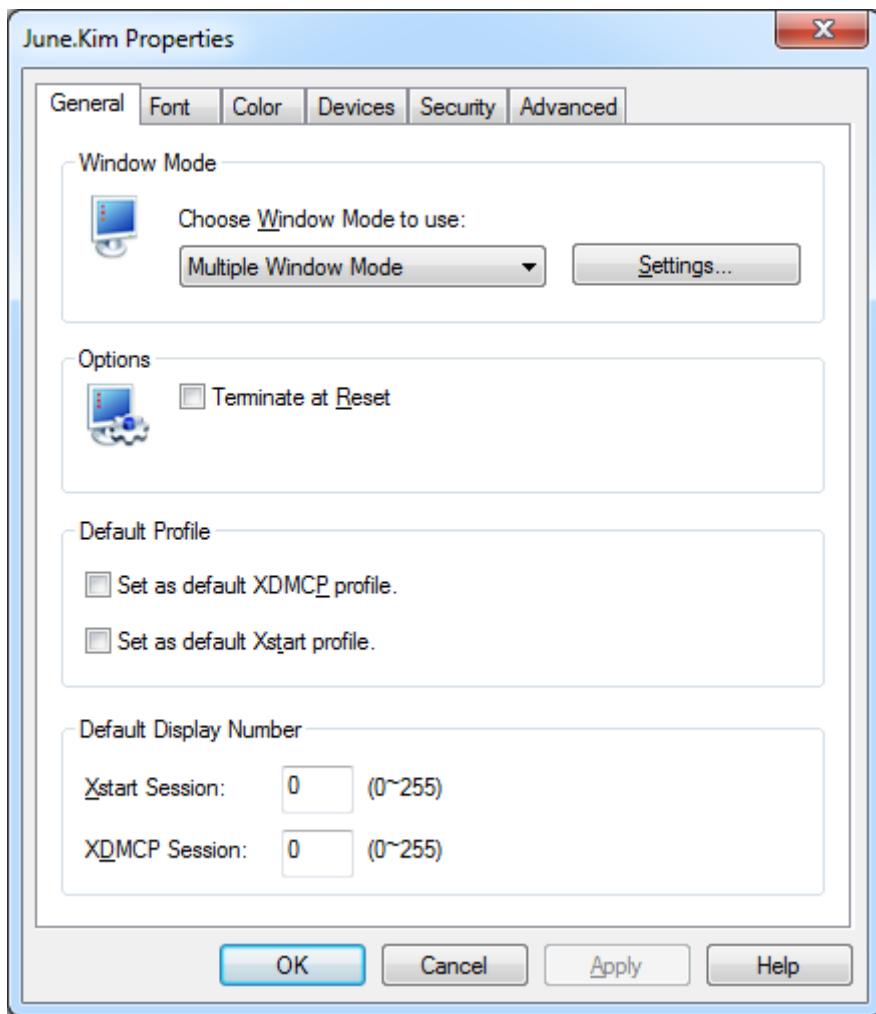


Figure 57: Xconfig Properties Dialog Box, General Tab

Choose Window Mode to use

Select a window mode in the list. **Xmanager** supports three window modes: *Auto detect*, *Single Window Mode* and *Multiple Window Mode*.

Auto detect selects an appropriate window mode depending on the session. It sets the window mode to Single Window Mode for XDMCP sessions and Multiple Window Mode for **Xstart** sessions.

Single Window Mode opens an **Xmanager** main window for the entire remote desktop and all remote X applications open within the window. You can manage all remote applications with a single window on your Windows desktop.

Multiple Window Mode opens each remote X application as a separate window on Windows desktop. So, each application looks like a Windows application. It is useful when you want to open just one or two remote applications, but not the entire remote desktop.

Settings

Opens a [Window Mode Settings dialog box](#). In the dialog box, you can configure several options for Single and Multiple window modes.

Terminate at Reset

Terminates **Xmanager** when all remote **X** applications are closed. If this option is not checked, **Xmanager** resets to the initial state and waits for **X** applications in the background.

Set as default XDMCP profile

Sets this profile as a default XDMCP profile. A default XDMCP profile is applied to the dynamic sessions in **Xbrowser**.

Set as default Xstart profile

Sets this profile as a default **Xstart** profile. A default **Xstart** profile is applied to the sessions created by **Xstart**.

Default Display Number

Sets the default display number for XDMCP and Xstart sessions. Sessions use the default display number if it is not explicitly defined in the session.

Xstart Session

Sets the default display number for Xstart sessions.

XDMCP Session

Sets the default display number for XDMCP sessions.

The Font tab

In the **Font** tab, you can add and remove font directories, font servers and configure a number of font options.

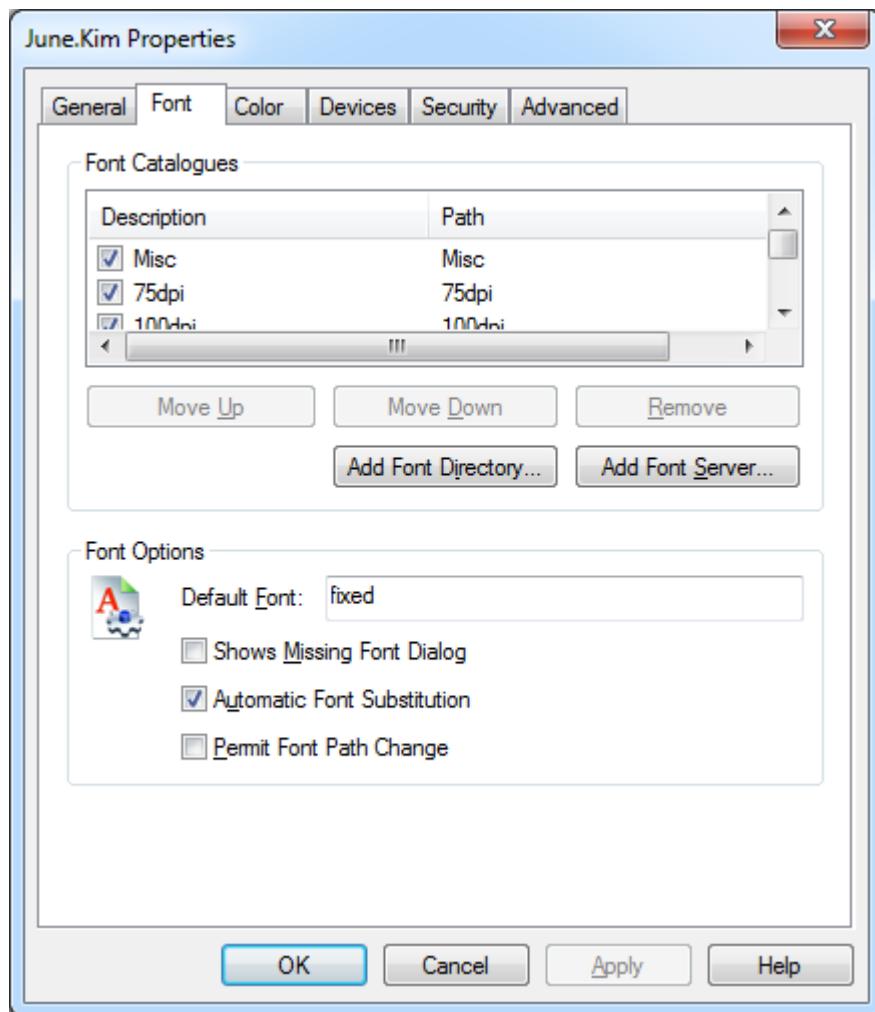


Figure 58: Xconfig Properties Dialog Box, Font Tab

Font Catalogues

Enumerate all font path elements. A font catalogue is a font directory which contains font files or a font server running on the remote Unix host.

Xmanager reads all checked font path elements in order when it starts. The unchecked font path elements are not read by **Xmanager**.

The **Description** column shows the name of the font path element. The **Path** column shows the actual path of the font directory or the exact definition for a font server.

Move Up

Moves the selected font path element to the top by one.

Move Down

Moves the selected font path element to the bottom by one.

Remove

Removes the selected font path element from the list. This just removes the element from the list and does not delete the installed font files from the file system.

It is recommended that you avoid removing the default font path elements provided by **Xmanager** unless you are an expert.

Add Font Directory

Opens an **Open** dialog box. You can locate a "fonts.dir" file to add the directory to the font list.

Add Font Server

Opens an [Add Font Server dialog box](#). You can specify a font server in the dialog box.

Default Font

Enter the name of the default font. A default font must be provided and it is used when an **X** application does not specify a font to display.

Shows Missing Font Dialog

If you select this option, **Xmanager** displays a dialog box when it cannot find the font requested by the remote **X** application. This is useful when you want to know which font is required for the application.

Automatic Font Substitution

When the font which an **X** application request is not found, **Xmanager** substitutes another font for the requested one.

Permit Font Path Change

This option allows a remote **X** application to change the font catalogue while **Xmanager** is running.

The Color tab

In the **Color** tab, you can configure a default visual, color database and other color options.

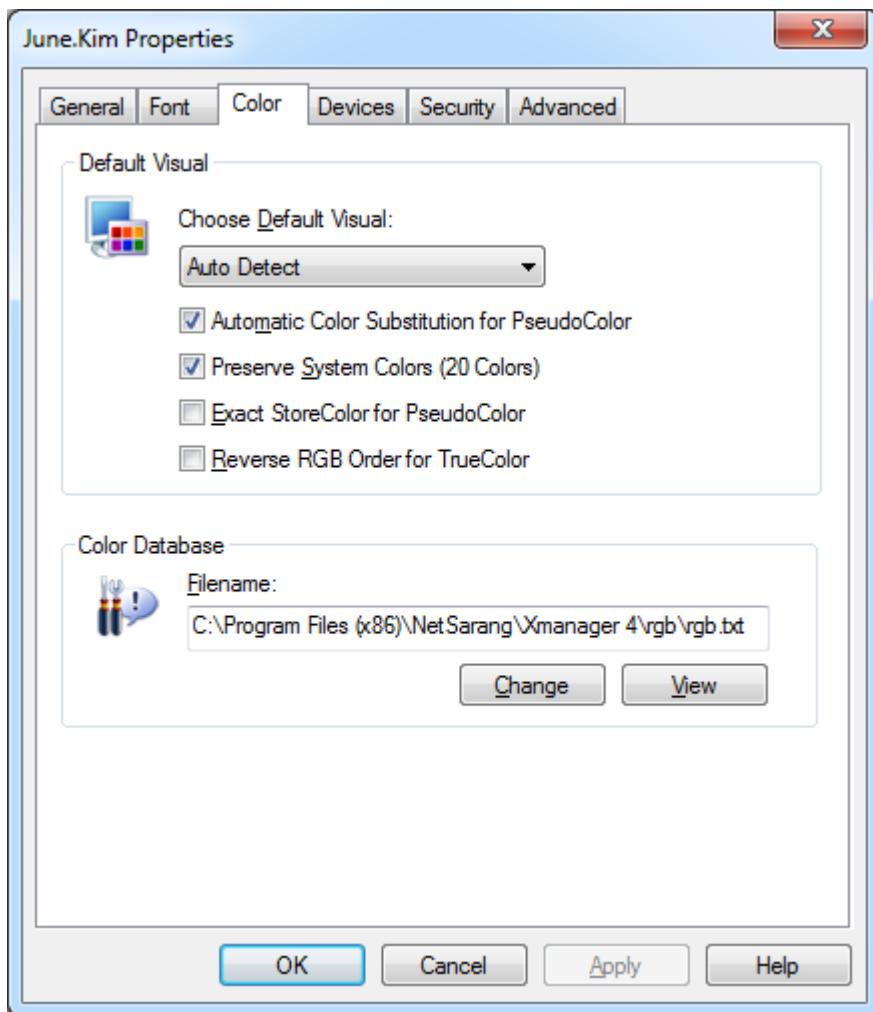


Figure 59: Xconfig Properties Dialog Box, Color Tab

Choose Default Visual

Select a default visual which the root window of **Xmanager** will use.

A visual is a device-independent color system and it defines the color format and the number of colors supported by **Xmanager**. **Xmanager** supports the 6 standard visuals defined in the **X Window** standard: *PseudoColor*, *StaticColor*, *DirectColor*, *TrueColor*, *GrayScale* and *StaticGray*.

If the Default Visual is set to *Auto Detect*, **Xmanager** will find and set up a proper default visual for the video device. In the 256 (8 bits) colors video mode in Windows, **Xmanager** will set it to *PseudoColor*. And in the true-color (16 bits and above) video device, **Xmanager** will set it to *TrueColor*.

Most **X** applications work well in any type of visual. However, some old CAD programs can run only in the *PseudoColor* visual and you should set the default visual to that one to run it successfully.

Automatic Color Substitution for PseudoColor

Substitutes a requested color for a similar one in PseudoColor.

In PseudoColor visual, there are only 256 colors for all **X** applications and sometimes an application may fail to run due to a lack of color cells. This option allows the application to work well even when all the color cells are already allocated to other applications.

Preserve System Colors (20 Colors)

Preserves 20 system colors for Windows applications in PseudoColor visual.

In a 256 colors video mode, MS Windows uses 20 system colors for title bar, window border, icons and so on. Some **X** applications may use the entire palette of 256 colors in order to have a correct color display. In this situation, the colors of the Windows background and icons will flash. You can prevent this by selecting this option.

Exact StoreColor for PseudoColor

Processes the StoreColor request exactly as defined in an **X** protocol standard.

When Windows is in a true-color video mode, the StoreColor request for a PseudoColor visual may affect the overall performance of **Xmanager**.

Reverse RGB Order for TrueColor

Sets the Red, Green, and Blue value of a color pixel in reverse order.

By default, the Blue bits are the least significant bits in the TrueColor visual. If you select this option, the Red bits becomes the least significant bits. It is useful when an **X** application requires a specific format for the RGB bits.

Filename

Shows the color database file. A color database maps red, green, and blue values to a readable color name.

Change

Opens an **Open** dialog box to locate a color database.

View

Opens the color database with a notepad.

The Devices tab

In the **Devices** tab, you can configure the settings of keyboard, mouse, sound, and monitors.

