



Getting Started



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Version 4.3 DTLX-43-GS-091707

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Rev 08-28-07

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Server Requirements

Verify that each machine that will be used as a Double-Take[®] source or target meets the following system requirements.

- ◆ **Operating System**—Each server must be running a 32-bit or 64-bit version of Red Hat[®] Enterprise Linux[®] 4.2 or later.
- ◆ **System memory**—At a minimum, you should have 512 MB of memory on each server. Ideally, you should have 1 GB.
- ◆ **Disk Usage**—The amount of disk space required for the Double-Take program files is approximately 45 MB. About 5 MB will be located on your `/ (root)` partition, and the remainder will be on your `/usr` partition. You will need to verify that you have additional disk space for Double-Take queuing, logging, and so on. Additionally, on a target server, you need sufficient disk space to store the replicated data from all connected sources, allowing additional space for growth.
- ◆ **Protocols**—TCP/IP
- ◆ **File System**—Double-Take supports the ext2 and ext3 file systems. Double-Take is compatible with NFS and Samba as long as they are mounted on top of Double-Take. Double-Take should be mounted just above the storage file system.

Installing Double-Take

Use these instructions if you are installing Double-Take for the first time or if you have completely uninstalled any previous version of Double-Take.

1. Go to a shell prompt by launching a terminal application from your graphical user interface (GUI) or logging in via the Linux virtual console.
2. If you are not already, become the superuser ("root") by typing `su -`.
3. Determine the installation package that is appropriate for your operating system.

Operating System	Installation File
32-Bit Operating System	<code>DoubleTake-versionnumbers.i386.rpm</code>
64-Bit Operating System	<code>DoubleTake-versionnumbers.x86_64.rpm</code>

The versionnumbers in the installation file name will vary and will correspond to the version of Double-Take you are installing. For example, if you are installing version `4.3.10.0.1815`, the installation files would be `DoubleTake-4.3.10.0-1815.i386.rpm` OR `DoubleTake-4.3.10.0-1815.x86_64.rpm`. If you are uncertain about the architecture of your machine, you can use the `uname -m` command to determine it.

4. If you are installing from a CD, mount the file ISO 9660 or UDF file system and run the installation file appropriate for your operating system. If you are installing from a web download, verify you have the installation file appropriate for your operating system and then run the installation program.

To run the installation use `rpm -i` with the installation file name. For example, if you were installing on a 32-bit operating system, you would use the command `rpm -i DoubleTake-4.3.10.0-1815.i386.rpm`.

A successful installation returns you to the shell prompt. If you receive an error message during the installation, you will need to reinstall the software. If you are unable to resolve the error, contact technical support.

Configuring Your Double-Take Installation

After you have installed Double-Take, you need to configure your installation prior to using the software. Double-Take contains a DTSetup menu-driven application to provide easy access to the installation configuration.

1. Run the DTSetup command from the shell prompt.

NOTE: Do not run DTSetup using the `sudo` command. Use a real root shell to launch DTSetup instead, either by logging in as root on the console or by using the login session of a non-privileged user to run `su -` to start a root shell.

2. The first time you run DTSetup after an installation or upgrade, you will be prompted to review the Double-Take Software license agreement. Review the agreement and accept the terms of agreement by typing `yes`. You cannot use Double-Take without agreeing to the licensing terms.
3. When the DTSetup menu appears, select the option that you want to configure.
 - ◆ **Setup tasks**—Use these tasks to modify your Double-Take configuration.
 - ◆ **Activation code**—For each server, you must specify an activation code, which is a 16-character, alpha-numeric code that applies the appropriate Double-Take license to your installation.
 - ◆ **Security groups**—Double-Take uses the native operating system to provide security. Privileges are granted through membership in user groups defined on each machine running Double-Take. To gain access to a particular Double-Take source or target, the user must provide a valid operating system user name and password and the specified user name must be a member of one of the Double-Take security groups. The `dtadmin` group provides full privileges and the `dtmon` group provides a subset of privileges.
 - ◆ **Replication mount points**—In order to use Double-Take replication, data that will be replicated must reside on a Double-Take partition, which is specially mounted with the Double-Take file system (DTFS) driver. DTFS is a virtual file system that monitors the storage file system so that data changes can be captured. DTFS is a transparent file system. Existing mount points may be available for replication, but the data on those mount point can only be replicated if they are DTFS mount points. The DTSetup utility allows you to specify which mount points should be DTFS mount points.

NOTE: Double-Take supports the `ext2` and `ext3` file systems. Double-Take is compatible with NFS and Samba as long as they are mounted on top of Double-Take. Double-Take should be mounted just above the storage file system.

Do not select the root as a replication mount point.

If you have a single drive system, mount DTFS to any of the subdirectories directly under root that you want to replicate.

If you are using Konquerer, you can only unmount a replication mount point by rebooting the server.

- ◆ **IP addresses**—If you are using Double-Take across a router, you will need to configure the router ports to accommodate Double-Take traffic. Use this option to assist in IP address configuration.
 - ◆ **Configuration file**—Double-Take program settings are the user-definable options that control Double-Take application settings and Double-Take processing settings. This includes options like the name of the verification log file and the size of the Double-Take memory pool. You can set these options using DTSetup or the Double-Take clients.
 - ◆ **Performance settings**—
 - ◆ **DT daemon**—The DoubleTake daemon will start automatically after Double-Take is installed and the server is rebooted. You must also restart the daemon after you mount DTFS on a mount point. You can start and stop the DoubleTake daemon using this built-in DTSetup script.
 - ◆ **DTText**—You can launch the Double-Take Text Client from DTSetup. The Text Client is a full-screen, text-based client that manages and monitors Double-Take components. The interface uses DTCL commands entered one line at a time. The Text Client offers command line editing capabilities, such as backspace cursor movement and forward/backward command history scrolling. All connection information is displayed in columnar text format on the screen.
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- ◆ **Troubleshooting and documentation**—Use this menu option to access troubleshooting tasks and the Double-Take documentation.
 - ◆ **Log file**—LogViewer is a utility that gathers Double-Take alerts. These alerts, which are processing notifications, warnings, and error messages, are written to disk and can be displayed using DTSetup or the LogViewer.
 - ◆ **Diagnostics**—You may need to collect configuration data when reporting problems to technical support. DTSetup can gather Double-Take log files, Double-Take settings, network configuration information such as IP addresses, and other data which may be necessary for technical support to troubleshoot issues.
 - ◆ **Documentation**—You can view Double-Take documentation including the *Getting Started* guide, *Evaluation Guide*, *User's Guide*, *readme*, and various legal documents.

