Quick Beginnings

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Chapter 1. About This Book

This book describes how to install, configure, and start HCL Z and I Emulator for Windows. After you get Z and I Emulator for Windows up and running and begin to perform various tasks, use the online help whenever you need additional information. See Where to Find More Information on page 1 for information about online help, the Z and I Emulator for Windows library, and related publications. .

This book is for users of:

- *HCL Z and I Emulator for Windows, Version 3.0*
- *HCL Z and I Emulator for Windows iSeries, Version 3.0*

See What's in the Package on page 1 for information regarding what is in the product package.

In this book, *Windows*® refers to Microsoft® Windows® 7, Windows® 8/8.1, Windows® 10, Windows® Server 2008, and Windows® Server 2012. When information is applicable only to a specific operating system, this will be indicated in the text.

What's in the Package

The Z and I Emulator for Windows Version 3.0 package contains *HCL Z and I Emulator for Windows, Version 3.0*, which provides 5250, 3270, and VT emulation and connections to z/OS™, z/VM™, eServer™ i5, System i5™, iSeries™, zSeries™ and ASCII host systems.

In addition to the products previously mentioned, the Z and I Emulator for Windows installation image contains the following:

- Adobe Acrobat Reader, to enable you to read softcopy books available on the installation image
- Book files in PDF format

Note:

1. For each of the two basic packaging options, there are also separate installation images, depending on:

   Security Levels

   Z and I Emulator for Windows is shipped at the 168-bit encryption level.

Where to Find More Information

The following sections discuss getting help when you are installing, configuring, or using Z and I Emulator for Windows.

The *Quick Beginnings* book is also available online, in HTML form. You can access the book from the **Help** menu in the Session Manager.

Information Center

You can find documentation and links to other resources at the Z and I Emulator for Windows Information Center, at the following address:

https://help.hcltechsw.com/zie/ziewin/3.0/index.html

The Information Center contains reference material that is not found in this book, such as keyboard layouts and host code page tables.

Online Help

The help facility describes how to install, configure, and use Z and I Emulator for Windows. Online help is very extensive and includes information about every aspect of configuring and using Z and I Emulator for Windows. You can use Z and I Emulator for Windows online help just as you use the online help for Windows®.

Use help to obtain information about:

- Menu choices
- Operation procedures
- Operations in windows
- Meanings of the terms displayed in windows
- Causes of errors and the corresponding actions to take
- Mouse-based operations
- Operation without a mouse
- Detailed explanations of specific terms
- Further technical information about Z and I Emulator for Windows
- Detailed explanations of operator information area (OIA) messages

Z and I Emulator for Windows Library

The Z and I Emulator for Windows library includes the following publications:

- *Installation Guide*
- *Quick Beginnings* (this document)
- *Emulator User's Reference*
- *Administrator's Guide and Reference*
- *Emulator Programming*
- *Host Access Class Library*

- *Host Access Class Library*
- *Configuration File Reference*

In addition to the PDF documents, there are HTML documents provided with Z and I Emulator for Windows:

Quick Beginnings

The HTML form of *Quick Beginnings* contains the same information as the PDF version. The HTML files are installed automatically and can be accessed from the Help menus in the Session Manager and .WS session panels.

Contacting HCL

This section lists ways you can reach HCL in case you encounter a problem or concern with Z and I Emulator for Windows. Depending on the nature of your problem or concern, we ask that you be prepared to provide the following information to allow us to serve you better.

- The environment in which the problem occurs:
  - Z and I Emulator for Windows configuration
    - Z and I Emulator for Windows version and manufacturing refresh level
    - The name of the workstation profile
  - Workstation configuration
    - The machine type and model, the system memory, the video adapter
    - The communication adapter you are using
    - Other adapters (especially communication adapters) installed
    - The printer type and model
    - Other devices installed, such as sound cards, modems, or fax machines
  - Software configuration
    - Windows® version and level
    - Communication and device-driver version and level
    - Other communication programs (such as Microsoft® or Microsoft® Data Link Control) that are running and using resources
    - Printer driver version and level
  - Host configuration
    - The upstream host connection and configuration
- Problem analysis information
  - Symptoms
  - Type of problem
  - OIA messages or error messages (if any)
  - Key factors related to the problem

If you have a technical problem, take the time to review and carry out the actions suggested here. Use your local support personnel before contacting HCL. You can also check the Hints and Tips at the Z and I Emulator for Windows

support Web page for more information. Only persons with in-depth knowledge of the problem should contact HCL; therefore, support personnel should act as the interface with HCL.

For information about problem analysis tools, refer to *Emulators User's Reference* for Z and I Emulator for Windows Version 3.0. This reference also provides detailed, specific emulator information about printing, file and data transfer, node operations, and other topics.