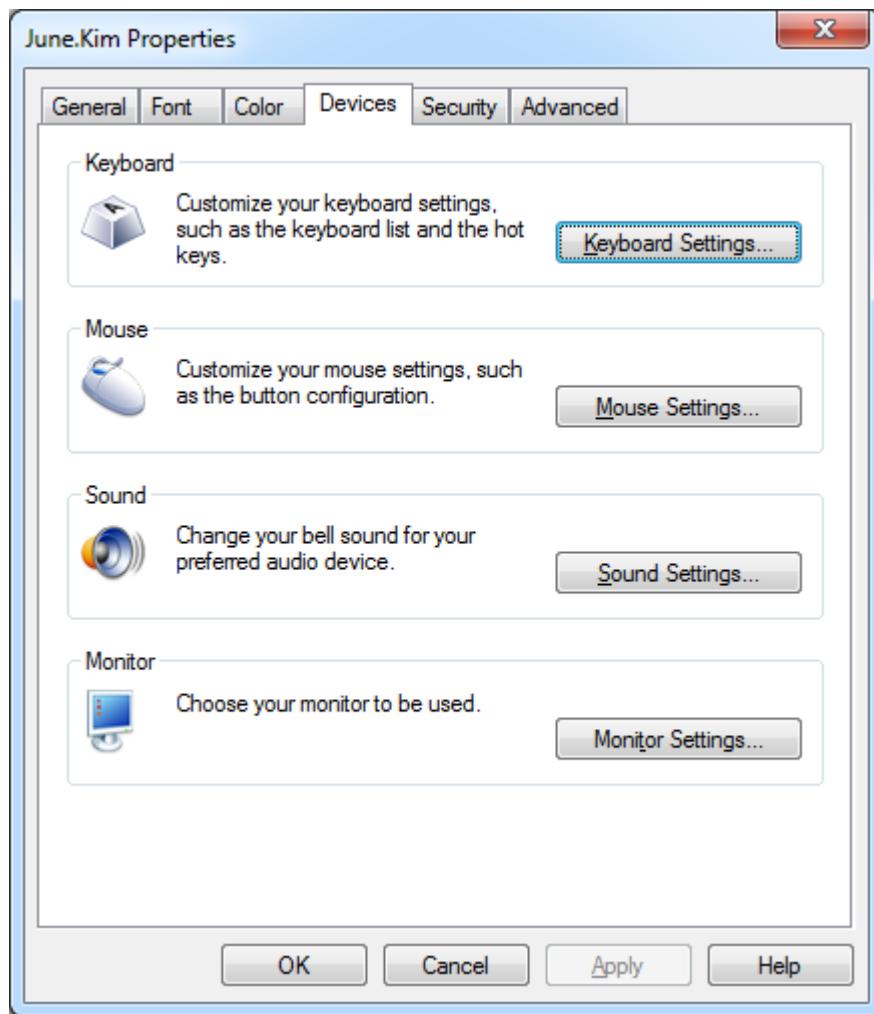


Figure 60: Xconfig Properties Dialog Box, Devices Tab

Keyboard Settings

Opens a [Keyboard Settings dialog box](#). In the dialog box, you can configure keyboard types, a hot key to switch the keyboard type, and other keyboard options.

Mouse Settings

Opens a [Mouse Settings dialog box](#). In the dialog box, you can configure a 3-button emulation and other mouse options.

Sound Settings

Opens a [Sound Settings dialog box](#). In the dialog box, you can select a bell type and specify a sound file.

Monitor Settings

Opens a [Monitor Settings dialog box](#). In the dialog box, you can select a monitor to be used in

a multi-monitor system.

The Security tab

In the **Security** tab, you can configure the host-based access control for security.

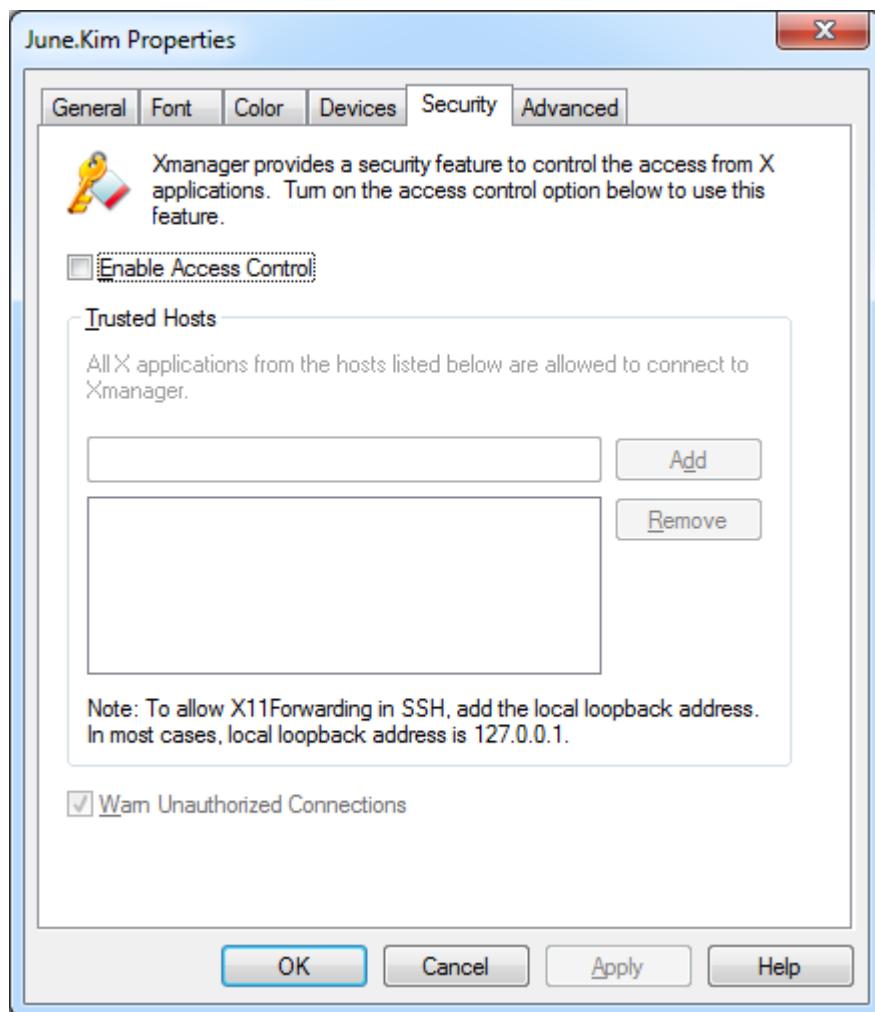


Figure 61: Xconfig Properties Dialog Box, Security Tab

Enable Access Control

Turns on the host-based access control which allows connections from the trusted hosts.

When access control is turned on, only the **X** applications on the trusted hosts can connect to **Xmanager**. If it is disabled, all **X** applications can connect to **Xmanager**.

Trusted Hosts

Shows the hosts you can trust. If a remote Unix host is added to the list, all users on the host can run an **X** application and connect to **Xmanager**.

Add

Adds an host to the trusted list.

Remove

Removes the selected host from the list.

Warn Unauthorized Connections

Shows a warning dialog box when an unauthorized **X** application tries to connect to **Xmanager**. You can accept or reject the connection.

The Advanced tab

In the **Advanced** tab, you can configure **X** extensions and other advanced options.

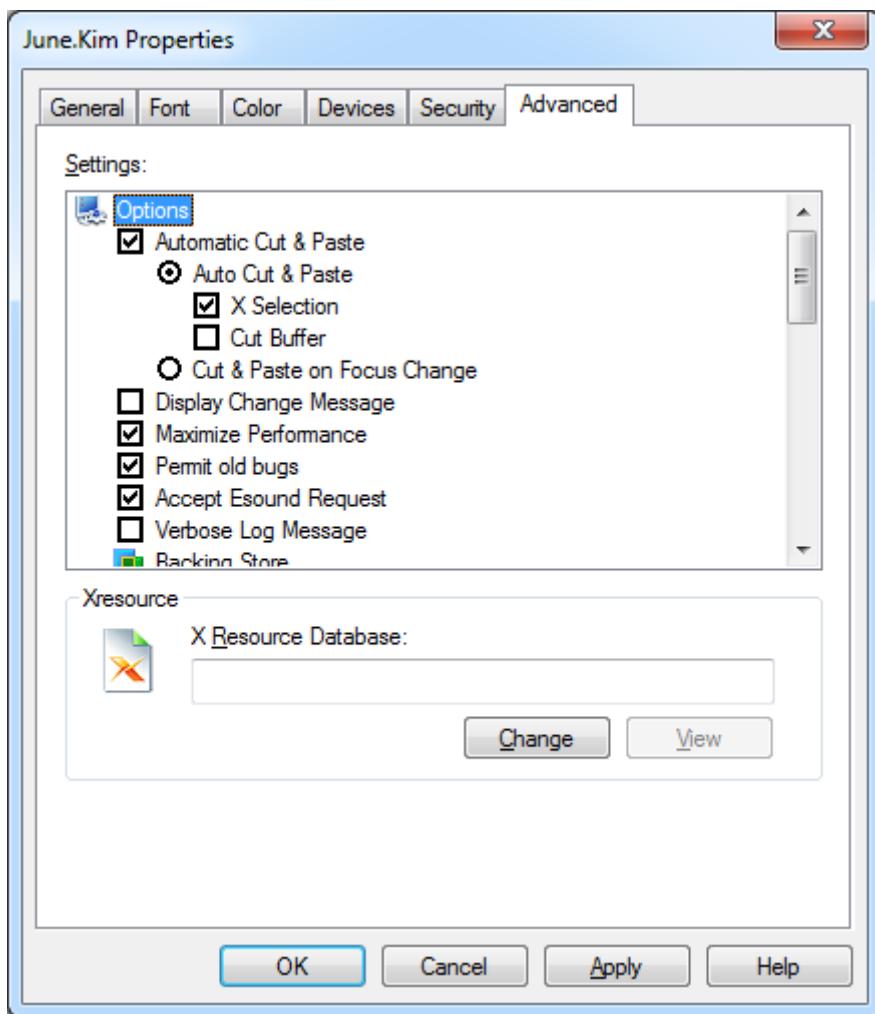


Figure 62: Xconfig Properties Dialog Box, Advanced Tab

Automatic Cut & Paste

When this option is turned on, **Xmanager** copies and pastes text between X and Windows applications automatically. If you copy a text from an X application, you can paste it in any Windows application and vice versa.

X Selection

Need to update

Cut Buffer

Need to update

Cut & Paste on Focus Change

Need to update

Display Change Message

Displays a warning dialog box when Windows changes its video mode such as screen size or color mode. When the screen size or color mode is changed, **Xmanager** should restart.

Maximize Performance

This option makes **Xmanager** run with its maximum performance. **Xmanager** selects the fastest method to do complex drawing operations.

It may cause some graphic images to be displayed poorly depending on your video device or application.

Permit old bugs

Select this option if the version of a remote X application is older than **X11R6** and it is not running properly with **Xmanager**.

Accept Esound Request

Select this option to play the remote Esound requests. Esound uses TCP port 16001.

Verbose Log Message

Select this option to save more detailed log message. NetSarang technician may ask you to enable this option when you are submitting the log for a review.

Backing Store

Select an appropriate backing store mode.

A backing store is a memory area in which **Xmanager** saves the obscured part of a window. If a window is hidden by another window, the obscured area should be redrawn after it has been exposed again. By saving the obscured area in memory, **Xmanager** can recover the area faster than the application draws it once again. It also saves data traffics in a slow network line.

Xmanager provides four backing store modes: *Do Not Use*, *When Requested*, *When Mapped*, and *Always*.

Do Not Use turns off the backing store feature and X applications should always redraw the obscured area.

When Requested does not use the backing store feature too. However if an X application

requests the backing store feature for its windows, **Xmanager** enables the backing store for only those windows.

When Mapped enables the backing store feature for all windows by default. All windows except for the unmapped or iconized one will benefit the backing store feature.

Always enables the backing store feature for all windows including mapped, unmapped and iconized windows. It requires a lot of system memory and graphic resources.

Extensions

Select the **X** extensions you want to use.

Xmanager supports BIG-REQUEST, DAMAGE, DEC-XTRAP, DOUBLE-BUFFER, Extended-Visual-Information, MIT-SUNDAY-NONSTANDARD, Multi Buffering, RECORD, RENDER, SECURITY, SHAPE, SYNC, TOG-CUP, XC-APPGROUP, XC-MISC, XEVIE, XFIXES, XInput, XKEYBOARD, and XTEST extensions. Especially Render extension gives you advanced graphic environment for X applications. Also GLX(OpenGL) extension is included in Xmanager Enterprise edition.

X Resource Database

Shows the path of **X** resource database which will be processed when **Xmanager** starts.

Change

Opens an **Open** dialog box to change the resource database.

View

Opens the resource database with a notepad.

Window Mode Settings dialog box

In the **Window Mode Settings** dialog box, you can customize options for single and multiple window modes. You can open the dialog box by clicking **Settings** on the **General** tab of the [Properties dialog box](#).

The Single Window Mode tab

The Single Window Mode tab allows you to choose the main window size and configure a scroll bar option.

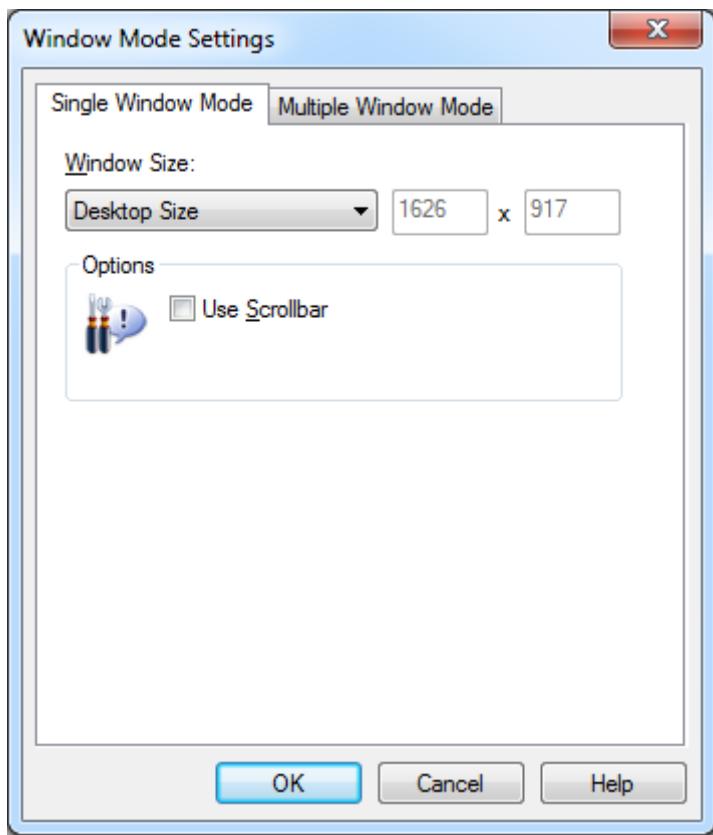


Figure 63: Window Mode Settings Dialog Box, Single Window Mode Tab

Window Size

Select the size of the **Xmanager** main window. The window size will be the size of the **X** root window.