Upgrading Double-Take

If you already have Double-Take installed, you can upgrade your installation.

1. Go to a shell prompt by launching a terminal application from your graphical user interface (GUI) or logging in via the Linux virtual console.
2. If you are not already, become the superuser ("root") by typing `su -`.
3. Determine the installation package that is appropriate for your operating system.

Operating System	Installation File
32-Bit Operating System	<code>DoubleTake-versionnumbers.i386.rpm</code>
64-Bit Operating System	<code>DoubleTake-versionnumbers.x86_64.rpm</code>

The versionnumbers in the installation file name will vary and will correspond to the version of Double-Take you are installing. For example, if you are installing version 4.3.10.0.1815, the installation files would be `DoubleTake-4.3.10.0-1815.i386.rpm` OR `DoubleTake-4.3.10.0-1815.x86_64.rpm`. If you are uncertain about the architecture of your machine, you can use the `uname -m` command to determine it.

4. If you are upgrading from a CD, mount the file ISO 9660 or UDF file system and run the installation file appropriate for your operating system. If you are installing from a web download, verify you have the installation file appropriate for your operating system and then run the installation program.

To upgrade, use `rpm -U` with the installation file name. For example, if you are upgrading on a 32-bit operating system, you would use the command `rpm -U DoubleTake-4.3.10.0-1815.i386.rpm`.

A successful upgrade returns you to the shell prompt. If you receive an error message during the upgrade, you will need to upgrade the software again. If you are unable to resolve the error, contact technical support.

Removing (Erasing) Double-Take

Use these instructions if you want to remove (erase) an existing Double-Take installation.

1. Go to a shell prompt by launching a terminal application from your graphical user interface (GUI) or logging in via the Linux virtual console.
2. If you are not already, become the superuser ("root") by typing `su -`.
3. Erase Double-Take by using the command `rpm -e DoubleTake`.

A successful removal returns you to the shell prompt. If you receive an error message during the removal, you will need to erase the software again. If you are unable to resolve the error, contact technical support.

NOTE: After removing Double-Take, some files may not be removed until after the server has been rebooted

Installing the Double-Take Client for Windows

Use the instructions to install the Double-Take clients on a Microsoft® Windows® machine.

1. Close any open applications.
2. Start the installation program using the appropriate instructions, depending on your media source.
 - ◆ **CD**—Load the Double-Take CD into the local CD-ROM drive. If auto-run is enabled, the installation program will start automatically. To manually start the program, select Start, Run and specify `<cd_drive>:\autorun.exe`. Select to install Double-Take for Windows.
 - ◆ **Web download**—Launch the `.exe` file that you downloaded from the web. When prompted, unzip the files and launch the installation.
3. When the Double-Take installation program begins, the Welcome screen is displayed. Click **Next** to continue.
4. Review and accept the Double-Take license agreement to continue with the installation program. Click **Next** to continue.
5. Select the folder where you would like to install the Double-Take clients and click **Next** to continue.
6. When you are ready to begin copying the files, click **Install**.
7. After the files have completed copying, click **Finish** to exit the installation program.

Removing the Double-Take Client for Windows

Use these instructions if you want to remove the Double-Take clients on a Microsoft Windows machine.

NOTE: If desired, you can use the Add/Remove Programs function of the Windows Control Panel to remove the Double-Take clients.

1. Close any open applications.
2. Start the installation program using the appropriate instructions, depending on your media source.
 - ◆ **CD**—Load the Double-Take CD into the local CD-ROM drive. If auto-run is enabled, the installation program will start automatically. To manually start the program, select Start, Run and specify `<cd_drive>:\autorun.exe`. Select to install Double-Take for Windows.
 - ◆ **Web download**—Launch the `.exe` file that you downloaded from the web. When prompted, unzip the files and launch the installation.
3. When the Double-Take installation program begins, the Welcome screen is displayed. Click **Next** to continue.
4. On the Maintenance dialog box, select **Remove** and click **Next** to continue.
5. The installation program is immediately ready to begin removing the Double-Take files. Click **Remove** to continue.
6. When the message prompt informs you that the uninstall program has completed successfully, click **OK**.

Double-Take Clients

There are several clients available for Double-Take.

- ◆ **Management Console**—This client is a 32-bit Microsoft Windows client that can manage and monitor all Double-Take components including failover configuration. This client cannot initiate failover or failback or monitor failover activity. For basic details on the Management Console, begin with [The Management Console](#) below.
- ◆ **Text Client and Command Line Client**—This client uses the DTCL (Double-Take Command Language) scripting language with commands for all Double-Take operations. This client can initiate failover and failback but cannot monitor failover activity. For basic details on the text clients, begin with [Double-Take text clients](#) on page 9.
- ◆ **Failover Control Center**—This client is a 32-bit Microsoft Windows client that can configure all aspects of failover and can monitor failover activity. For details on the Failover Control Center, see the *Double-Take User's Guide*.