Managed ZIEWIN and Interoperablity

This section provides detailed information about Managed ZIEWin and Interoperabilty between HCL Z and I Emulator for Windows and HCL Z and I Emulator for Web Clients.

HCL Z and I Emulator for Windows uses Session Manager Online dialog to provide easy access to workstation profiles and batch files on the ZIE Server. With Session Manager Online users can create or start a single or multiple sessions and or batch files. Users can create their own profile to the ZIE server and migrate existing files such as the workstation profiles (*.WS) and batch files (*.BCH) that were stored on the ZIE Server.

This "How To" document aims to supplement additional detailed information in setting up Managed HCL Z and I Emulator for Windows (ZIEWIN) as referenced below.

Steps to Install Using Managed:

Refer to Planning to Install Z and I Emulator for Windows on page 25

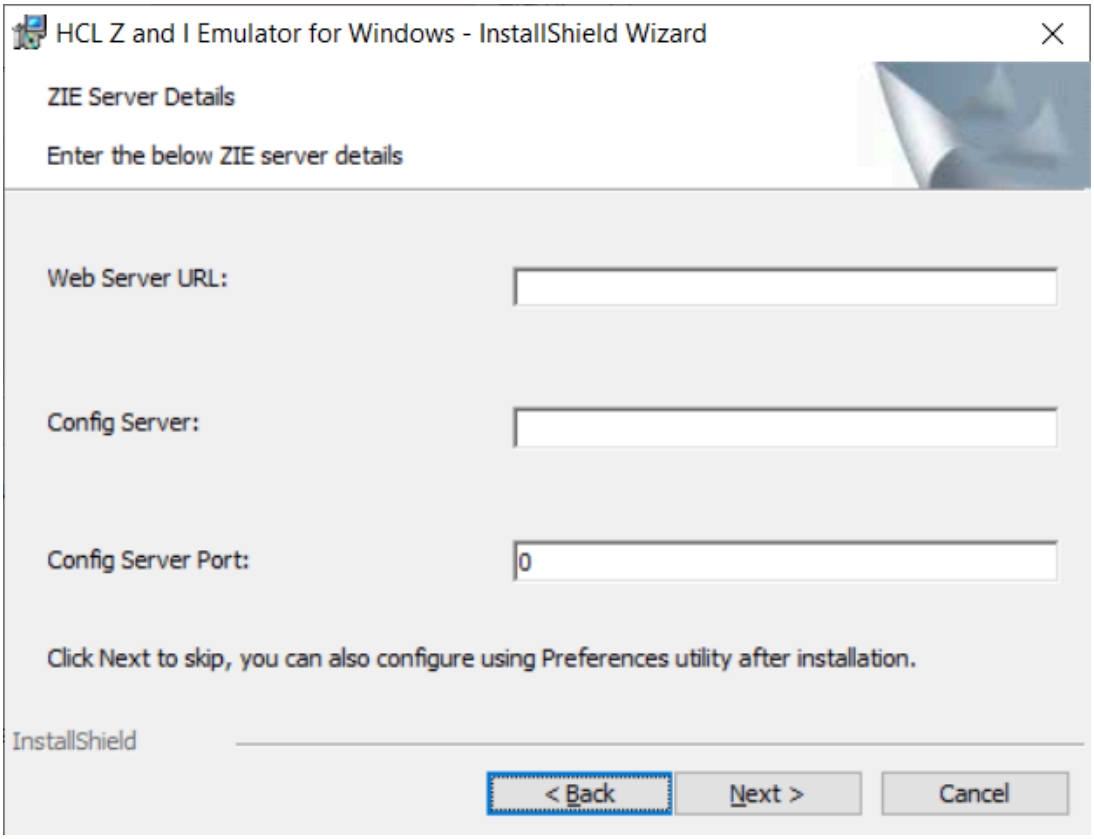
The steps provided in this document are applicable to all Windows 10 versions which are 64-bit OS level.

Prerequisites :