Desktop Size opens **Xmanager** main window as large as the desktop excluding the task bar.

Full Screen opens **Xmanager** main window to occupy the entire screen, and it has no title bar and sizing border. It will also hide the Windows task bar.

Use Scrollbar

Attaches scroll bars on the right and bottom of the **Xmanager** main window. It is useful when you want to make **Xmanager** window size larger than the Windows desktop size.

The Multiple Window Mode tab

The Multiple Window Mode tab allows you to customize the background policy, window manager and other useful options.

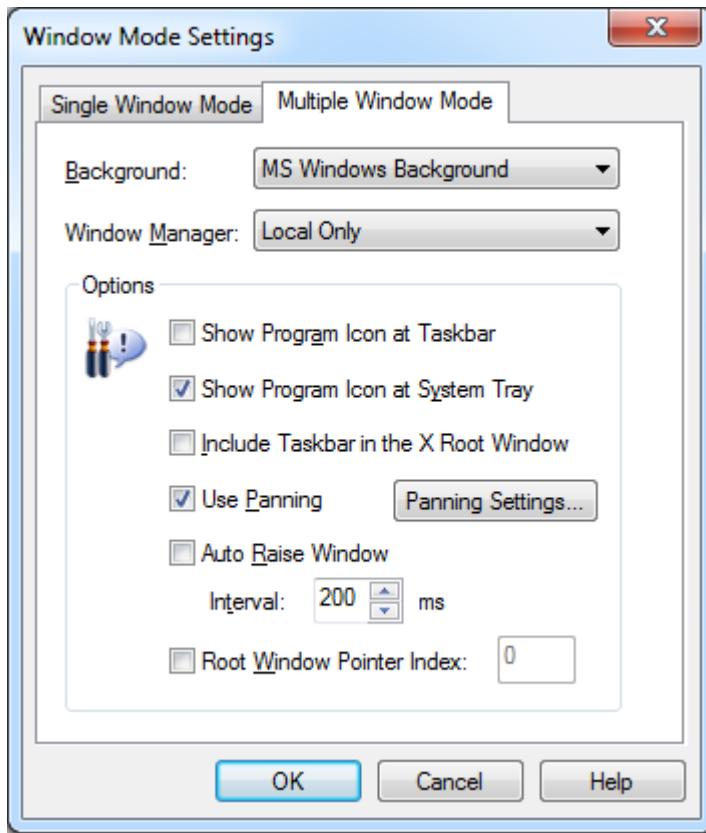


Figure 64: Window Mode Settings Dialog Box, Multiple Window Mode Tab

Background

Select one of the three desktop background modes: *MS Windows Background*, *X Window Background*, or *X Window Background (Transparent)*.

MS Windows Background gives the control over the desktop background to MS Windows. You cannot use the **X** root window background in this mode.

X Window Background gives the control over the desktop background to **Xmanager**. The background will be changed to **X** root window and the mouse pointer will also be changed to **X** pointer. In this mode, you cannot use the Windows icons on the desktop background.

X Window Background (Transparent) works the same way as the **X Window** Background mode. However, the desktop background looks like the Windows desktop. You can still see the Windows icons on the desktop, but those icons are not active.

Notes

The **Background** option will be applied only when a remote window manager is running.

Window Manager

Select the window manager which will manage each **X** application window. **Xmanager** supports *Automatic Switch*, *Remote Only*, and *Local Only* for the window manager style.

A window manager is a program that manages **X** application windows. It attaches a title bar,

border and system menu to a window. And also it can resize, move, iconize and close the window. A local window manager is the one which looks the same as MS Windows, and it attaches the same title bar and border as Windows applications to **X** application windows. A remote window manager such as **dtwm**, **mwm**, **fvwm** is running on a remote host and it looks different than the local window manager.

Automatic Switch mode switches the window manager automatically and you do not have to pay attention to the window manager. At the beginning, **Xmanager** runs a local window manager, and when a remote window manager tries to connect to **Xmanager**, the local window manager is automatically closed. And if the remote window manager is closed by user, the local window manager will run again.

Remote Only mode do not run a local window manager. You should always run a remote window manager to manage **X** application windows.

Local Only mode do not allow the connection of a remote window manager. All **X** application windows will be managed as the same way as Windows applications.

Use System Tray at Startup

Enters the **Xmanager** icon in the system tray.

Include Taskbar in X Root Window

Includes the **Taskbar** area in the **X** root window. It may cause the bottom area of the remote desktop to be obscured by Taskbar.

Use Panning

Enables the panning feature for all **X** application windows when a local window manager is active.

This feature is very useful when the window size is too large to fit in the desktop or part of the window is in the outside of the desktop. By moving the mouse pointer to the edge of the desktop, the window will be automatically moved into the inside of the desktop.

Panning Settings

Opens a Panning Settings dialog box which allows you to adjust panning speed and anchor positions.

Auto Raise Window

Raises a window to the top and switches the input focus to the window when the mouse pointer enters the window.

Interval

Enter an interval as a milli-seconds unit. It gives a delay before the window is being raised to the top.

Panning Settings dialog box

The **Panning Settings** dialog box allows you to adjust panning speed and positions. You can open it by clicking **Panning Settings** on the **Multiple Window Mode** tab of the Window Mode Settings dialog box.

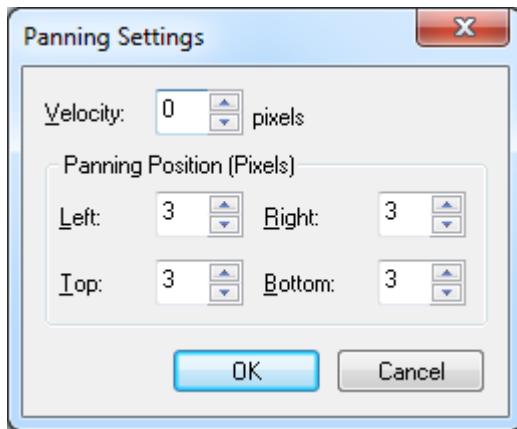


Figure 65: Panning Settings Dialog Box

Velocity

Enter the panning speed in pixels. Every time the mouse pointer touches a panning position, the panning window slides into the desktop by the pixels you specified.

Left

Enter the anchor position relative to the left of the desktop. The unit is pixels. When the mouse pointer moves into the anchor position, the window starts to slide.

Right

Enter the anchor position relative to the right of the desktop. The unit is pixels. When the mouse pointer moves into the anchor position, the window starts to slide.

Top

Enter the anchor position relative to the top of the desktop. The unit is pixels. When the mouse pointer moves into the anchor position, the window starts to slide.

Bottom

Enter the anchor position relative to the bottom of the desktop. The unit is pixels. When the mouse pointer moves into the anchor position, the window starts to slide.

Add Font Server dialog box

The **Add Font Server** dialog box allows you to add a font server catalogue to the font catalogues list. You can open it by clicking **Add Font Server** on the **Font** tab of the [Properties dialog box](#).

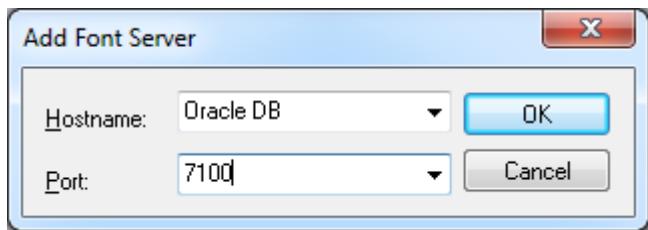


Figure 66: Add Font Server Dialog Box

Hostname

Enter the host in which the font server is running.

Port

Enter the port number on which the font server listens. The default port number is 7100.

Keyboard Settings dialog box

The **Keyboard Settings** dialog box allows you to select keyboard types, specify a hot key to switch keyboards and other keyboard options. You can open it by clicking **Keyboard Settings** on the **Devices** tab of the [Properties dialog box](#).

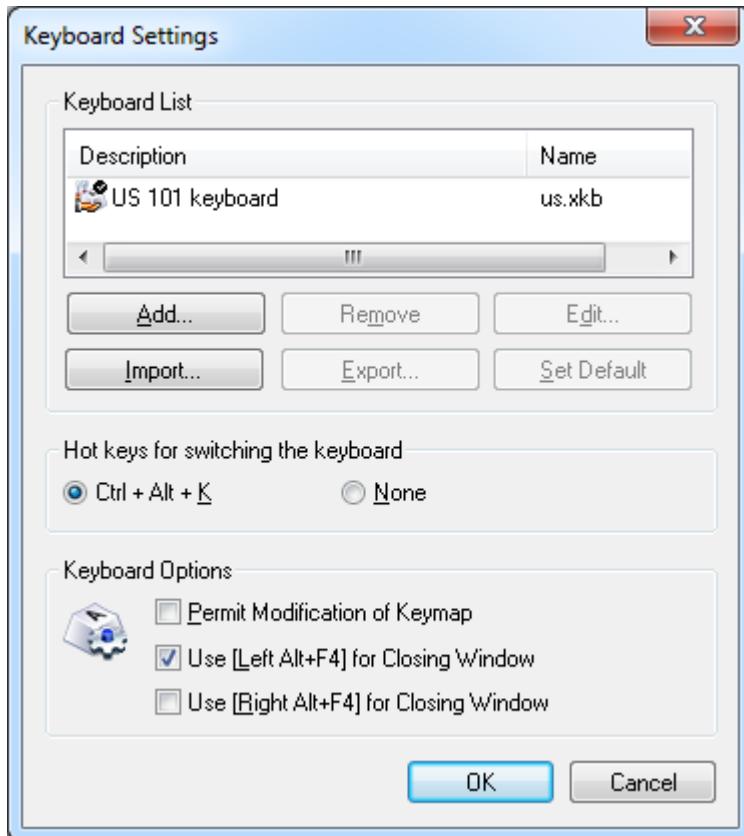


Figure 67: Keyboard Settings Dialog Box

Xmanager supports many international keyboards. You can find a proper keyboard file that maps your keyboard layout correctly and add it to the Keyboard List for **Xmanager**.

Keyboard List

Shows the keyboard files you want to use with **Xmanager**. The keyboard files on the list appears on the **Keyboard Selection** dialog box and you can change your keyboard type at any time while using **Xmanager**.

Add

Opens an [Add Keyboard dialog box](#) to add a keyboard file to the list. You can select an appropriate keyboard file in the dialog box.

Remove

Removes the selected keyboard file from the list.

Edit

Opens **Keyboard Editor** which allows you to edit the key-mappings of the selected keyboard file.

Import

Opens an **Open** dialog box to import a keyboard file.

Export

Opens a **Browse for Folder** dialog box to export a keyboard file.

Set Default

Sets the selected keyboard file as the default keyboard file. **Xmanager** opens the default keyboard file when it starts.

Hot Keys for switching the keyboard

Select a hot key which will open the **Keyboard Selection** dialog box while **Xmanager** is running. Using the hot key, you can switch your keyboard type at any time.

Permit Modification of Keymap

Allows **X** applications to modify key-mappings. It is recommended that only advanced users select this option.

Use [Left Alt+F4] for Closing Window

Select this option if you want to close **X** application windows using the [Left Alt + F4] key sequence as you do it for Windows applications. When the **X** application is using the key sequence for other purposes, clear the check box.

Use [Right Alt+F4] for Closing Window

Select this option if you want to close **X** application windows using the [Right Alt + F4] key sequence as you do it for Windows applications. When the **X** application is using the key

sequence for other purposes, clear the check box.

Add Keyboard dialog box

The **Add Keyboard** dialog box shows all the keyboard files available for international keyboards and allows you to select an appropriate one. You can open it by clicking **Add** on the [Keyboard Settings dialog box](#).

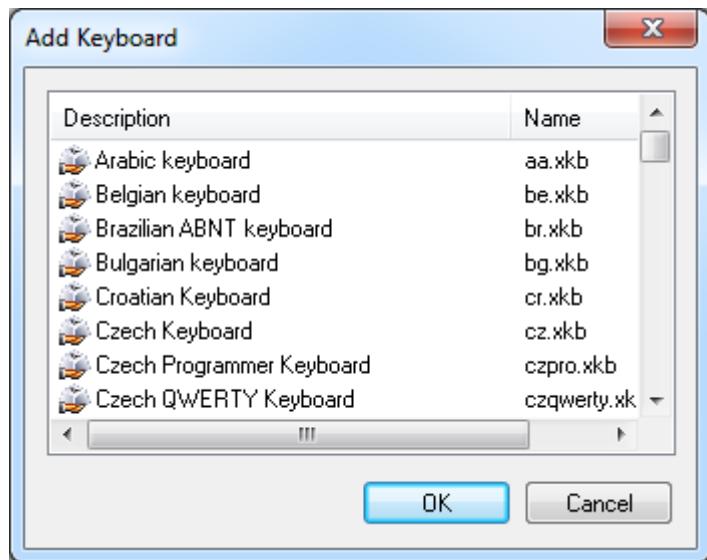


Figure 68: Add Keyboard Dialog Box

The **Description** column shows a meaningful name of a keyboard file. The **Name** column shows the actual file name of the keyboard file.

Mouse Settings dialog box

In the **Mouse Settings** dialog box, you can configure 3-button emulation, wheel mouse and cursor color. You can open the dialog box by clicking **Mouse Settings** on the **Devices** tab of the [Properties dialog box](#).

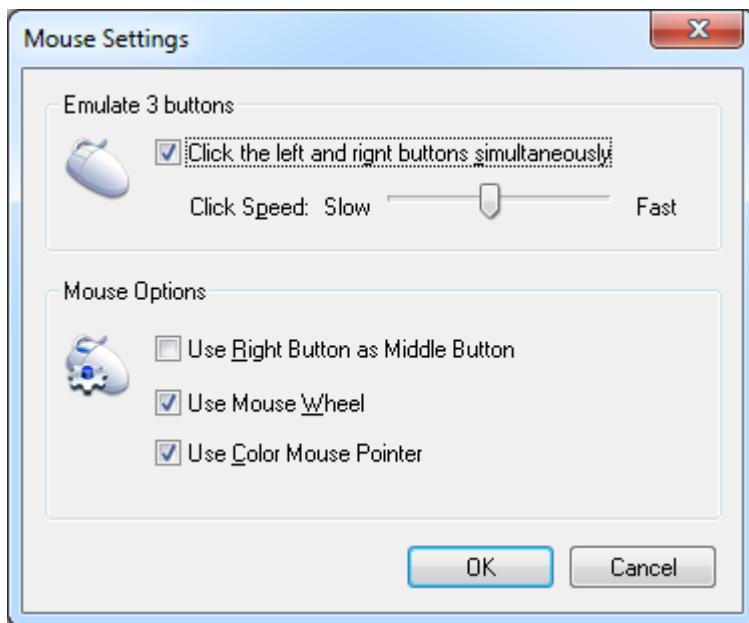


Figure 69: Mouse Settings Dialog Box

Click the left and right buttons simultaneously

Select this check box to enable 3-button emulation for a 2-button mouse. You can emulate the middle button by pressing the left and right buttons simultaneously.