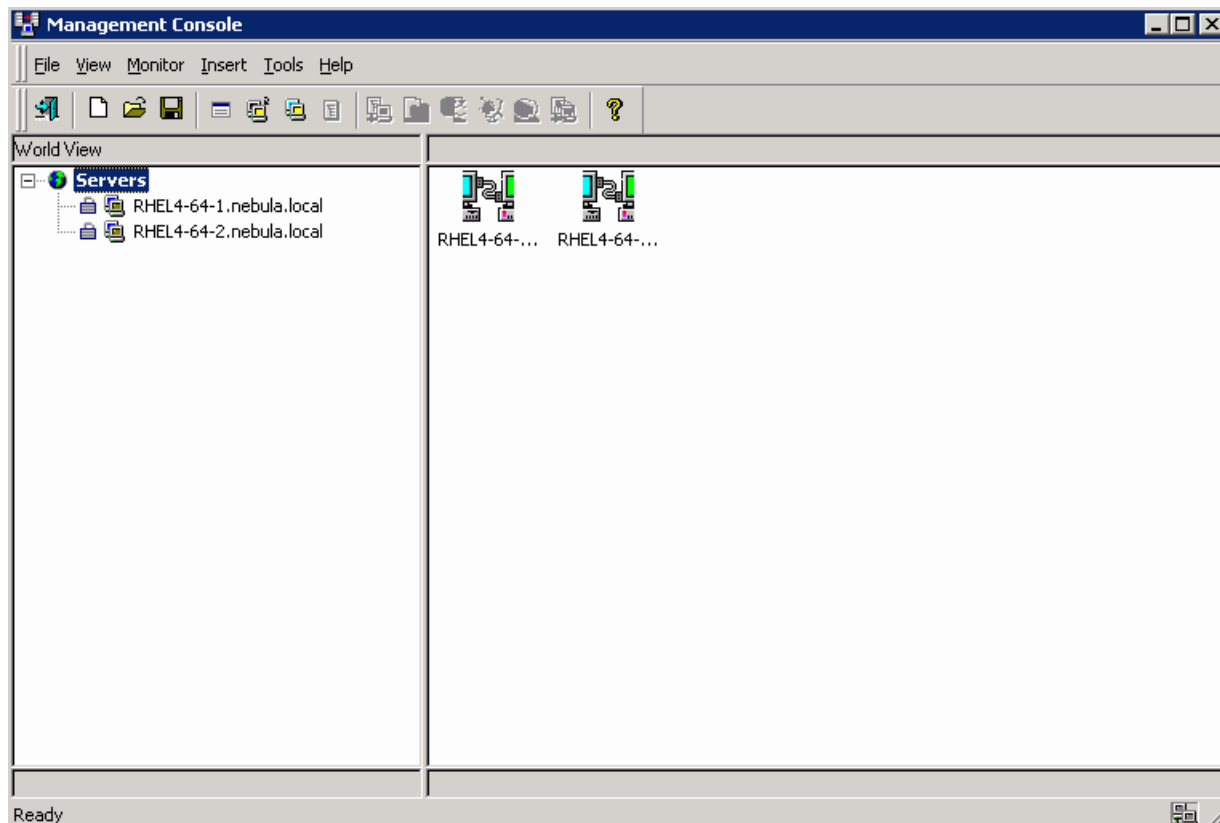
The Management Console

The Management Console is a 32-bit Microsoft Windows client that can manage and monitor Double-Take components on any platform. Double-Take machines are displayed along with active connection information. The Management Console can also configure failover settings.

Starting the Management Console

From the Windows machine that you installed the Double-Take client, select **Start, Programs, Double-Take, Linux Management Console**.

The Management Console is divided into a left and right pane. The views in the panes change depending on what is highlighted. For example, in the left pane when the root of the tree, labeled Double-Take Servers, is highlighted, all of the machines running Double-Take are displayed in the right pane. If you double-click on the root, those same servers expand or collapse in the branches of the tree. More detailed information can be found in the *Double-Take User's Guide*.












Understanding the display

The left pane is a tree view displaying each machine running Double-Take. As each machine name is highlighted, note the following items:




- ◆ The status bar at the top of the pane displays the modules loaded on each machine: Source, Target, Source and Target, or None. (None indicates that the core functionality of Double-Take is running, but neither the source nor target modules have been loaded.)
- ◆ The icons in the left pane indicate what modules are loaded on each machine.

Left Pane Icons

Icon	Description
	The world icon is selected. The Double-Take machines are displayed in the right pane of the Management Console. The Double-Take machines are also displayed in a collapsible and expandable tree view under the world icon.
	The globe icon is selected. The Double-Take globe icon indicates that an object in the expanded tree is selected.
	A blue machine indicates a Double-Take source.
	A yellow machine indicates a Double-Take target.
	Yellow and blue machines indicate a Double-Take source and target.
	A single machine with a hammer indicates that neither the source nor target modules are loaded.
	A machine with two red vertical lines over it indicates that the target module is paused.
	A machine with red horizontal lines over it indicates that a restore may be required because the target machine is or has been standing in for the source machine due to failover.
	Any of the machine icons can appear with a red X. The red X indicates: <ul style="list-style-type: none"> ◆ The Management Console cannot communicate with that Double-Take machine. ◆ There is a problem with an established Double-Take connection. Look in the right pane of the Management Console or log on to the machine in the left pane to determine the exact problem.

- ◆ The icon to the left of the machine name indicates the security access that is granted for that machine. For detailed information on security and access rights, see the Double-Take *User's Guide*.

Security Icons

Icon	Description	Access Granted
	This icon is a computer with a gear and it indicates the Double-Take security is set to administrator access.	Administrator rights
	This icon is a computer with a magnifying glass and it indicates the Double-Take security is set to monitor only access.	Monitor rights
	This icon is a lock and it indicates the Double-Take security is set to no access.	No rights

- ◆ After you have logged into a machine, a collapsible and expandable tree view of the volumes and directories it contains is displayed. To expand the tree, click on the plus sign icon. To collapse the tree, click on the minus sign icon.