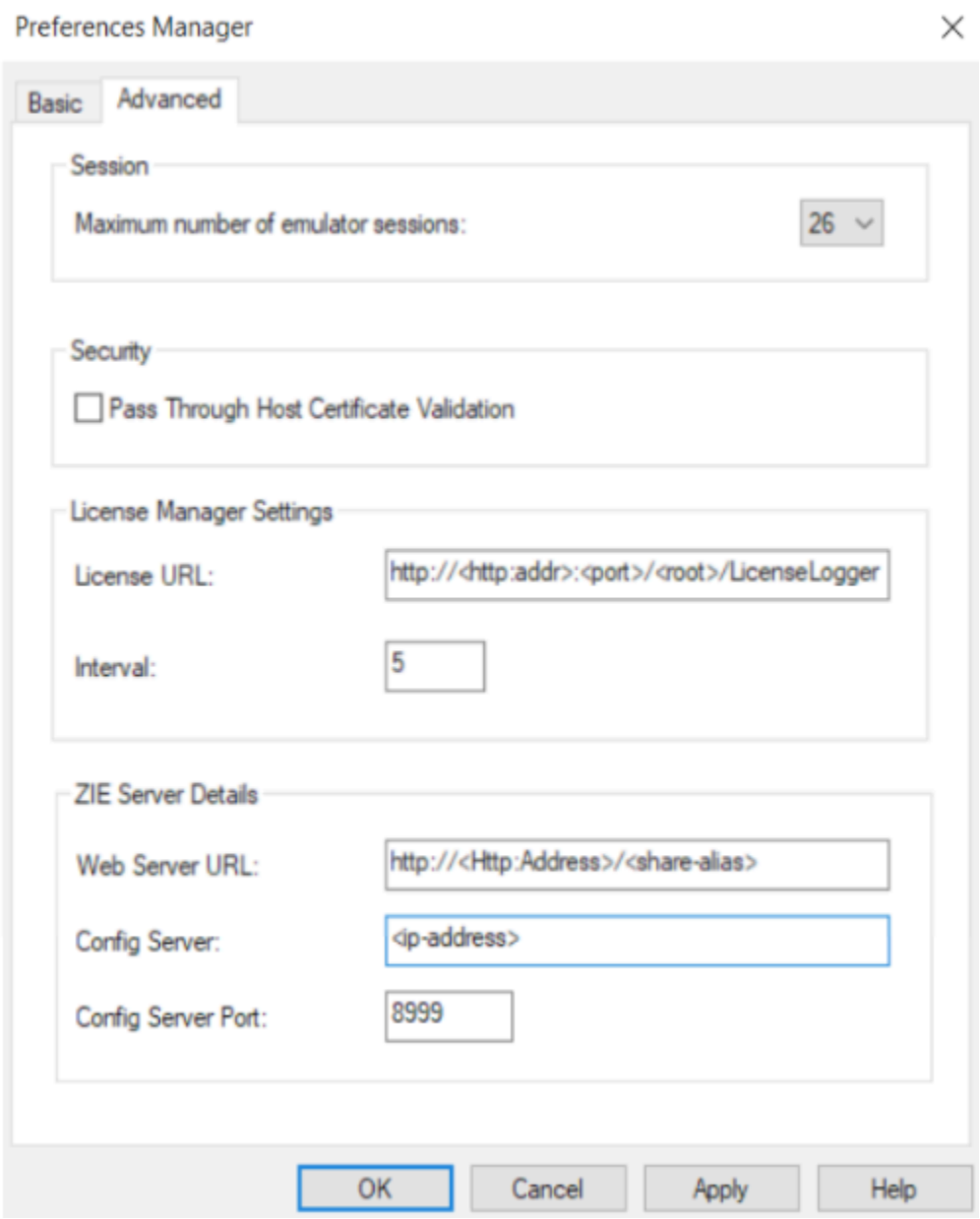
1. Download a copy of HCL Z and I Emulator for Windows 64-bit base package and HCL Z and I Emulator for Windows RP1.zip
2. A HCL Z and I Emulator for Web server is required for the Session Manager Online to work.
3. Create a folder (e.g. MPZiewin) in the ZIEWEB published directory.
4. Unzip and dump the HCL Z and I Emulator for Windows RP1 contents in *MPZiewin* folder.
5. Right click the *MPZiewin folder* > *Properties* > *Sharing* > *Advance Sharing* > *Put a check on Share this Folder*.
6. Click **OK** then **Close**.
7. Repeat steps 5-6 with ZIEWEB folder.
8. Obtain the IP address of the ZIEWEB server and use it at step 2 below.

Follow the steps below in setting up Managed HCL Z and I Emulator for Windows (ZIEWIN):

1. There are two ways to input the ZIE Server configuration details. Choosing to go either way will have the same results.
    - During the ZIEWIN installation a new panel has been added.



- Preferences Manager - Click on Start > HCL Z and I Emulator for Windows > Preferences > Advanced



2. Enter the configuration parameters based on the information below:
    - **Web Server URL** : The URL of the Web Server from where HCL Z and I Emulator for Windows fix pack file will be downloaded for installation. Installer or fix pack will be installed on the system by "Start or Configure Sessions - Online" program.>
    - **Config Server** : URL of the Application Server/Embedded Server, on which interoperability module (.war file) is deployed. It can be deployed on the HOD Embedded Server or on any configured Application Server.

      Example: http://< Application Server IP >/<Configured context root of the application>

      For more details on WAR file deployment, refer to the technote <hyper-link>.