Click Speed

Adjust the time interval between the left and right buttons. The click speed represents the waiting time of one button after the other button has been pressed. During the waiting time, the button that has been pressed will wait for the other button to be pressed as well.

Notes

If the click speed is set too fast, the middle button may not work no matter how fast you press the two buttons simultaneously.

Use Right Button as Middle Button

Select this check box when you are using the middle button very often and the right button is not useful.

Use Mouse Wheel

Select the check box to generate mouse events when you rotate the wheel. A button4 event is generated when you rotate the wheel forward, away from you; a button5 event is generated when you rotate the wheel backward, toward you.

Notes

When this option is enabled, some CDE applications cannot open a menu with the right button.

Use Color Mouse Pointer

Select this check box to display color mouse pointers. When you clear it, all mouse pointers are displayed as black and white colors.

Sound Settings dialog box

In the **Sound Settings** dialog box, you can select a bell type and specify a sound file. You can open the dialog box by clicking **Sound Settings** on the **Devices** tab of the [Properties dialog box](#).

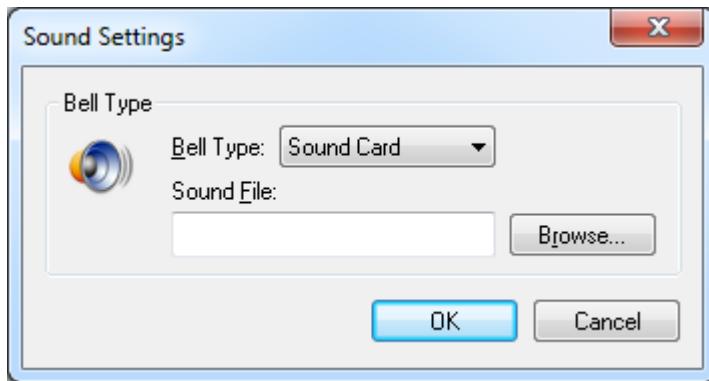


Figure 70: Sound Settings Dialog Box

Bell Type

Select an appropriate audio device for the bell request of **X** applications. You can select one of three bell types: *Sound Card*, *PC Speaker* and *None*.

If you select a Sound Card, you need to specify an appropriate sound file (.wav) in the **Sound File** box. If you select None, the bell is disabled.

Sound File

Shows the sound file (.wav) you selected for the bell request of **X** applications.

Browse

Opens an **Open** dialog box to select a sound file.

Monitor Settings dialog box

In the **Monitor Settings** dialog box, you can choose a monitor to display **X** application windows in a multi-monitor system. You can open the dialog box by clicking **Monitor Settings** on the **Devices** tab of the [Properties dialog box](#).

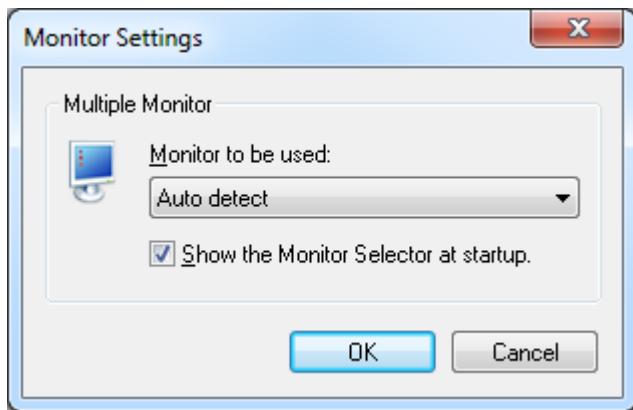


Figure 71: Monitor Settings Dialog Box

Monitor to be used

Select an appropriate monitor to display **X** application windows. The list shows all available monitors including *Auto detect* and *Virtual Screen*.

When you select a monitor, **Xmanager** uses only the monitor to open and display **X** application windows. *Virtual Screen* is a virtual rectangular area which includes all monitors.

When you select *Auto detect* from the list, **Xmanager** uses *Virtual Screen* for multiple window mode and the primary monitor for single window mode.

Show the Monitor Selector at startup

Select this check box to open a **Monitor Selector** dialog box when **Xmanager** starts.

Keyboard Editor

Keyboard Editor helps you create and edit keymap files for international keyboards. It is designed to support various international keyboard layouts such as US 101-key, UK 102-key, Korean 103-key, Japanese 106-key and Brazilian ABNT2.

It supports the compose sequence for European keyboards and a latch feature to emulate locked keys. For multi-user environments, it supports a sharing feature for the keymap files you created.

Xmanager supports a lot of predefined keymap files for most international keyboards and languages. Thus, you may find an appropriate keymap file which is suitable for your applications. Even though you cannot find a proper one, you can select a similar keymap file which can minimize your editing effort.

Keyboard Editor main window

You can open **Keyboard Editor** by clicking **Edit** in the [Keyboard Settings dialog box](#).

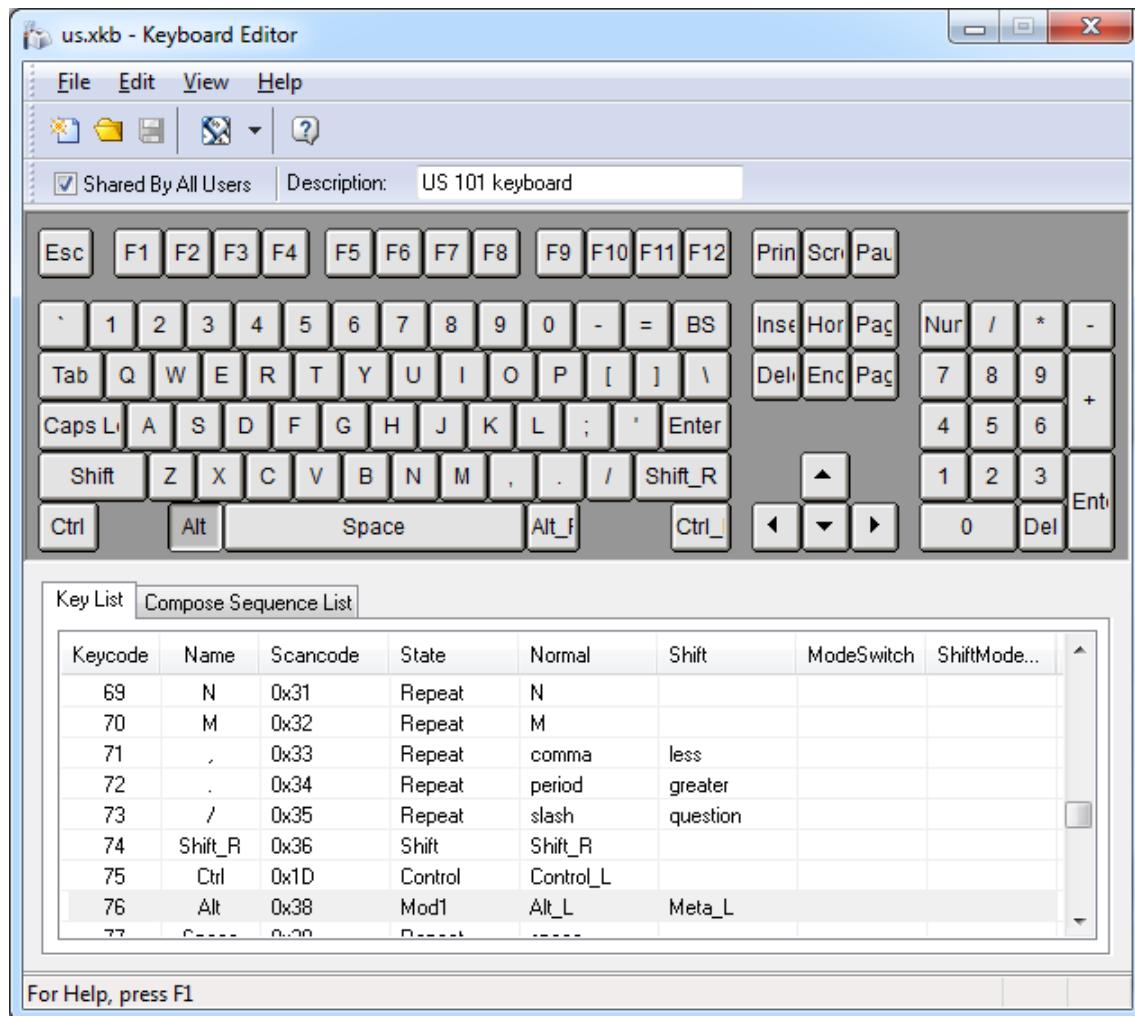


Figure 72: Keyboard Editor Main Window

The main window shows a keyboard layout graphically and mappings for each key as a list. Keyboard Editor supports two layout modes: *Normal Layout* and *Compose Layout*. If you click the **Keyboard Edit Mode** button on the toolbar, the layout is toggled.

Normal Layout shows basic keys on the keyboard and you can edit the keysyms for each key. A keysym is a symbolic name assigned to a key.

Compose Layout shows the compose keys as highlighted and you can edit compose sequences for dead keys in European keyboards.

File menu

In the **Files** menu, you can create, open and save a keymap file.

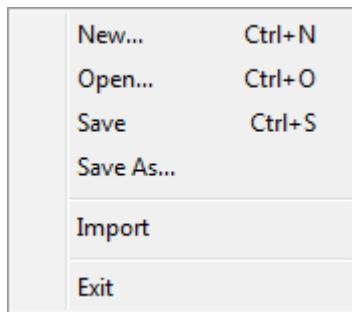


Figure 73: Keyboard Editor File Menu

New

Opens a [Select Keyboard Type dialog box](#). After selecting a proper keyboard type, you can edit each key on the keyboard.

Open

Opens an **Keyboard File Open** dialog box. You can select an existing keymap file from the dialog box.

Save

Saves the changed keymap information as a file. If the **Shared By All Users** check box is selected from the toolbar, the keymap file is saved in a shared folder.

Save As

Opens a **Save** dialog box. You can save the keymap file as another name in the dialog box.

Import

Opens **Open** dialog box. You can move an existing keymap file to **Xmanager** keymap folder.

Exit

Closes the **Keyboard Editor** window.

Edit menu

In the **Edit** menu, you can edit normal keys, edit compose keys and create user defined keysyms.



Figure 74: Keyboard Editor Edit Menu

Edit Key

Opens an [Edit Key dialog box](#) for the selected key. You can define keysyms and modifier state of the key. This command is available when the keyboard edit mode is Normal Layout.

Add Compose Key

Opens an [Edit Compose Sequence dialog box](#) to add a new compose sequence. You should select both key1 and key2 to generate a new compose key sequence.

Edit Compose Key

Opens an [Edit Compose Sequence dialog box](#) for the selected compose key. The key1 is selected automatically and you need to select a key2 for a new compose sequence.

Remove Compose Key

Removes the selected compose sequence from the list.

User-defined Keysym

Opens a [User-defined Keysym dialog box](#). You can define a new keysym in the dialog box.

View menu

In the **View** menu, you can show or hide toolbars and change the keyboard edit mode.

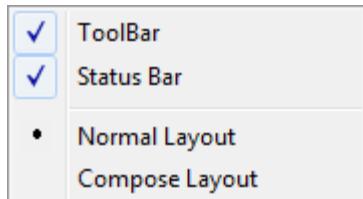


Figure 75: Keyboard Editor View Menu

Toolbar

Shows or hides **Toolbar**.

Status Bar

Shows or hides **Status Bar**.

Normal Layout

Toggles the keyboard edit mode to the Normal Layout.

Compose Layout

Toggles the keyboard edit mode to the Compose Layout.

Help menu

In the **Help** menu, you can open **Xmanager** Help system and get information about the current version.

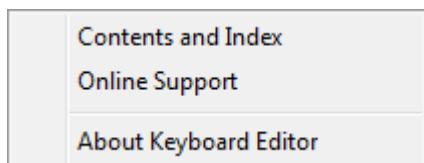


Figure 76: Keyboard Editor Help Menu

Contents and Index

Opens **Xmanager** Help system.

Online Support

Opens an Internet browser and goes to the support page of **Xmanager**.

About Keyboard Editor

Opens an **About** dialog box which contains the version and license information.

Toolbar buttons

Keyboard Editor provides a number of toolbar buttons for commonly used tasks and commands. You can also perform the same tasks from the **Menu** bar.



Figure 77: Keyboard Editor Toolbar Buttons

The list below describes the toolbar buttons.

Button	Name	Description
--------	------	-------------

	New	Opens a Select Keyboard Type dialog box . After selecting a proper keyboard type, you can edit each key on the keyboard.
	Open	Opens an Open dialog box. You can select an existing keymap file from the dialog box.
	Save	Saves the changed keymap information as a file. If the Shared By All Users check box is selected from the toolbar, the keymap file is saved in a shared folder.
	Edit Mode	Toggles the keyboard edit mode to the Normal or Compose Layout.
	Help	Opens Xmanager Help system.

Option bar

From the **Option** Bar, you can select a sharing option and edit the description of the keymap file.



Figure 78: Keyboard Editor Option Bar

Shared By All User

Select this check box if you want to share the keymap file with other users. A shared keymap file is indicated by a hand image on the icon and saved in the common user folder.

Description

Enter a description for the keymap file.

Normal layout

In the Normal layout, you can edit the modifier state and keysyms of each key. You can select the normal layout by clicking **Normal Layout** in the **View** menu.