Right Pane Icons

Left Pane	Right Pane	Description
World View	No Tabs	All connected machines and their current connection state are displayed.
Source Machine	Source Tab	The active connections, if any, from that source machine are displayed.
Source Machine	Target Tab	The display is blank.
Target Machine	Source Tab	The display is blank.
Target Machine	Target Tab	The active connections, if any, to that target machine are displayed. ^a
Replication Set	No Tabs	The available target machines are displayed so that you can drag and drop a replication set onto a target to establish a connection.
Volume or Directory	No Tabs	The directories and files contained in that volume or directory are displayed.

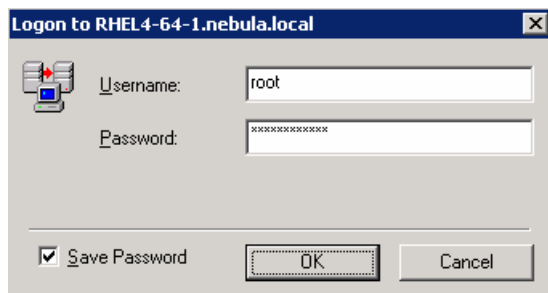
a. If transmission is stopped (manually stopped, outside of a scheduled transmission window, network error between the source and target, and so on) the replication set will not be displayed on the Target tab. When transmission (re)starts, the replication set will (re)appear.

Logging on and off of Double-Take

To ensure protection of your data, Double-Take offers multi-level security using native operating system security features. Privileges are granted through membership in user groups defined on each machine running Double-Take. To gain access to a particular Double-Take source or target, the user must provide a valid operating system user name and password and the specified user name must be a member of one of the Double-Take security groups. Once a valid user name and password has been provided and the Double-Take source or target has verified membership in one of the Double-Take security groups, the user is granted appropriate access to the source or target and the corresponding features are enabled in the client. Access to Double-Take is granted on one of the following three levels:

- ◆ **Administrator Access**—All Double-Take features are available for that machine. For example, this access level includes creating replication sets and establishing Double-Take connections.
- ◆ **Monitor Access**—Statistics can be viewed on that machine, but Double-Take features are not available. For example, this access level does not allow the user to create or modify replication sets or create or modify Double-Take connections, but does allow you to view the connection statistics for any established Double-Take connections on that machine.
- ◆ **No Access**—The machine appears in the Double-Take Management Console and can be pinged from the Double-Take Text Client, but no other access is available.

1. Highlight a machine on the left pane of the Management Console. By double-clicking the machine name, Double-Take automatically attempts to log you on to the selected machine. Verify your access by the resulting icon.
2. If you have no access, the Logon dialog box will automatically appear. If you have monitor access or want to log on with a different username, right-click the machine name and select **Logon**.



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3. Specify your **Username**, **Password**, **Domain**, and whether you want your password saved. Click **OK**.

NOTE: If your activation code is missing or invalid, you will be prompted to open the Server Properties general tab to add or correct the code. Select **Yes** to open the Server Properties dialog box or select **No** to continue without adding an activation code.

4. Verify your access by the resulting icon and log on again if necessary.
5. To log off of a Double-Take machine, right-click the machine name on the left pane of the Management Console and select **Logout**.

NOTE: If the login does not complete within 30 seconds, it is automatically canceled. If this timeout is not long enough for your environment, you can increase it by adjusting the **Communication Timeout** on the Configuration tab of the Management Console properties. Select **File, Options**, from the Management Console to access this screen.

If your Double-Take server is across a router or firewall, you may need to disable ICMP pings so that the login process does not attempt to verify the availability of the server prior to logging in. Select **File, Options**, from the Management Console to access this option.

Getting help for the Management Console

Context-sensitive help is available in the Management Console by:

- ◆ Clicking **Help** when it appears on various dialog boxes
- ◆ Pressing the **F1** key
- ◆ Selecting **Help, Help Topics**

Exiting the Management Console

To exit the Management Console, select **File, Exit** or select the **Exit** button on the toolbar.

Double-Take text clients

The Double-Take Command Language (DTCL) is a scripting language that can be used in either the Text Client or Command Line Client to manage and monitor Double-Take components. It can also be used in script files to execute series and combinations of commands to meet specific needs.

Because the Text Client and Command Line Client use the same DTCL commands, all examples use the Text Client. For a complete listing of the DTCL commands and the conventions used to document them, see the Double-Take *User's Guide*.

The Text Client

The Text Client is a full-screen, text-based client that can be run from a command prompt. It can manage and monitor Double-Take components on any platform regardless of the Text Client platform. The interface uses DTCL commands entered one line at a time. The Text Client offers command line editing capabilities, such as backspace cursor movement and forward/backward command history scrolling. All connection information is displayed in columnar text format on the screen.

Starting the Text Client

From a Windows client, select **Start, Programs, Double-Take, Linux Text Client** or from a command prompt of any client, type the command `DTText`.

NOTE: The `DTText` command name is case-sensitive.

Using the Text Client

The Text Client is divided into three sections:

- ◆ The top section displays source, connection, and statistical data. If specifying a command that requires output, like the `status` command, the output is also displayed in this section.
- ◆ The middle section is where the DTCL commands are entered.
- ◆ The lower section displays the DTCL command that was entered with any resulting messages. In this section, the security access granted is also displayed.