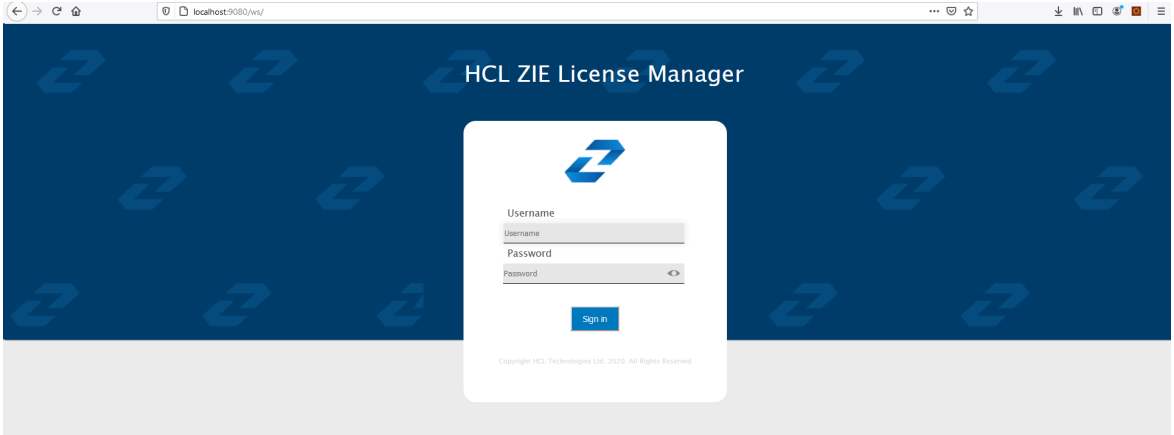
- **Config Server Port** : Port number of Application Server where interoperability module (.war file) is deployed.

  Example: 9080

3. Click **OK**.
4. *Open File Explorer > This PC > Map network drive.* Use the IP address of the Web Server along with the folder where the HCL Z and I Emulator for Windows RP1.msi is located. E.g. \\192.168.56.102\MPZiewin
5. Click **Save**.
6. Repeat steps 4-5 with ZIEWEB folder. E.g. \\192.168.56.102\ZIEWEB

Note: This completes configuring Managed HCL Z and I Emulator for Windows (ZIEWIN).

7. To validate that the configuration is correct, create a new Username or use an Existing User in the Session Manager Online. *Click on Start > HCL Z and I Emulator for Windows > Start or Configure sessions - Online*



Points to consider:

- When mapping the network drive ensure that client machine and ZIEWEB server is within the same network.
- The Session Manager Online checks for updates at startup. It is essential that HCL Z and I Emulator for Windows RP1 is in the ZIEWEB published directory.

Interoperability between HCL Z and I Emulator for Windows and HCL Z and I Emulator for Web Clients

The interoperability feature allows the ZIEWin users to use the ZIEWin sessions from other HCL terminal emulator clients, such as ZIEWeb and ZIEWeb Client. ZIEWin users can use the “Session Manager Online” utility to store the new sessions and migrate the existing sessions to ZIE server, these sessions are then converted to ZIEWeb Session formats for the ZIEWeb and ZIEWeb Client usage.

Note: Interoperability feature is introduced in ZIEWin 2.1 version.

ZIEWin client communicates with the ZIE server over HTTP/HTTPS connectivity using JSON data format.

The interoperability feature is supported from ZIEWeb v2.1.0.0 & ZIEWeb Client v2.1.0.0 onwards and is applicable for 3270 Display, 5250 Display, 3270 Printer, 5250 Printer, and VT sessions.

Note: The session conversion happens only for ZIEWin to ZIEWeb sessions and not vice versa.

When the user stores the ZIEWin sessions using the “Session Manager Online” utility, they are converted to ZIEWeb sessions before saving them to the ZIE server . After storing to the ZIE server , users can log in from ZIEWin, ZIEWeb, or ZIEWeb Client to work with the stored ZIEWin sessions.

Using ZIEWin Sessions from ZIEWeb and ZIEWeb Client:

After the ZIEWin sessions are stored in the ZIE server , if any changes are made to the session definition from any of the clients, it is saved in the ZIE server . These session changes will be available to ZIEWin users after the next login.

Below is the list of supported parameters as part of the Interoperability feature.