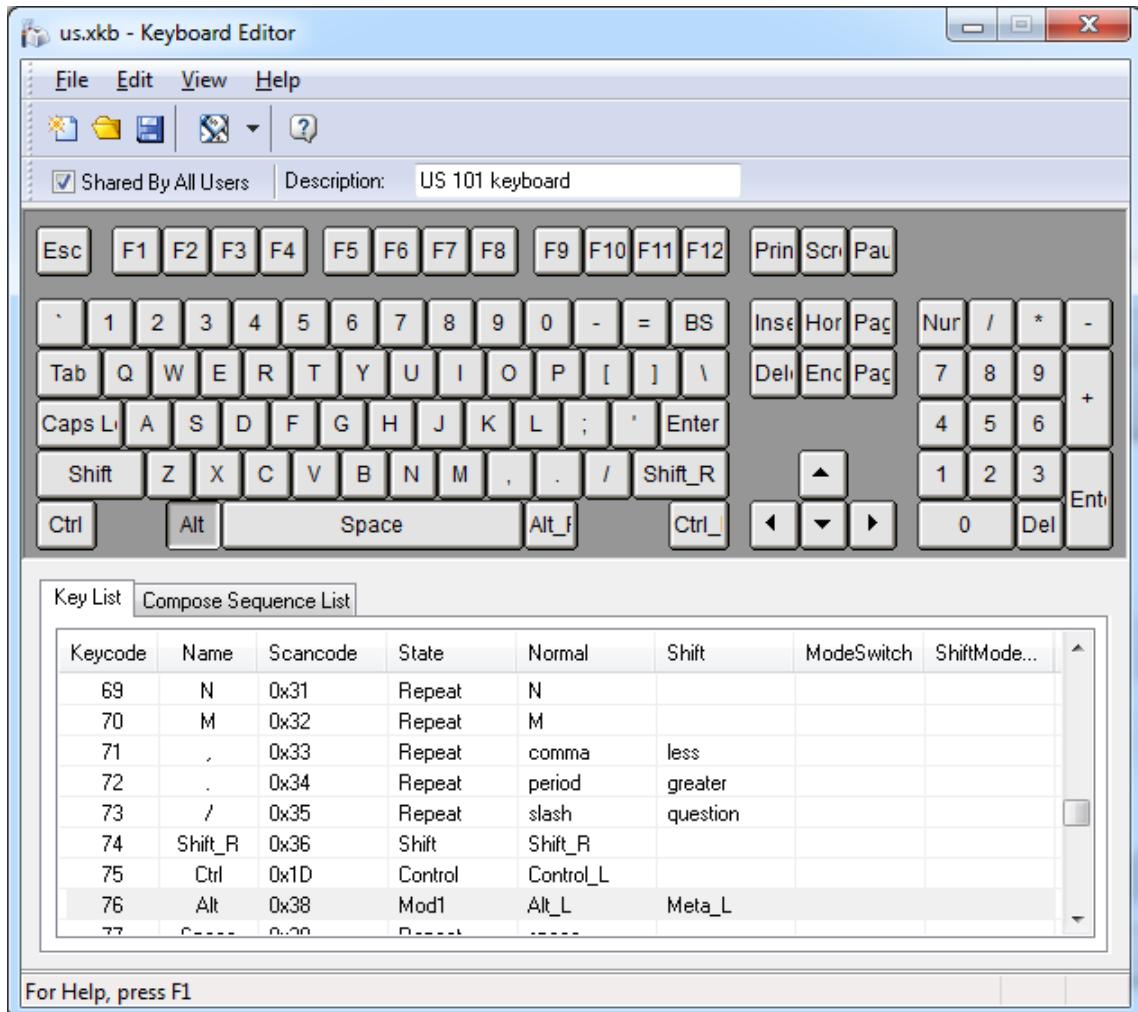


Figure 79: Keyboard Editor Edit Mode, Normal Layout

Each key on the keyboard has a name, keycode, scancode, keysym and modifier state. The name, keycode and scancode are predefined in **Xmanager**, and those values cannot be changed by the user. You can edit only the modifier state and keysym values.

A **scancode** is a hardwired code generated from a key and it is defined by the keyboard manufacturer.

A **keycode** is a unique number assigned to a key. It should be in the range between 8 and 255 by the **X Window** protocol standard.

A **keysym** is a symbol which grants a meaning to a key. Each key may have four keysyms depending on the state of the Shift and ModeSwitch keys: *Normal*, *Shift*, *ModeSwitch* and *Shift ModeSwitch*. A Normal keysym is used when you press only a key. A Shift keysym is used when you press a key while pressing a Shift key. A ModeSwitch keysym is used when you press a key while pressing a ModeSwitch key, usually the Alt_Right key. A Shift ModeSwitch keysym is used when you press a key while pressing both Shift and ModeSwitch keys.

When you press the "A" key, **Xmanager** receives a scancode "0x1E" from the keyboard. The

keycode and keysym values for the key are defined as "0x51" and "0x61" for the US-101 keymap file. Thus, **Xmanager** sends the keycode value "0x51" to the remote **X** application. The remote **X** application maps the keycode "0x51" to "0x61" as defined in the keymap file. The keysym "0x61" is defined as "A" in the **X Window** protocol standard, so the application knows which key was pressed.

Compose layout

In the compose layout, you can add, edit and remove compose sequences for dead keys in European keyboards. You can select the compose layout by clicking **Compose Layout** in the **View** menu.

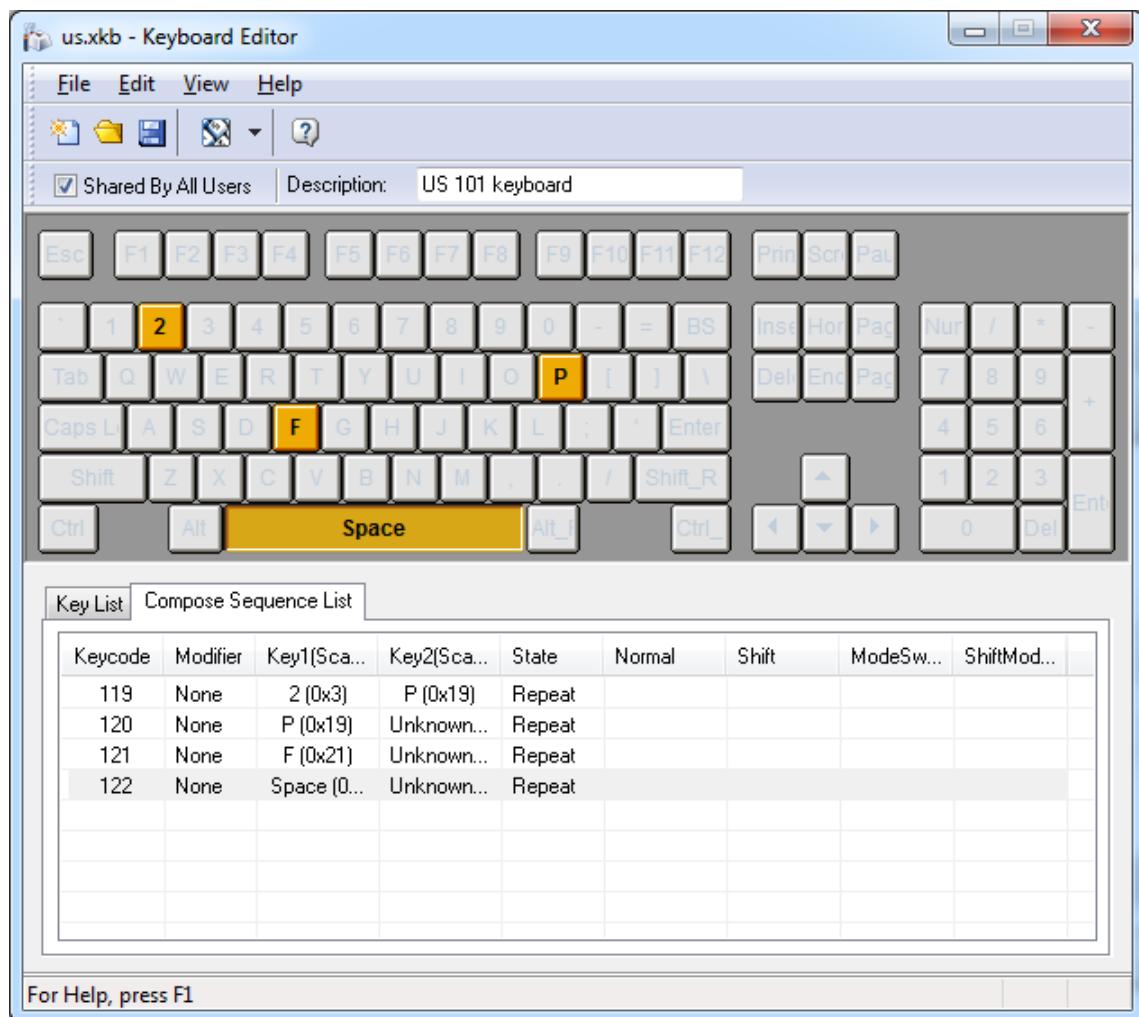


Figure 80: Keyboard Editor Edit Mode, Compose Layout

A compose sequence is defined by two keys: key1 and key2. When you press key1 and key2 in sequence, only a single keycode is generated and sent to the remote **X** application.

For example, in order to enter the Atilde key "ã" from the French keyboard, you should press

“2” and “Q” keys in sequence. So, the keycode “132” is sent to the remote **X** application and it is known to the application as the Atilde key.

In the layout, all keys defined as key1 are displayed in yellow color. If you click a key1 key, all corresponding key2 keys are displayed as bold text on the cap.

By double-clicking a key1 or key2 key, you can edit its compose sequence. To add a new compose sequence, right-click on a key which will be used as key1 or key2.

When a modifier is defined for a compose sequence, you should enter the modifier, key1 and key2 keys in sequence to generate the corresponding keycode.

Select Keyboard Type dialog box

The **Select Keyboard Type** dialog box helps you select one of seven international keyboard types. A new keymap file is created with the keyboard type you selected in the dialog box. You can open it by clicking **New** in the **File** menu.



Figure 81: Select Keyboard Type Dialog Box

Keyboard Type

The Keyboard Type list shows all international keyboard types available in **Xmanager**. Each type has a different keyboard layout and the number of keys. Therefore you should select a similar keyboard type with your keyboard.

User-defined Keysym dialog box

The **User-defined Keysym** dialog box allows you to add or remove additional keysyms which are not defined in **Xmanager**. You can open it by clicking **User-defined Keysym** in the **Edit** menu.

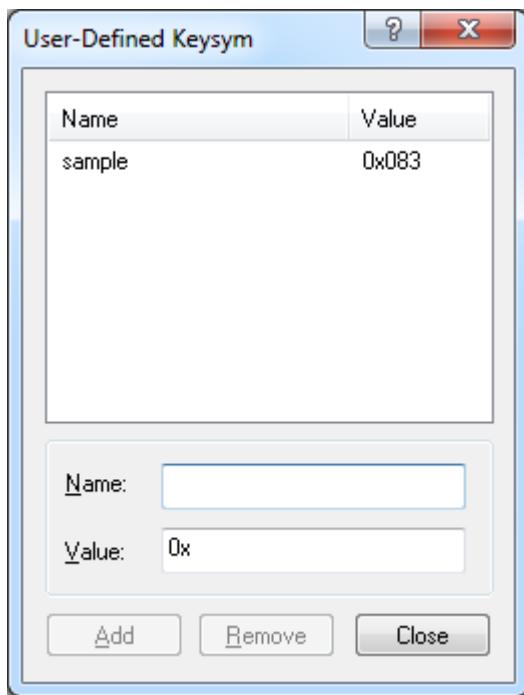


Figure 82: User-defined Keysym Dialog Box

Name

Enter the keysym name which will be added in the list.

Value

Enter the keysym value as a hexdecimal format.

Add

Adds the keysym you entered in the **Name** and **Value** box to the list.

Remove

Removes the selected keysym from the list.

Close

Closes the dialog box.

Edit Key dialog box

The **Edit Key** dialog box helps you assign a keysym to a key and adjust other key characteristics such as repeat, latch and lock. You can open the dialog box by double-clicking a key on the **Keyboard Editor** window.

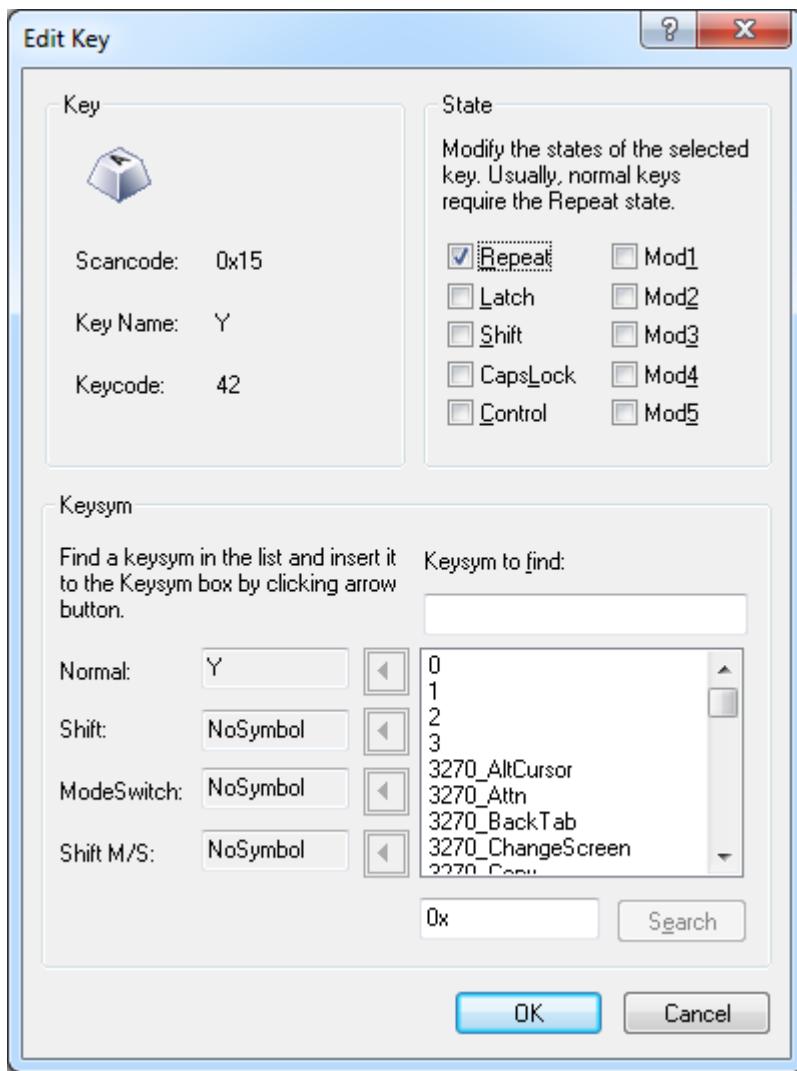


Figure 83: Edit Key Dialog Box

The dialog box consists of three areas: *Key*, *State* and *Keysym*. Each area is described in detail below.

Key

Shows the scancode, key name and keycode of the selected key.

State

You can set a lot of key characteristics such as repeat, latch, lock and modifier in this area.

Repeat is the function that generates the same key events repeatedly while you keep hold the key down. This function is turned on by default for most keys except for modifier keys such as Shift, Alt and Control.

Latch is the function that generates only one of the KeyPress and KeyRelease event when a key

is pressed and then released. So, you should press and release the key twice to generate both KeyPress and KeyRelease events. Usually this feature is used for CapsLock or NumLock keys.

Shift defines the key as a Shift key.

CapsLock defines the key as a CapsLock key.