To use Double-Take from the Text Client, enter the DTCL commands at the **Command** prompt in the middle of the Text Client screen.

```
Source Machine:                               Double-Take version 4.3
=====
Command: login indy administrator ***** domain_name
=====
User access level set to DT_FULL_ACCESS
```

The Command Line Client

The Command Line Client can be run from a command prompt. It can manage and monitor Double-Take components on any platform regardless of the Command Line Client platform. The Command Line Client is run from the operating system command line and the DTCL commands are run from the Double-Take command line.

Starting and using the Command Line Client

There are three different methods of executing commands from the Command Line Client:

- ◆ **Interactive Entry**—At the directory prompt where Double-Take is installed, type the command `DTCL -i`. A DTCL Command prompt will appear and the commands can be entered from that prompt. Any resulting errors are immediately displayed.

Interactive Entry

```
/usr/bin> DTCL -i
Command: login indy administrator ***** domain_name
User access level set to DT_FULL_ACCESS
Command:
```

- ◆ **File Entry**—Create a file with all of the DTCL commands you want to run. At the directory prompt where Double-Take is installed, type `DTCL -f filename` where `filename` is the name of the file containing the DTCL commands. For example, you might use the following `DTCL.TXT` file to log on to a machine and display its replication sets.

File Entry

```
/usr/bin> DTCL -f DTCL.TXT
User access level set to DT_FULL_ACCESS
- List of rep sets -
CustomerData                               enabled
/usr/bin>
```

DTCL.TXT Used in File Entry

```
login indy administrator password domain_name;
source indy;
reset list;
```

- ◆ **Single Line Entry**—Determine all of the DTCL commands you want to run and enter them in a single line at the command prompt where Double-Take is installed. For example, you might use the following command to log on to a machine and display its replication sets.

Single Line Entry

```
/usr/bin>DTCL login indy administrator password; source indy;
reset list
User access level set to DT_FULL_ACCESS
- List of rep sets -
CustomerData                               enabled
/usr/bin>
```

Logging on and off of Double-Take

To ensure protection of your data, Double-Take uses native operating system security and requires a valid system username and password. If you do not have a valid system username and password for a selected machine, you will not be able to configure Double-Take for that machine.

As you enter DTCL commands, Double-Take automatically attempts to log on to the source or target machine. You can verify your access by the resulting message.

- ◆ **DT_Full_Access**—You have administrator rights to the selected Double-Take machine.
- ◆ **DT_Monitor_Only_Access**—You have monitor rights to the selected Double-Take machine.
- ◆ **DT_No_Access**—You do not have any rights to the selected Double-Take machine.

You can also verify your access at the top of the Text Client screen depending on the commands you have entered and the information displayed in the upper half of the screen.

```
Double-Take version 4.3
Source Machine: indy                               Access Level: FULL)

=====
Command: login indy administrator ***** domain_name
=====

User access level set to DT_FULL_ACCESS
>source indy
```

If you have monitor access or no access and want to log on as the administrator, use the `login` command. Log off of a machine by using the `logout` command. Both commands are outlined on the following page.

Command	LOGIN
Description	Log on to a Double-Take machine
Syntax	LOGIN <machine> <username> <password> [domain]
Options	<ul style="list-style-type: none">◆ <i>machine</i>—Name of the machine◆ <i>username</i>—Name of the user◆ <i>password</i>—Password associated with username.◆ <i>domain</i>—If logging in using a domain account, this is the domain name. If logging in using a local account, this is the machine name.
Examples	login indy administrator *****
Notes	<ul style="list-style-type: none">◆ The <code>login</code> command is not available when scrolling through the Text Client command history.◆ Options that contain non-alphanumeric characters must be enclosed in quotation marks.◆ The password cannot be a Double-Take keyword. These are any DTCL command (source, target, and so on.) or any DTCL shortcut command (env, mon, rep, and so on).

Command	LOGOUT
Description	Logs off of a Double-Take machine
Syntax	LOGOUT < <i>machine</i> >
Options	<i>machine</i> —Name of the machine
Examples	logout indy
Notes	Machine names that contain non-alphanumeric characters must be enclosed in quotation marks.

Getting help in the text clients

A listing of the DTCL commands and their syntax is available in the Double-Take Text Client and Command Line Client by typing the **help** command.

Command	HELP
Description	Displays the DTCL commands and their syntax
Syntax	HELP
Notes	<ul style="list-style-type: none">◆ Press any key to scroll through the list of commands.◆ Press q to exit the help function.◆ You can also type DTCL help to display the DTCL commands and their syntax.

Exiting the text clients

To exit the Double-Take Text Client and Command Line Client, type the **exit** or **quit** command.

Command	EXIT
Description	Exits the Text Client and the Command Line Interactive client
Syntax	EXIT

Command	QUIT
Description	Quits the Text Client and the Command Line Interactive client
Syntax	QUIT

Establishing a Connection

You have three options for establishing a connection:

- ◆ Using the automated Connection Wizard in the Management Console
- ◆ Using the Connection Manager in the Management Console
- ◆ Using the Text Client

Connection Wizard connection

The first time you start the Double-Take Management Console, the Welcome screen leads you to the Double-Take Connection Wizard. The Connection Wizard will guide you through the essential steps necessary to establish a basic connection. In the Connection Wizard, you specify:

- ◆ **Source**—The machine containing the data to protect. This is your production server.
- ◆ **Target**—The machine to receive the data from the source. This is your backup server.
- ◆ **Replication Set**—The data to be protected.
- ◆ **Target Location**—The location on the target machine to store the data.
- ◆ **Advanced Options**—The Connection Wizard allows you to open the Connection Manager to set advanced options.