Table 1. List of Supported Parameters for Interoperability

ZIEWIN Parameter	ZIEWEB Parameter
Primary Host Name or IP Address	Destination Address
Primary Port Number	Destination Port
Primary LU or Pool Name	LU or Pool Name
Screen Size	Screen Size
Host Code-Page	Host Code-Page
Auto-reconnect	Auto-reconnect
Backup 1 Host Name or IP Address	Backup 1 Destination Address
Backup 2 Host Name or IP Address	Backup 2 Destination Address
Backup 1 Port Number	Backup 1 Destination Port
Backup 2 Port Number	Backup 2 Destination Port
Backup 1 LU or Pool Name	Backup 1 LU or Pool Name
Backup 2 LU or Pool Name	Backup 2 LU or Pool Name
Enable Security	Protocol
Workstation ID	Workstation ID
Server Authentication	Server Authentication
Message Queue	Message Queue
Message Library	Queue Library
Send Personal Certificate to Server if it is Requested	Send a Certificate
Send Personal Certificate Trusted by Server	Certificate Source
Send Personal Certificate Based on Key Usage	Enable Key Usage
Machine Mode	Terminal Type (VT session)

Table 1. List of Supported Parameters for Interoperability (continued)

ZIEWIN Parameter	ZIEWEB Parameter
AutoWrap	AutoWrap (VT session)

Note: Only the listed parameters will be modified from ZIEWeb / ZIEWeb Client for a ZIEWin profile. If any other parameters are updated from ZIEWeb / ZIEWeb Client, there will not be any changes to the ZIEWin session. Users should modify the ZIEWin sessions either from ZIEWin or ZIEWeb / ZIEWeb Client at a time and should avoid simultaneous modifications from different clients.

Interoperability 2.1.0.0 Configuration Introduction:

ZIEWeb v3.0 (from v2.1.0.0 onwards) introduced interoperability between ZIEWin and ZIEWeb. This allowed ZIEWin sessions to be accessed through ZIEWeb and ZIEWeb Client after the session definitions were uploaded to the ZIE server .

Password provided during the user creation will be encrypted using AES 128-bit algorithm and will be sent to the server through the HTTP/HTTPS protocol as Json object. UID is added to the WS and BCH profile files for unique identification. Only Connection parameters are considered for the interoperability between ZIEWin and ZIEWeb Clients and vice-versa.

After the ZIEWin sessions are converted and stored in the ZIE server , any changes made to the common parameters from any of the clients will be saved on the ZIE server . These parameter changes will be available to ZIEWin users after the next login.

Steps to install:

1. Install the ZIEWeb v3.0.
2. Install the ZIEWin v3.0

WAR File Configuration:

The interoperability executable (**ZIEWeb_Interoperability.war**) is available under the lib directory of the product.

For Embedded Web Server:

If the Embedded Web Server is used, by default Interoperability application is running on context root "interop". If the user needs to change the context root, add the following parameter to the configuration file (***config.properties***), located in the ZIE server publish directory.

Example: InterOpContextPath=interop

The default ZIE server IP is 127.0.0.1 and the ZIE server port is 8999. If the user needs to connect to the ZIE server located on a different machine, then override the interoperability configuration by modifying the properties of ***"interop_overrides.xml"*** in the conf directory under the lib directory of the product.

Table 2. List of properties that can be used to configure the Interoperability

Property	Value	Description
ZIEWEB_SERVER_IP	127.0.0.1	ZIE server address

Table 2. List of properties that can be used to configure the Interoperability (continued)

Property	Value	Description
ZIEWEB_SERVER_PORT	8999	ZIEWEB Config Server port
Directory_Location	C:\\dir_location	Directory Location for logs

The user can utilize **ZIEWeb_Interoperability.war** file (available under the lib directory of the product) to deploy to different application servers such as WAS/Tomcat.

For WebSphere Application Server (WAS):

1. Log in to **WebSphere Application Server**.
2. Go to **Applications**.
3. Click WebSphere enterprise applications under **Application Type**.
4. Select **ZIEWeb_Interoperability.war file**.
5. Click on Initialize parameters for servlets link under **Web Module Properties** section.
6. Enter the required values.

Supported Application Servers: *Apache Tomcat and WAS*.

Limitations

1. Only connection parameters are considered for interoperability between ZIEWin and ZIEWeb and vice-versa.
2. Session creation from ZIEWeb / ZIEWeb Client will not be converted to a ZIEWin session.

Known Issues

1. For stored ZIEWin sessions, changes to any session parameters (not only the listed parameters) from ZIEWeb / ZIEWeb Client will be overridden or set to default when there is an update from **"Session Manager Online"** (ZIEWin Client).
2. If there are simultaneous profile updates from any of the two clients, the most recent update will be saved as the final copy in the ZIE server .
3. Modifications done in multiple sessions (add, delete sessions, or rename) from the ZIEWeb Clients do not reflect in the ZIEWin Client.
4. Saving/renaming profiles with special characters (Ex: \ / : * ? " < > |.) in ZIEWeb/ ZIEWeb Clients will result in unexpected behavior in the ZIEWin Client.