Control defines the key as a Control key.

Mod1 ~ Mod5 defines the key as a modifier key such as Alt and ModeSwitch. Usually the Alt key is defined as a Mod1 modifier. In some cases, the NumLock key is defined as a Mod3 modifier.

Keysym

The Keysym area helps you assign Normal, Shift, ModeSwitch and Shift ModeSwitch keysyms for the selected key.

A *keysym* is a symbolic name that stands for a specific character and the name is mapped to a corresponding 32-bit value. For example, the "A" character is defined as "XK_A" and its value is "0x41".

To assign keysyms to a key, you should find an appropriate keysym from the search list in the dialog box. In the list, the preceding "XK_" string is omitted for convenience. You can find a keysym by name or by value. To find by name, enter the keysym name in the **Keysym to find** box. To find by value, enter the keysym value in the **Value** box and click **Search**. Once you find an appropriate keysym, it is highlighted in the list and you can set it as the keysym of the key.

If you want to define the Normal keysym, find an appropriate keysym from the keysym list, highlight the keysym in the list and then click the arrow button on the Normal box.

You can define four different keysyms for a key.

Normal is used when you press the key without pressing any other modifiers.

Shift is used when you press the key while pressing a Shift key.

ModeSwitch is used when you press the key while pressing a ModeSwitch key.

Shift M/S is used when you press the key while pressing both Shift and ModeSwitch keys.

Edit Compose Sequence dialog box

The **Edit Compose Sequence** dialog box helps you assign a keysym to a compose sequence and adjust other key characteristics such as repeat, latch and lock. You can open it by clicking **Add Compose Key** in the **Edit** menu after clicking **Compose Sequence List** tab.

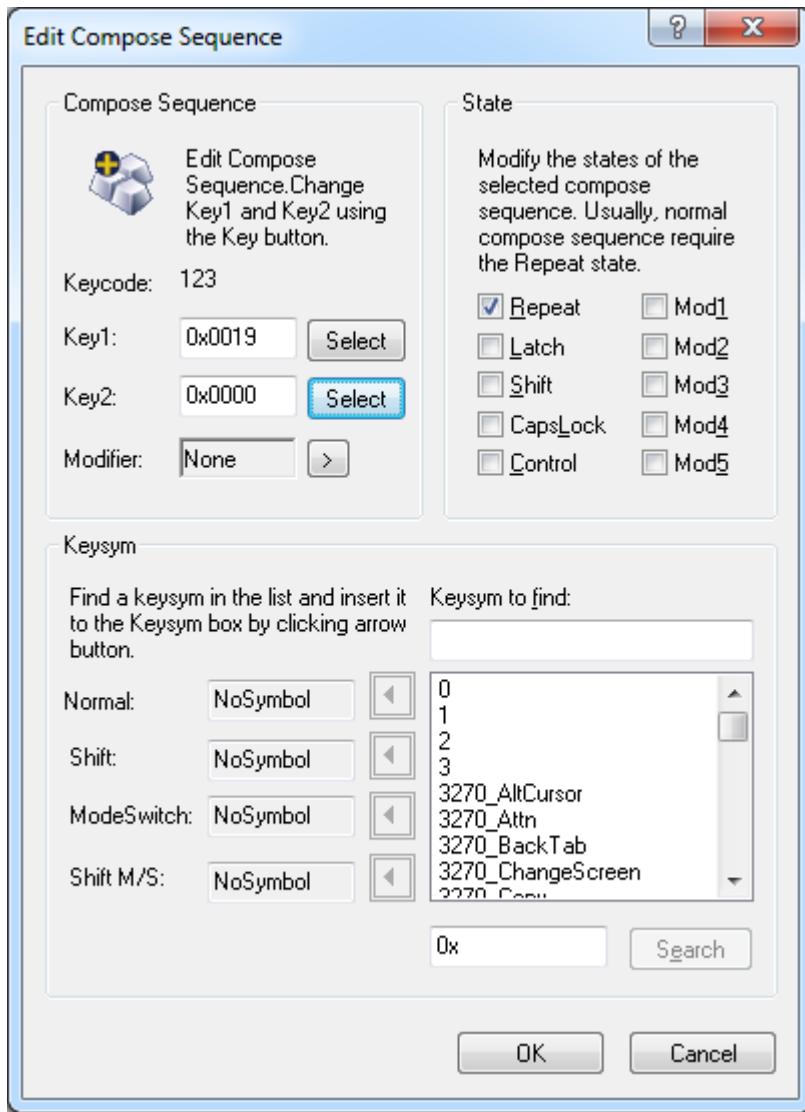


Figure 84: Edit Compose Sequence Dialog Box

The **Edit Compose Sequence** dialog box is nearly the same with the [Edit Key dialog box](#) except for the Compose Sequence area. This section explains only the Compose Sequence area. For more information about State and Keysym areas, see the [Edit Key dialog box](#).

Compose Sequence

A compose sequence is defined by two successive keys and an optional modifier key.

To define a compose sequence, click **Key1** and then press a key which is used for the first key of the sequence. The scancode of the pressed key will be entered in the box. Then click **Key2** and press the second key. To assign a modifier to the sequence, click the arrow button on the **Modifier** box, and then select a proper modifier from the menu.

Common dialog box

This section describes common dialog boxes shared with other programs such as **Xshell** and **Xftp**.

Host Keys dialog box

The **Host Keys** dialog box allows you to manage the host keys collected from remote hosts. You can open it by clicking **SSH Host Key Manager** on the **Tools** menu of **Xbrowser**.

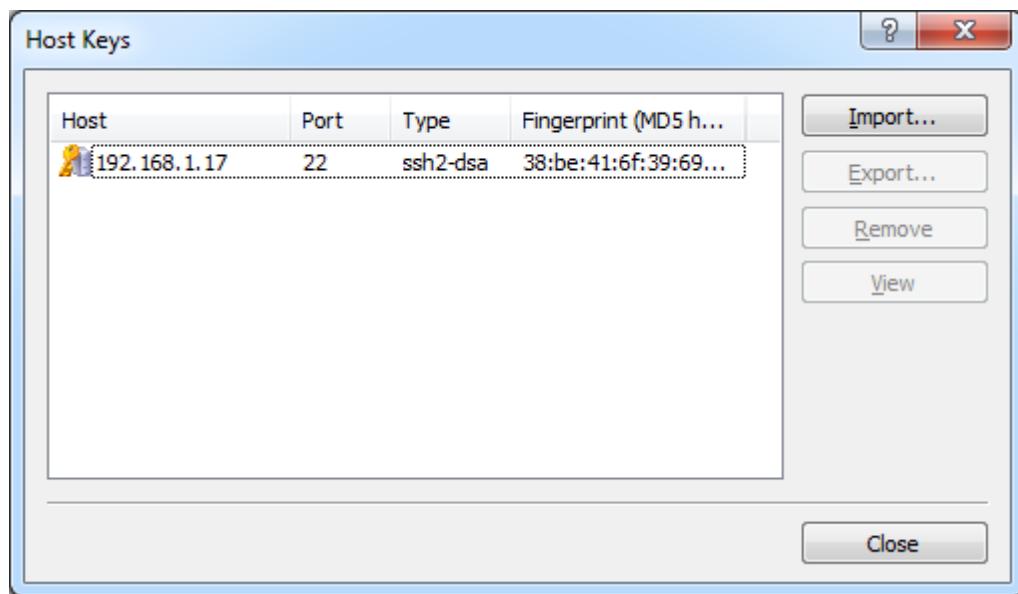


Figure 85: Host Keys Dialog Box

A host key is the public key of a remote host, and you can check the fingerprint on the key to verify the validity of the host. The remote host sends its public key to **Xstart** when the connection is established. When the host key is valid and you trust it, you can save the host key to the local database. If the host key is not saved in the database, the [SSH Security Warning dialog box](#) will appear when you try to connect to the host.

Be sure that the fingerprint on the host key is exactly the same as the one on the host which you want to connect.

Import

Opens the **Open** dialog box to import a host key. An imported key will be saved into the database and listed in the **Host Keys** dialog box.

Export

Opens the **Save** dialog box to export the selected host key. An exported key will be saved as a file, and you can use it with other programs. The exported file is formatted as SECSDH Public Key Format.

Remove

Removes the selected host key from the database.

View

Opens a **Notepad** window with the contents of the selected host key.

User Keys dialog box

The **User Keys** dialog box allows you to create and manage user keys. You can open it by clicking **SSH User Key Manager** on the **Tools** menu of **Xbrowser**.

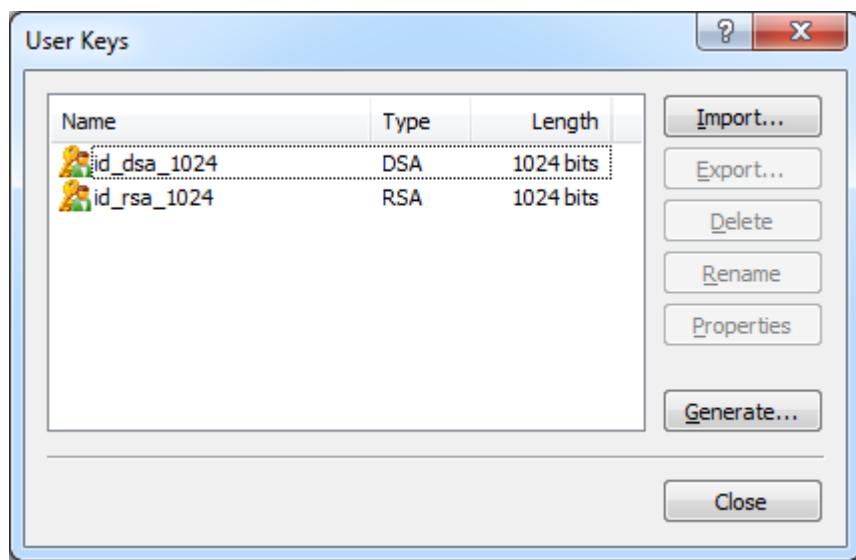


Figure 86: User Keys Dialog Box

A user key is comprised of two keys, a public key and a private key. The public key is registered to the remote server, and the private key is saved locally for **Xmanager**. When the public key authentication is in progress, the public key is sent to the server. If it is found on the server, the connection will be allowed.

You can create a user key with the **User Key Generation Wizard** provided by **Xmanager** or the key generation tool on the remote host. When the user key is created on the remote host, you should get the private key from the host and import it on the **User Keys** dialog box. When the user key is created on **Xmanager**, you should register the public key to the remote host. Transferring a private key over the network is not recommended and it is more secure to create it on **Xmanager** and register the public key to the remote host.

Import

Opens the **Open** dialog box and saves the selected user key file in the user key database.

Export

Opens the **Save** dialog box and saves the selected user key as a file. The private key file is saved in *NetSarang User Key* format and it cannot be used with the programs provided by

other vendors.

Delete

Deletes the selected user key from the database.

Rename

Changes the name of the selected user key.

Properties

Shows the properties information of the selected user key. You can see the type, length, fingerprint, and public key of the selected key. Also you can change the passphrase of the key.

Generate

Opens the [User Key Generation Wizard](#).

User Key Properties dialog box

The **User Key Properties** dialog box shows you the properties information of the selected user key. It also allows you to change the passphrase of the key and save the public key as a file. You can open the dialog box by opening the [User Keys dialog box](#), selecting a user key, and then clicking **Properties**.

General tab

The **General** tab shows the type, length, and fingerprint of the user key. You can change the name and passphrase of the key.

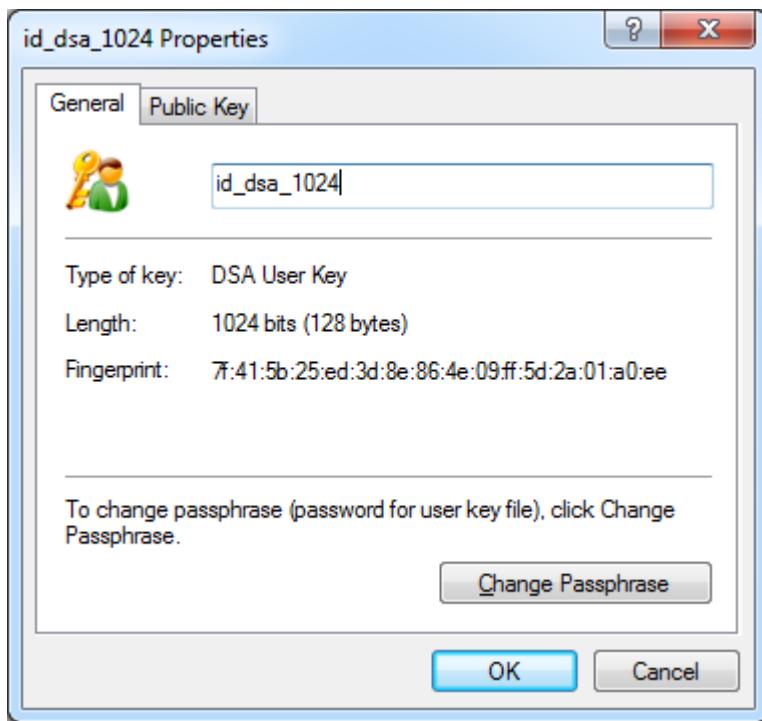


Figure 87: User Key Properties Dialog Box, General Tab

Key Name

Displays the name of the user key. You can change the name when necessary. The name should have just the valid characters for being a filename.

Change Passphrase

Click this button to change the passphrase of the user key.

Public Key tab

The **Public Key** tab shows the public key part of the user key. You can save the public key as a file with the format you have selected.

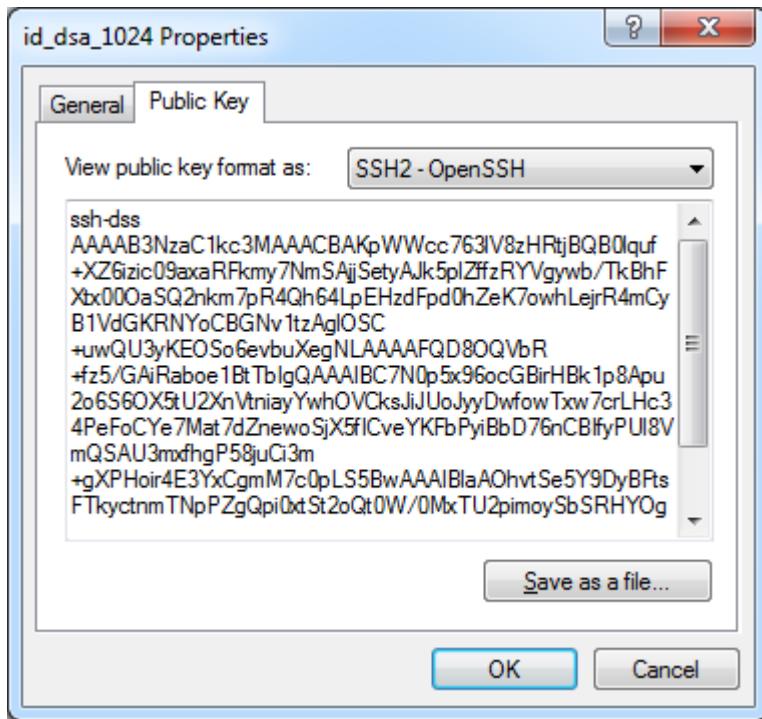


Figure 88: User Key Properties Dialog Box, Public Key Tab

View public key format as

Select a public key format in the list. Currently supported formats are *SSH2-OpenSSH*, *SSH2-IETFSCECH*, and *SSH1*.