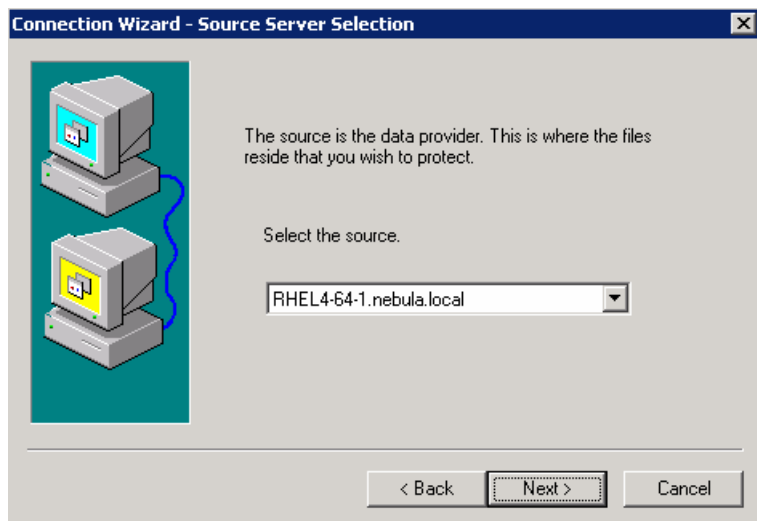
1. In the Double-Take Management Console, select **Tools, Connection Wizard**.

NOTE: In order for the **Connection Wizard** menu option to be available, you must have a source or target highlighted in the left pane of the Management Console. You do not need to be logged on to the machine. If the Double-Take Servers root is highlighted, the **Connection Wizard** option will not be available.

At any time while using the Connection Wizard, select **Back** to return to previous screens and review your selections.

2. The Connection Wizard opens to the Welcome screen. Review this screen and click **Next** to continue.
3. If you highlighted a source in the Management Console, the source will already be selected. If it is not, select the Double-Take source. This is the machine where the files reside that you wish to protect. Click **Next** to continue.

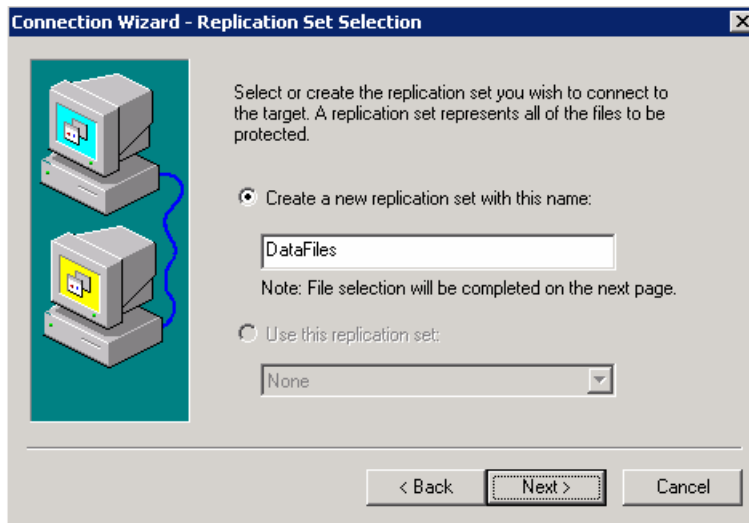
NOTE: Double-Take will automatically attempt to log on to the selected source using the identification of the user logged on to the local machine. If the logon is not successful, the Logon dialog box will appear prompting for your security identification.



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- If you highlighted a target in the Management Console, the target will already be selected. If it is not, select the Double-Take target. This is your backup machine that will receive the data from the source. Click **Next** to continue.

NOTE: Double-Take will automatically attempt to log on to the selected target using the identification of the user logged on to the local machine. If the logon is not successful, the Logon dialog box will appear prompting for your security identification.

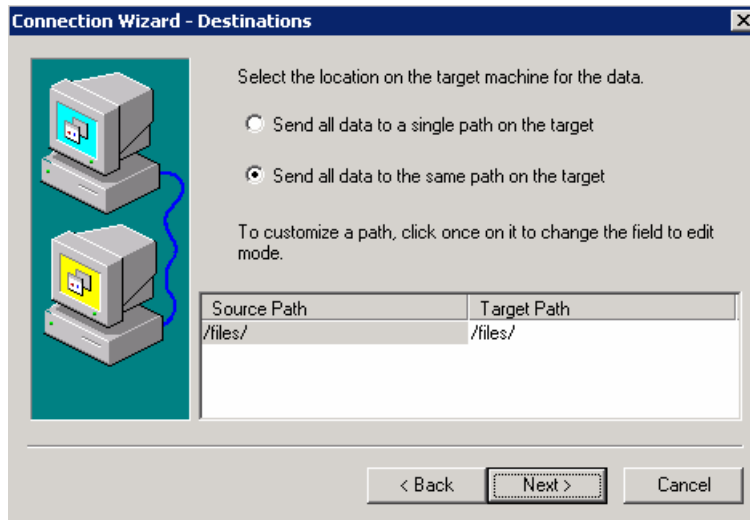
- Choose to create a new replication set or use a replication set that already exists.
 - If you choose to create a new replication, specify a replication set name.
 - If you choose to use an existing replication set, specify the name of that replication set by selecting it from the pull-down menu.



Click **Next** to continue.

- If you choose to create a new replication set, a tree display appears identifying the volumes and directories available on that source machine. Mark the check box of the volumes and/or directories you wish to protect. Click **Next** to continue.
- Select the location on the target machine where the data will be stored.
 - Send all data to a single path on the target**—This option sends all selected volumes and directories to the default location:
`/source_name/replication_set_name/`
 - Send all data to the same path on the target**—This option sends all selected volumes and directories to the same directories on the target machine. For example, `/var/data` and `/usr/files` on the source will go to `/var/data` and `/usr/files`, respectively, on the target.

- ◆ **Custom**—To select a custom path, click once in the **Target Path** field and modify the drive and directory to the desired location.



8. Click **Next** to continue.
9. Review your selections on the summary screen.
10. If your Connection Wizard settings are correct, establish your connection by completing one of the two options below:
 - ◆ If you do not want to set advanced options, click **Finish**.