   How to setup Managed HCL Z and I Emulator for Windows (ZIEWIN)

   HCL Z and I Emulator for Windows uses Session Manager Online dialog to provide easy access to workstation profiles and batch files on the ZIE Server. With Session Manager Online users can create or start a single or multiple sessions and or batch files. Users can create their own profile to the ZIE server and migrate existing files such as the workstation profiles (*.WS) and batch files (*.BCH) that were stored on the ZIE Server.

   This "How To" document aims to supplement additional detailed information in setting up Managed HCL Z and I Emulator for Windows (ZIEWIN) as referenced below.

   Steps to Install Using Managed: Refer to Planning to Install Z and I Emulator for Windows on page 25

The steps provided in this document are applicable to all Windows 10 versions which are 64-bit OS level.

Prerequisites :

a. Download a copy of HCL Z and I Emulator for Windows 64-bit base package and HCL Z and I Emulator for Windows RP1.zip

a. A HCL Z and I Emulator for Web server is required for the Session Manager Online to work.

b. Create a folder (e.g. MPZiewin) in the ZIEWEB published directory.

c. Unzip and dump the HCL Z and I Emulator for Windows RP1 contents in *MPZiewin* folder.

d. Right click the *MPZiewin folder > Properties > Sharing > Advance Sharing > Put a check on Share this Folder*.

e. Click **OK** then **Close**.

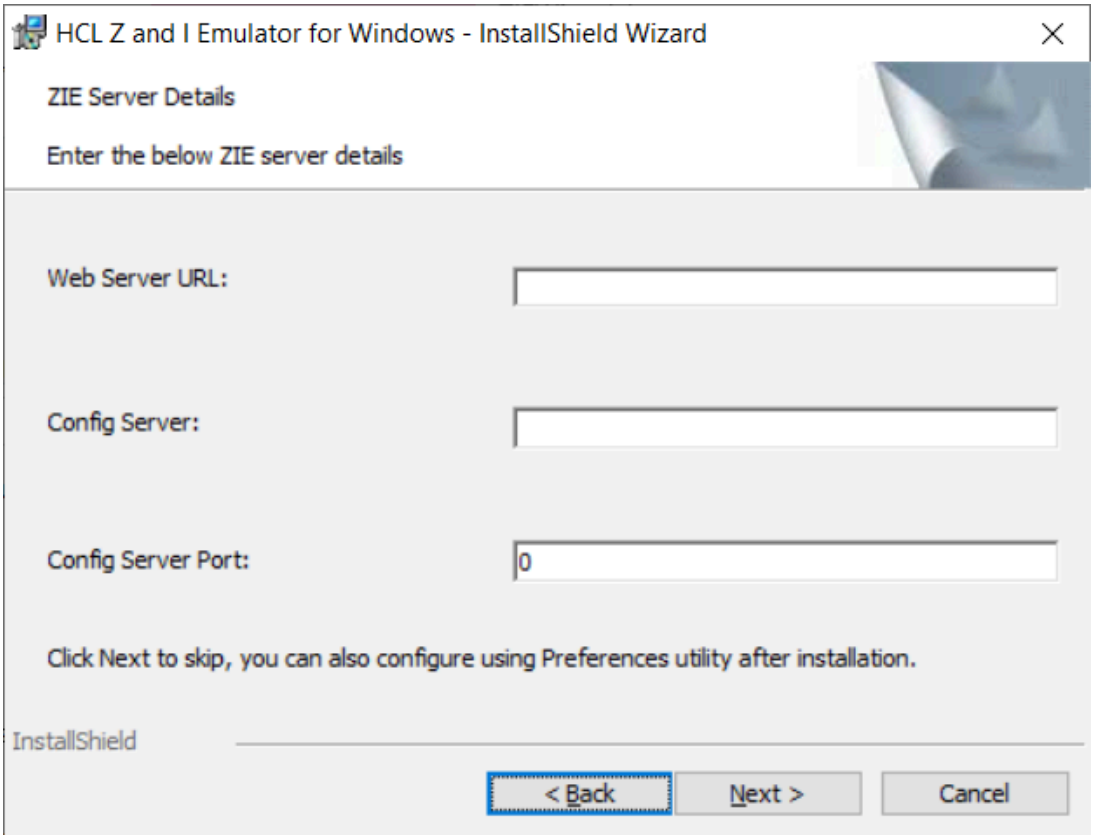
f. Repeat steps 5-6 with ZIEWEB folder.

g. Obtain the IP address of the ZIEWEB server and use it at step 2 below.