Save as a file

Opens the **Save As** dialog box. You can save the public key in a file and register it to the SSH server.

User Key Generation Wizard

The **User Key Generation Wizard** dialog box allows you to create DSA or RSA user keys step by step. You can open it by clicking **SSH User Key Generation Wizard** on the **Tools** menu of **Xbrowser**.

Step 1: Key Generation Parameters

This step allows you to select the type and length of the user key.

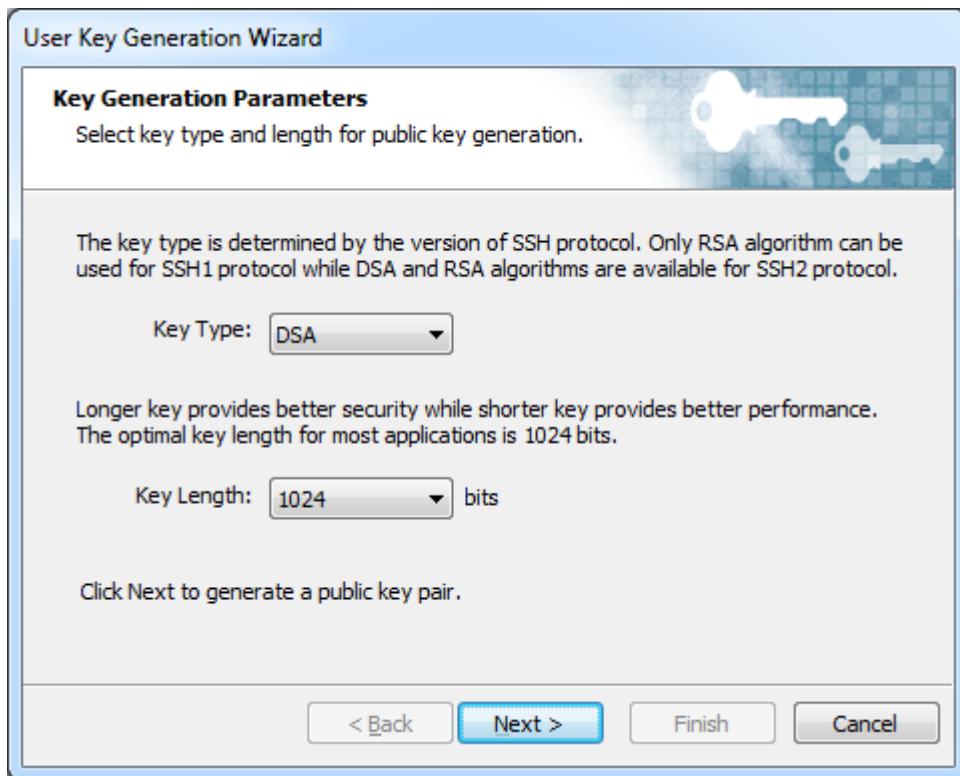


Figure 89: User Key Generation Wizard

Key Type

Select DSA or RSA in the list. SSH1 protocol supports only RSA keys and SSH2 protocol supports both RSA and DSA. You should select the one that is supported by the remote server.

Key Length

Select a key length in the list. Longer keys provide better security while shorter keys provide better performance. The optimal key length for most applications is 1024 bits.

Step 2: Public Key Pair Generation

This step generates a user key with the parameters selected in the previous step.

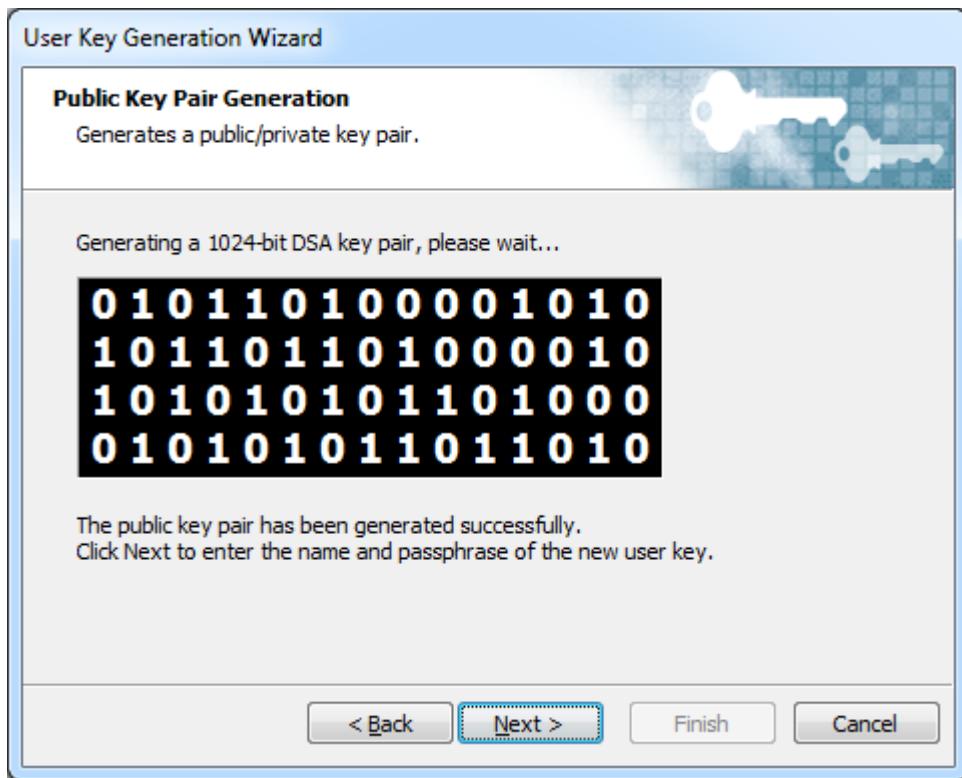


Figure 90: Public Key Generation

After the key has been generated successfully, you can click the **Next** button.

Step 3: User Key Information

This step allows you to enter the name and passphrase of the user key.

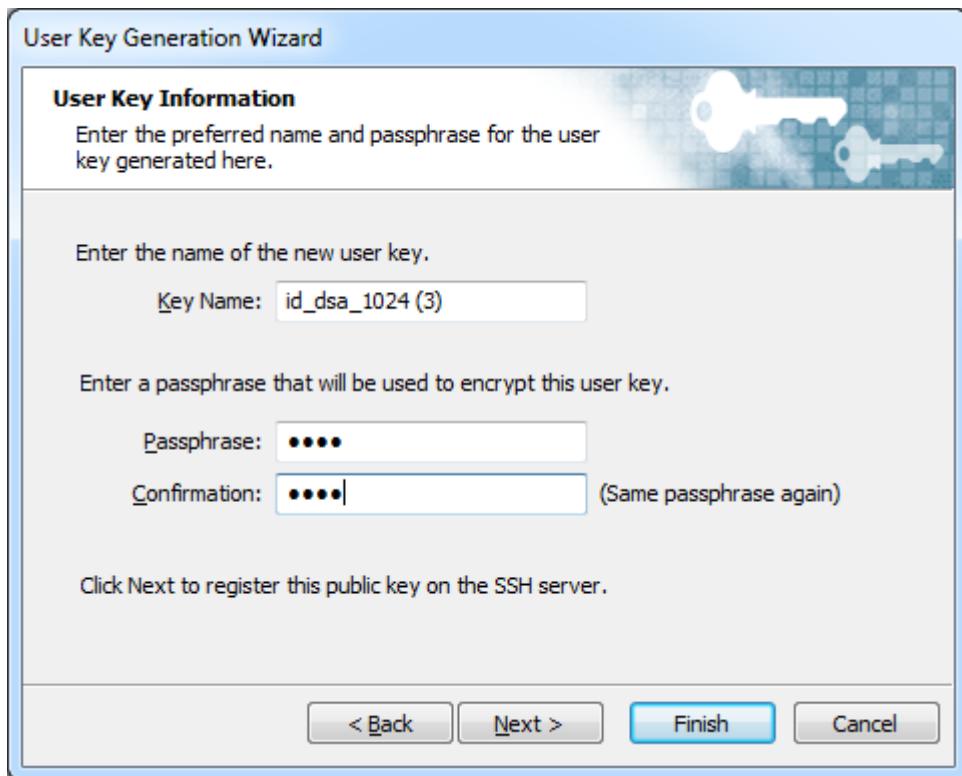


Figure 91: User Key Information

Key Name

Enter the name of the user key generated. The user key is saved as the name entered here and the name must have only valid characters for being a filename.

Passphrase

Enter the passphrase of the user key. It is used every time when you open it and you must remember it.

Confirmation

Enter the same passphrase again to confirm it.

Step 4: Public Key Registration

This step allows you to register the public key part of the user key to a remote server. You can also register it later from the [User Keys dialog box](#). The private key is stored in the user key database on local machine.



Figure 92: Public Key Registration

Public Key Format

Select one of the formats (*SSH1*, *SSH2-OpenSSH*, and *SSH2-IETF SECSH*) in the list. The text box below will show you the public key in the selected format. You can copy the text and store it as a file on the remote server. Depending on the server, steps needed to register the public key are different. In most cases, the following guideline will work for each format.

- *SSH1*: Copy the text and save it to `$HOME/.ssh/authorized_keys` file. Run the following commands to turn off the write permission of the files and directories:
`$ cd`
`$ chmod go-w . .ssh .ssh/authorized_keys`
- *SSH2-OpenSSH*: OpenSSH servers use this format. Copy the text and save it to `$HOME/.ssh/authorized_keys2` file. Run the following commands to turn off the write permission of the files and directories:
`$ cd`
`$ chmod go-w . .ssh .ssh/authorized_keys2`
- *SSH2-IETF SECSH*: Some commercial SSH servers such as ssh.com's use this format. Copy the text and save it to a unique name such as `mypublickey.pub` in the `$HOME/.ssh2` directory. And then add a line into the `$HOME/.ssh2/authorization` file such as `"Key mypublickey.pub"`. Run the following commands to turn off the write permission of the files and directories:

```
$ cd  
$ chmod go-w . .ssh2 .ssh2/authorization .ssh2/mypublickey.pub
```

SSH Security Warning dialog box

The **SSH Security Warning** dialog box appears automatically when you try to connect to the host when its host key is not saved in the host key database on local machine.

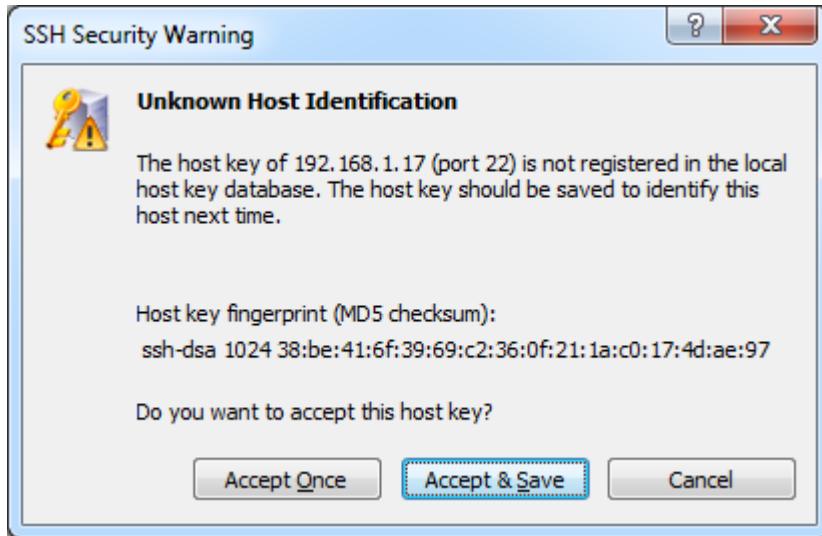


Figure 93: Security Warning

It shows the fingerprint of the host key and you can follow one of three actions:

- Accept Once
- Accept & Save
- Cancel

Accept Once

Accepts the host key and connects to the host only for this time. The host key is not saved in the database, and you will see the same dialog box for the same connection next time.

Accept & Save

Saves the host key in the database and connects to the host. The SSH Security Warning dialog will not show up next time. You can choose this command when the fingerprint is correct and you connect to the host frequently. Be sure that you should remove the key from the database when the remote host has changed its host key.

Cancel

Rejects the host key and cancels the connection.

SSH User Authentication dialog box

The **SSH User Authentication** dialog box allows you to choose an appropriate authentication method. It is displayed automatically when user information is required to proceed further.

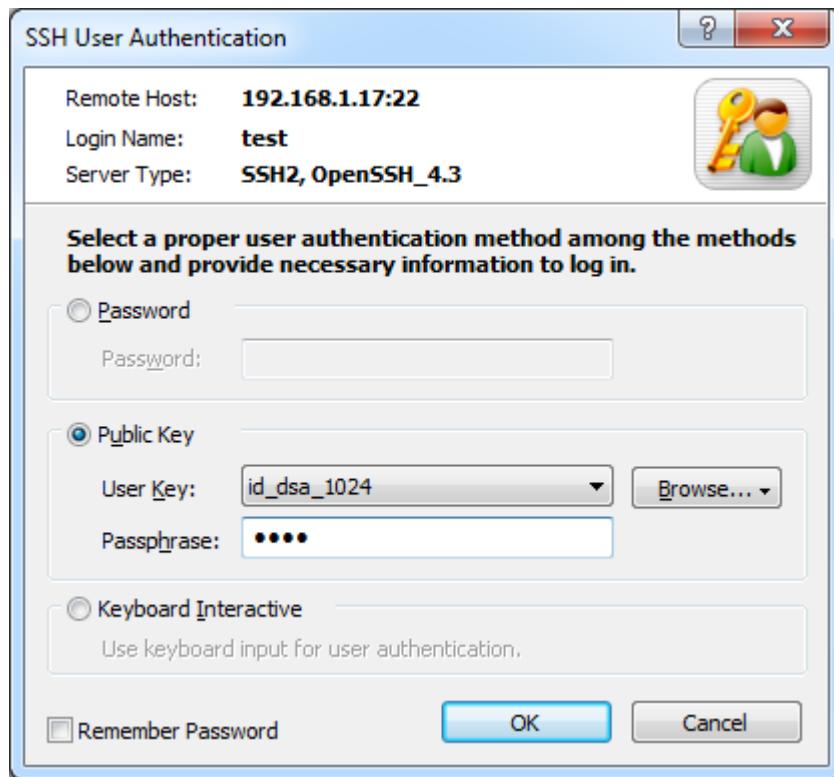


Figure 94: SSH User Authentication

If a user authentication method is not allowed from the remote host, it appears dimmed. To use the unavailable method, you must configure the SSH server in the remote host.