NOTE: If you created a new replication set in step 5, you will be prompted at this time to save the replication set. Click **Yes** to save the replication set or click **No** to go back to the Finished dialog box. Click **Back** if you need to return to the replication set selection.

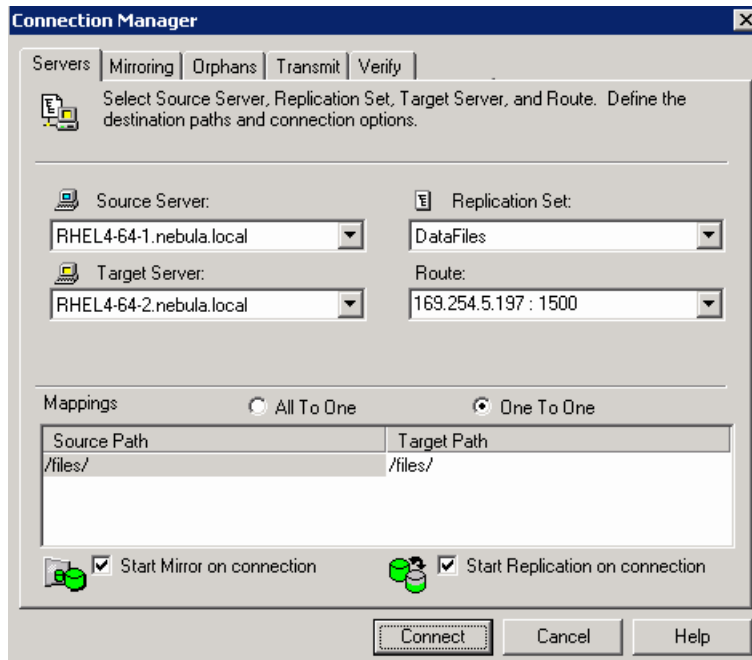
The Connection Wizard will close, the connection will be established, and mirroring and replication will begin. To view your connection, highlight the source machine in the left pane of the Management Console. The active connection is displayed in the right pane of the Management Console. For detailed information on the Management Console statistics that are available for an established connection, see the *Double-Take User's Guide*.

- ◆ If you want to set advanced options, click **Advanced Options**. The Connection Wizard will close and the Double-Take Connection Manager will open. The **Servers** tab will be completed. To set advanced settings, select a tab in the Connection Manager and reference the chapter in the *Double-Take User's Guide* that corresponds to the tab name.

Connection Manager connection

1. There are four methods available for opening the Connection Manager and establishing a connection manually:
 - ◆ Highlight a replication set and select **Tools, Connection Manager**.
 - ◆ Right-click on a replication set and select **Connection Manager**.
 - ◆ Drag and drop a replication set to a target machine on the left pane of the Management Console.
 - ◆ Highlight a replication set and then drag and drop the replication set to a target machine on the right pane of the Management Console.

The Connection Manager opens to the **Servers** tab.



2. Some entries on the **Servers** tab will be completed depending on which method you used to access it. For example, if you entered the Connection Manager by right-clicking on a replication set, the name of the replication set will be displayed in the replication set field.
3. Verify the correct source machine and replication set were selected from the Management Console. If they are not, use the **Source Server** and **Replication Set** fields to identify the source machine and replication set for which you want to establish the connection.
4. Depending on the method you used to open the Connection Manager, the **Target Server** and **Route** fields may or may not be completed. If they are not, select a target machine and the primary IP address of that machine will automatically appear. If you have multiple IP addresses on your target, verify the **Route** field is set to the correct network path.

NOTE: To initiate a connection using the Resource Planning Tool, select the **Diagnostics** target. The **Route** field will automatically populate with **Throughput Diagnostics Utility (TDU)**. For detailed information on statistics logging, see the *Double-Take User's Guide*.

5. Select the target path, which corresponds to the desired location on the target where the replicated data will reside, by selecting **One-to-One** or **All-to-One**. If you want to specify a custom location, select either of the radio buttons and then click on the directory entry under the Target Path column. You will be in edit mode and can specify the desired location on the target for the replicated data.
6. If you want mirroring and/or replication to start immediately when the connection is established, mark either or both of the two check boxes at the bottom of the **Servers** tab.

NOTE: Other tabs are available in the Connection Manager to set advanced connection settings. To establish a connection, you do not need to make modifications to these tabs; a connection can be established with the default settings. For more information, see the *Double-Take User's Guide*.

7. Click **Connect** to establish the connection.

Text client connection

1. Log on to the Double-Take source machine. This is the machine where the files reside that you wish to protect. Log on by using the `login` command.

Command **LOGIN**

Description Log on to a Double-Take machine

Syntax **LOGIN** <machine> <username> <password> [domain]

Options

- ◆ **machine**—Name of the machine
- ◆ **username**—Name of the user
- ◆ **password**—Password associated with username.
- ◆ **domain**—If logging in using a domain account, this is the domain name. If logging in using a local account, this is the machine name.

Examples `login indy administrator *****`

Notes

- ◆ The `login` command is not available when scrolling through the Text Client command history.
- ◆ Options that contain non-alphanumeric characters must be enclosed in quotation marks.
- ◆ The password cannot be a Double-Take keyword. These are any DTCL command (source, target, and so on.) or any DTCL shortcut command (env, mon, rep, and so on).

2. Log on to the Double-Take target machine. This is the machine that will receive the data and possibly stand in for the source machine. Log on by using the `login` command.
3. Specify your Double-Take source machine by using the `source` command.

Command **SOURCE**

Description Identifies a machine as the active source machine

Syntax **SOURCE** <source_machine>

Options **source_machine**—Name of the machine

Examples `source indy`

Notes Machine names that contain non-alphanumeric characters must be enclosed in quotation marks.