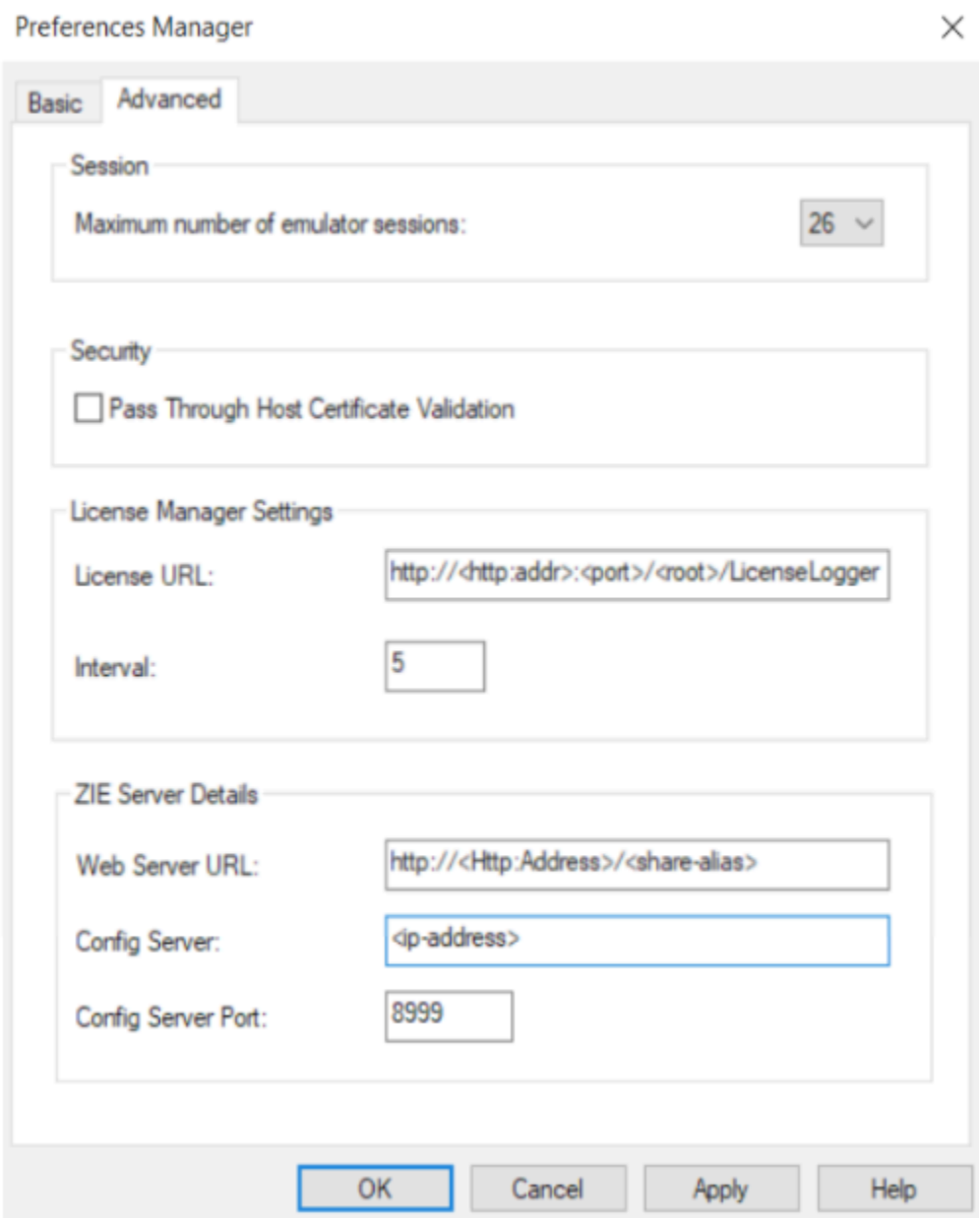
Follow the steps below in setting up Managed HCL Z and I Emulator for Windows (ZIEWIN):

There are two ways to input the ZIE Server configuration details. Choosing to go either way will have the same results.

- During the ZIEWIN installation a new panel has been added.



- Preferences Manager - Click on Start > HCL Z and I Emulator for Windows > Preferences > Advanced



a. Enter the configuration parameters based on the information below:
   - **Web Server URL** : The URL of the Web Server from where HCL Z and I Emulator for Windows fix pack file will be downloaded for installation. Installer or fix pack will be installed on the system by "Start or Configure Sessions - Online" program.>
   - **Config Server** : URL of the Application Server/Embedded Server, on which interoperability module (.war file) is deployed. It can be deployed on the HOD Embedded Server or on any configured Application Server.

     Example: http://< Application Server IP >/<Configured context root of the application>

     For more details on WAR file deployment, refer to the technote <hyper-link>.

- **Config Server Port** : Port number of Application Server where interoperability module (.war file) is deployed.

  Example: 9080

b. Click **OK**.