Password

The *Password* authentication allows you to log on using the password of your account on the remote host. For security reasons, some hosts do not allow this authentication method.

Public Key

The *Public Key* authentication requires a public key to be registered on the remote SSH server. To log on with this method, you should select the corresponding private key in the User Key list.

Keyboard Interactive

The *Keyboard Interactive* (Generic Message Exchange) authentication is a relatively new method that prompts dynamical instructions with text box to enter appropriate messages for further authentication steps.

Fonts

Xmanager provides many font files for **X** applications. A family of fonts are grouped and stored in a directory. A list of font directories forms a font catalogue.

All the fonts are managed by **Xmanager**. The font that an **X** application needs to use has to be already installed in **Xmanager**.

Even though **Xmanager** includes many fonts required for most systems and applications, you can still add new fonts. It is, therefore, important that you understand installing and managing fonts.

Font format

Xmanager supports BDF, PCF, Speedo and Type1 font formats.

BDF (Bitmap Distribution Format) is a text-based format which can be edited with a text editor. Because BDF fonts are huge, they are usually converted to the PCF format to be used with **Xmanager**. The file extension is ".BDF". To convert to PCF format, **Xmanager** provides the **bdftopcf.exe** program which is in the **Xmanager** folder.

PCF (Portable Compiled Format) is a compiled binary format which is portable across heterogenous systems. It is smaller and faster than BDF fonts and the file extension is ".PCF".

Speedo is a scalable font format provided by Bitstreams Inc. The file extension is ".SPD".

Type1 is a scalable font format provided by IBM. The file extensions are ".PFA" and ".PFB".

Most Unix systems compress font files to save disk space, and the file extension may be ".pcf.Z" for PCF font files. **Xmanager** also can read the compressed PCF fonts.

Font name

The font name used in an **X Window** system is given according to the rules of the XLF (X Logical Font Description Convention). A font name is divided into 14 parts by 14 hyphens (-). Between every two hyphens, there is information about the manufacturer, style, size or the standard organization. For example:

```
-misc-fixed-medium-r-semicondensed--13-120-75-75-c-60-iso8859-1
```

This kind of font name defined by the XLF is called a well-formed font name. The font manufacturer does not necessarily have to use the well-formed font names when naming fonts.

Well-formed font names are long and hard to remember as shown above. Therefore, an alias can be defined for a font to make the name simple. For more information about font alias, see "Font directory".

You can also shorten font names by using wild characters, "?" and "*" when specifying a font for **X** applications. "?" is a symbol that represents zero or one letter, and "*" represents zero or more letters. So, you can shorten the font name above as following to specify a font for the **xterm** program:

```
# xterm -fn "-misc-fixed-*iso8859-?"
```

Of course, the names shortened like this can correspond to many font names. In that case, the first font on **Xmanager** will be selected for the application.

Font directory

A font directory contains many font files, a FONTS.DIR file and an optional FONTS.ALIAS file. The FONTS.DIR file contains the information on font files in the directory, and it should be updated whenever font files are added or deleted. When **Xmanager** starts, it reads only FONTS.DIR and FONTS.ALIAS files, not actual font files. Thus, even if you add a new font file, **Xmanager** cannot find it if the FONTS.DIR was not updated for the new font. You can generate the FONTS.DIR file using **mkfntdir.exe** in Xmanager folder.

The contents of a FONTS.DIR file are simple as shown below:

```
2
6X9.PCF      -misc-fixed-medium-r-normal--9-90-75-75-c-60-iso8859-1
CURSOR.PCF   cursor
```

The first line shows the number of the font files in the directory. From the second line on, each line contains the information on each font. The file name is on the left, and the font name is on the right. **X** applications need to know only the font names, not file names.

The FONTS.ALIAS file contains the aliases for font names. If a font name is too long to use, you can add an alias for the font. For example:

```
fixed6x9      -misc-fixed-medium-r-normal--9-90-75-75-c-60-iso8859-1
```

One alias is registered in each line. The alias is on the left and the real font name is on the right. After giving an alias name, you can use the alias when running **X** applications. For example:

```
# xterm -fn "fixed6x9"
```

This will open the 6x9.PCF font file as shown above.

Font server

A font server provides various formats of font files to clients through a network. It is usually run in the Unix or Linux systems.

If a font server is running on the remote host, **Xmanager** can get required fonts from the font server. By using a font server, you can avoid to install fonts in **Xmanager** and save disk space. Once a font server is running on the network, you can register it in the **Xconfig** program to get font service.

Font catalogue and font path element

A font catalogue is a list of font path elements. A font path element is a font directory or a font server. It is stored in a server profile and **Xmanager** reads it to load font files and font servers.

You can edit the font catalogue from [The Font tab](#) of the [Properties dialog box](#) of a server profile.

Error Messages

Xmanager errors

Could not open default font 'fixed'.

Make sure that the default font is specified correctly and it exists in the font folder. This error might happen when an invalid font directory is added or the font directory which contains the default font is removed from the font catalogue.

XDMCP connection failed. Try again?

Make sure that the remote host is ready for XDMCP connections. A **dtlogin**, **kdm**, **gdm** or **xdm** should be running on the remote host and it should be configured to allow remote **X** terminals. This error might happen when a firewall exists between your Windows and the remote host.

Font server connection was failed.

The font server you specified in the server profile is not ready or the hostname and port are not defined correctly. Make sure that the font server is working correctly on the specified host and port.

Cannot establish any listening sockets – Make sure an X server isn't already running.

This error occurs when you specified the display number that is already used by another **Xmanager** or application. Specify a different display number or allocate it automatically.

Xstart errors

Another Xmanager is already running on the specified port.

This error occurs when you specified the display number that is already used by another **Xmanager** or application. Specify a different display number or allocate it automatically.

Unexpected option [XXX] found in command line.

Confirm that you entered a correct command line option for **Xrcmd**. For more information about Xrcmd command line options, see “Xrcmd command line options”.

The session file you have specified does not exist.

This error occurs when the session you specified in **Xrcmd.exe** does not exist, or the shortcut of a session links to an already deleted session.

Cannot find the specified X server profile.

The **X** server profile specified in the Xrcmd command line option has already been deleted. You need to specify another server profile.

Failed to execute Xmanager. (error = nnn)

This error occurs when **Xstart** cannot execute **Xmanager**. There may be an error in Windows registry, or **Xmanager** program has been deleted. Try to reinstall **Xmanager** program.

Xbrowser errors

Unknown protocol: XXX

An invalid protocol name was entered in the **Address bar**. For more information about the protocol supported in the **Address bar**, see "Address bar".

Failed to execute XXX. (error = nnn)

This error occurs when **Xbrowser** cannot execute **Xshell** or **Xftp**. Try to reinstall the **Xshell** or **Xftp** program.

Index

- 3-button emulation, 133
- authentication method, 93
- auto raise window, 128
- automatic color substitution, 120
- automatic cut & paste, 49, 124
- automatic font substitution, 118
- backing store, 124
 - Always, 124
 - When Mapped, 124
 - When Requested, 124
- bell type, 134
- broadcast list, 74
- broadcast message, 62
- color, 37
 - choosing default server visual, 37
 - configuring exact StoreColor, 37
 - configuring RGB format, 38
 - emulating 256-color, 37
 - specifying RGB color database, 38
- command tags, 107
- Common dialog box
 - Host Keys, 148
 - SSH Security Warning, 157
 - SSH User Authentication, 158
 - User Key Generation Wizard, 152
 - User Key Properties, 150
 - User Keys, 149
- compose layout, 137, 142
- compose sequence, 142, 147
- compression, 97
- connection, 21
 - connecting with Address Bar, 21
 - connecting with REXEC protocol, 22
 - connecting with RLOGIN protocol, 22
 - connecting with RSH protocol, 23
 - connecting with SSH protocol, 21
 - connecting with TELNET protocol, 22
- connecting with Xbrowser, 21
- connecting with XDMCP broadcast, 21
- connecting with Xstart, 21
- running a local X application, 23
- default keyboard file, 131
- default visual, 119
- default XDMCP profile, 111
- default Xstart profile, 111
- Dialog
 - Forwarding Rule, 99
- DirectColor visual, 119
- display number, 79
- display number allocation, 79
- DISPLAY variable, 93
- encryption, 97
- extension, 125
 - BIG-REQUEST, 125
 - MIT_SUNDAY_MULTI-BUFFERING, 125
 - MIT_SUNDAY_NOSTANDARD, 125
 - SHAPE, 125
 - SYNC, 125
 - XC-MISC, 125
- firewall, 23, 77
 - keep-alive, 24
 - port-forwarding, 24
 - proxy address, 24
- font, 29, 159
 - automatic substitution, 30
 - BDF, 159
 - bdftopcf.exe, 159
 - convert BDF to PCF, 29
 - creating font directory, 29
 - creating FONTS.DIR, 29
 - default text font, 118
 - font catalogue, 117, 160
 - font directory, 160
 - font path element, 117, 160

font server, 160
font tab, 116
FONTS.ALIAS, 160
FONTS.DIR, 160
format, 159
installing font packs, 29
mkfntdir.exe, 160
name, 159
PCF, 159
specifying default text font, 30
Speedo, 159
Type1, 159
using font server, 30
GrayScale visual, 119
host key, 148
hot key for switching keyboard, 131
Installation and Uninstallation, 3
keep-alive, 96
key state, 145
keyboard, 33
adding keymap files, 33
editing keymap, 34
specifying default keymap, 33
switching keymaps on the fly, 33
Keyboard Editor, 136
main window, 136
Option bar, 140
Toolbar, 139
Keyboard Editor dialog box
Edit Compose Sequence, 146
Edit Key, 144
Select Keyboard Type, 143
User-defined Keysym, 143
Keyboard Editor menu
Edit, 138
File, 137
Help, 139
View, 138
keyboard interactive authentication, 158
Keyboard type, 143
keycode, 141
keysym, 141, 146
latch, 145
LOCAL protocol, 93
logging session, 51
opening log folder, 51
reading the current log, 51
MAC, 97
Mode switch, 146
monitor, 47, 135
selecting monitor, 47
mouse, 34
emulating 3-button, 34
scrolling with wheel, 34
multiple IP addresses, 77
multiple window mode, 54, 115, 126
Automatic Switch, 127
background, 127
Local Only, 127
Remote Only, 127
window manager, 127
normal layout, 137, 140
panning, 128
passive session, 76, 80
passphrase, 102, 155
password authentication, 158
PCADDR variable, 93
preferred SSH version, 96
preserve system colors, 120
print, 49
printing an X application window, 50
Product key, 68
profile, 27, 78
configuring default XDMCP profile, 27
configuring default Xstart profile, 27
creating, 27
exporting, 28
importing, 28
sending by email, 27
sharing, 27
prompt, 105
proxy address, 77

pseudo terminal, 98
PseudoColor visual, 119
public key authentication, 158
public key format, 152, 156
public key registration, 155
Register Xmanager, 68
registered commands, 94
repeat, 145
resource database, 125
REXEC protocol, 93
RGB format, 120
RLOGIN protocol, 93
root window size, 126
RSH protocol, 93
scancode, 141
scrollbar, 126
Secure XDMCP, 88
security, 43, 122
 access control, 122
 changing the passphrase of a user key, 45
 creating user key pair, 44
 exporting a user key, 45
 importing a private key, 44
 registering a public key on the server, 44
 running host key manager, 44
 running user key manager, 44
 running X application securely, 43
trusted hosts, 122
using access control, 43
session, 15
 allocating a display number, 18
 associating with a server profile, 18
 creating a passive session, 17
 creating an XDMCP session, 17
 creating an Xstart session, 15
 creating an Xstart session in Xbrowser, 15
 disabling local broadcast, 16
 finding a host in a different network, 16
 importing a session, 17
 sending a session by email, 17
 sharing a session, 18
shortcut of a static session, 17
shortcut of an Xstart session, 16
static session, 17
Xstart session, 15
single window mode, 55, 115, 125
SSH protocol, 93
StaticColor visual, 119
StaticGray visual, 119
StoreColor, 120
system tray, 128
TELNET protocol, 93
terminate at reset, 116
time-out, 103
token
 command prompt, 107
 password, 107
 user name, 106
TrueColor visual, 119
Tunneling
 Forwarding Rule dialog box, 99
 Listen port, 100
user key, 149
user key length, 153
user key type, 153
user-defined keysym, 143
virtual screen, 135
wheel mouse support, 133
window mode, 39, 115, 125
 configuring panning, 40
 customizing root window size, 39
 selecting background, 40
 selecting multiple window mode, 39
 selecting window manager, 40
 seleting single window mode, 39
 using Auto Raise, 40
Xbrowser, 61
 Address bar, 71
 dynamic session, 62
 main window, 61
 New Session Wizard, 79
 static session, 62

Toolbar, 70
Xstart session, 62
Xbrowser dialog box
 Columns, 86
 Options, 72
 Properties, 75
 Secure XDMCP Setup dialog box, 88
Xbrowser menu
 File, 62
 Help, 68
 Session Context Menu, 68
 Tools, 67
 View, 64, 65
Xconfig, 110
 main window, 110
 Toolbar, 114
Xconfig dialog box
 Add Font Server, 129
 Add Keyboard, 132
 Keyboard Settings, 130
 Monitor Settings, 134
 Mouse Settings, 132
 Panning Settings, 128
 Properties, 114
 Sound Settings, 134
 Window Mode Settings, 125
Xconfig menu
 Edit, 112
 File, 111
 Help, 113
 View, 112
XDMCP Broadcast, 76
XDMCP Indirect, 76
XDMCP Query, 76
XDMCP session, 80
Xmanager, 54
 command line options, 59
 system menu, 56
 tray menu, 58
Xrcmd command line options, 108
Xstart, 91
 main window, 92
Xstart dialog box
 Add Command, 104
 Advanced Options, 105
 New Session, 95, 101
 Registered Commands, 103
 SSH Protocol Setup, 95
 TELNET/RLOGIN/RSH/RExec Protocol Setup, 102
Xstart session, 80