4. Create a new replication set using the `repset create` command.

Command **REPSET CREATE**

Description Creates a replication set

Syntax **REPSET CREATE** <name>

Options **name**—Name of the replication set

Examples

- ◆ `repset create "Customer Data"`
- ◆ `repset create marketing`

Notes

- ◆ Replication set names that contain non-alphanumeric characters must be enclosed in quotation marks.
- ◆ If the name of the replication set is the same as a word used in a DTCL command (for example, `repset create repset`), you will receive an error. If you want to use a word like this, you must enclose it in quotation marks (`repset create "repset"`).

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5. Specify the data to be protected by creating replication set rules. Define a rule by using the `repset rule add` command.

Command	REPSET RULE ADD
Description	Adds a rule to a replication set. A rule is the specification of a path including volume, directories, wild cards, and/or file names.
Syntax	REPSET RULE ADD <path> [INCLUDE EXCLUDE] [, RECURSIVE NONRECURSIVE] [TO <repset>]
Options	<ul style="list-style-type: none">◆ path—Volume, directory, wild card, and/or file name◆ INCLUDE—Include the specified path in the replication set◆ EXCLUDE—Exclude the specified path in the replication set◆ RECURSIVE—All subdirectories and files are recursively included or excluded◆ NONRECURSIVE—All subdirectories and files are non-recursively included or excluded◆ repset—Name of the replication set
Examples	<pre>repset rule add /var/spool/customerDB to "Customer Data"</pre>
Notes	<ul style="list-style-type: none">◆ The default settings for this command are include and recursive.◆ If you do not specify a replication set name, the current replication set will be used.◆ Options that contain non-alphanumeric characters must be enclosed in quotation marks.◆ Verify what files can be included by reviewing <i>Replication Capabilities</i> in the <i>Double-Take User's Guide</i>.

6. Repeat the `repset rule add` command to define all of the data to be protected.
7. If you make an error when creating a replication set, use the `repset rule remove` command.

Command	REPSET RULE REMOVE
Description	Removes a rule from a replication set
Syntax	REPSET RULE REMOVE <path> [FROM <repset>]
Options	<ul style="list-style-type: none">◆ path—Volume, directory, wild card, and/or file name◆ repset—Name of the replication set
Examples	<pre>repset rule remove /var/spool/customerDB from "Customer Data"</pre>
Notes	<ul style="list-style-type: none">◆ If you do not specify a replication set name, the current replication set will be used.◆ Options that contain non-alphanumeric characters must be enclosed in quotation marks.

8. Verify the replication set rules defined by using the `repset display` command.

Command	REPSET DISPLAY
Description	Displays the rule of a replication set
Syntax	REPSET DISPLAY [repset]
Options	repset —Name of the replication set
Examples	<ul style="list-style-type: none">◆ <code>repset display</code>◆ <code>repset display "Customer Data"</code>
Notes	<ul style="list-style-type: none">◆ If you do not specify a replication set name, the current replication set will be used.◆ Replication set names that contain non-alphanumeric characters must be enclosed in quotation marks.

9. After you have added all of the rules, save the replication set by using the `repset save` command.

Command **REPSET SAVE**

Description Saves all replication set rules for the currently selected source

Syntax **REPSET SAVE**

10. Connect the repset to the target by using the `connect` command.

Command **CONNECT**

Description Establishes a connection between a replication set and a target machine

Syntax **CONNECT <repset> TO <target_machine> MAP EXACT | BASE <target_path> |<source_path> TO <target_path> [,...] [**MIRROR** | **NOMIRROR**] [, **REPLICATE** | **NOREPLICATE**] [, **MONITOR** | **NOMONITOR**] [, **ORPHANS** | **NOORPHANS**]**

Options

- ◆ **repset**—Name of the replication set
- ◆ **target_machine**—Name of the target machine, an IP address on the target machine, or a virtual IP address
- ◆ **MAP EXACT**—Specifies that the replication set data will be sent to the same logical volume on the target
- ◆ **MAP BASE**—The replication set data will be sent to the locations specified below:
 - ◆ **connect repset to target**—If mappings are not specified with the command, `map base` will be used by default. The data will be replicated to `/SrcName/RepsetName/SrcVolName` on the target machine
 - ◆ **connect repset to target map base target_path**—Substitute a complete path, including the volume, for `target_path` and the data will be replicated to `/target_path/SrcVolName` on the target machine
 - ◆ **connect repset to target map base source_path TO target_path**—Custom location that specifies each directory on the source and where that data will be copied to on the target machine
 - ◆ **...**—Indicates that the `source_path TO target_path` option can be used more than once for each source directory in the replication set
- ◆ **MIRROR**—Automatically initiates a mirror when the connection is established
- ◆ **NOMIRROR**—Does not initiate a mirror when the connection is established
- ◆ **REPLICATE**—Automatically initiates replication when the connection is established
- ◆ **NOREPLICATE**—Does not initiate replication when the connection is established
- ◆ **MONITOR**—Specifies that the target is going to monitor the specified source machine for failover. The source machine must have already been defined as a monitor machine.
- ◆ **NOMONITOR**—Specifies that the target is not going to monitor the source machine for failover
- ◆ **ORPHANS**—Removes orphan files on the target
- ◆ **NOORPHANS**—Does not remove orphan files on the target

Examples

- ◆ `connect "Customer Data" to jersey map exact`
- ◆ `connect marketing to jersey map base /home/username`

Notes

- ◆ The default settings for this command are `mirror`, `replicate`, `nomonitor`, and `noorphans`.
- ◆ Options that contain non-alphanumeric characters must be enclosed in quotation marks.

Your Double-Take connection is now established. To configure advanced options for a connection, see the *Double-Take User's Guide*.