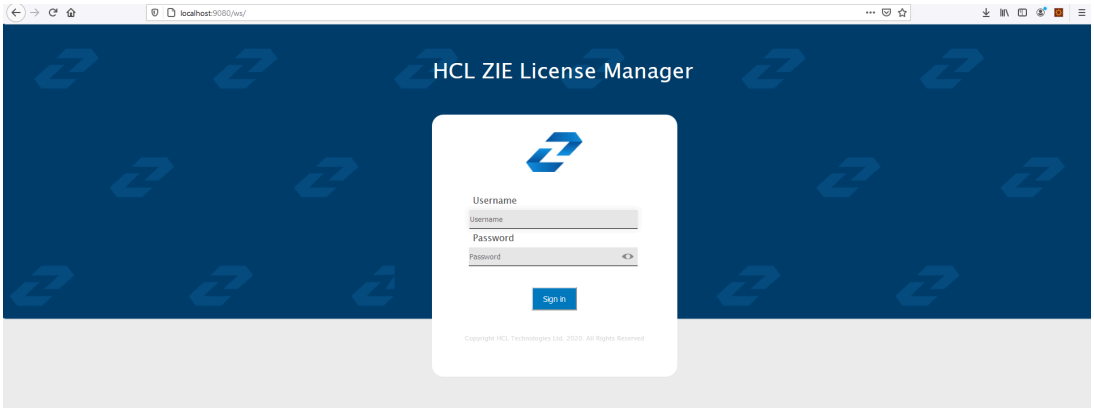
c. *Open File Explorer > This PC > Map network drive.* Use the IP address of the Web Server along with the folder where the HCL Z and I Emulator for Windows RP1.msi is located. E.g. \ \192.168.56.102\MPZiewin

d. Click **Save**.

e. Repeat steps 4-5 with ZIEWEB folder. E.g. \\192.168.56.102\ZIEWEB

Note: This completes configuring Managed HCL Z and I Emulator for Windows (ZIEWIN).

f. To validate that the configuration is correct, create a new Username or use an Existing User in the Session Manager Online. *Click on Start > HCL Z and I Emulator for Windows > Start or Configure sessions - Online*



Points to consider:

- When mapping the network drive ensure that client machine and ZIEWEB server is within the same network.
- The Session Manager Online checks for updates at startup. It is essential that HCL Z and I Emulator for Windows RP1 is in the ZIEWEB published directory.

Interoperability between HCL Z and I Emulator for Windows and HCL Z and I Emulator for Web Clients

The interoperability feature allows the ZIEWin users to use the ZIEWin sessions from other HCL terminal emulator clients, such as ZIEWeb and ZIEWeb Client. ZIEWin users can use the “Session Manager Online” utility to store the new sessions and migrate the existing sessions to ZIE server, these sessions are then converted to ZIEWeb Session formats for the ZIEWeb and ZIEWeb Client usage.

Note: Interoperability feature is introduced in ZIEWin 2.1 version.

ZIEWin client communicates with the ZIE server over HTTP/HTTPS connectivity using JSON data format.

The interoperability feature is supported from ZIEWeb v2.1.0.0 & ZIEWeb Client v2.1.0.0 onwards and is applicable for 3270 Display, 5250 Display, 3270 Printer, 5250 Printer, and VT sessions.

Note: The session conversion happens only for ZIEWin to ZIEWeb sessions and not vice versa.

When the user stores the ZIEWin sessions using the “Session Manager Online” utility, they are converted to ZIEWeb sessions before saving them to the ZIE server . After storing to the ZIE server , users can log in from ZIEWin, ZIEWeb, or ZIEWeb Client to work with the stored ZIEWin sessions.

Using ZIEWin Sessions from ZIEWeb and ZIEWeb Client:

After the ZIEWin sessions are stored in the ZIE server , if any changes are made to the session definition from any of the clients, it is saved in the ZIE server . These session changes will be available to ZIEWin users after the next login.

Below is the list of supported parameters as part of the Interoperability feature.

Table 3. List of Supported Parameters for Interoperability

ZIEWIN Parameter	ZIEWEB Parameter
Primary Host Name or IP Address	Destination Address
Primary Port Number	Destination Port
Primary LU or Pool Name	LU or Pool Name
Screen Size	Screen Size
Host Code-Page	Host Code-Page
Auto-reconnect	Auto-reconnect
Backup 1 Host Name or IP Address	Backup 1 Destination Address
Backup 2 Host Name or IP Address	Backup 2 Destination Address
Backup 1 Port Number	Backup 1 Destination Port
Backup 2 Port Number	Backup 2 Destination Port
Backup 1 LU or Pool Name	Backup 1 LU or Pool Name
Backup 2 LU or Pool Name	Backup 2 LU or Pool Name
Enable Security	Protocol
Workstation ID	Workstation ID
Server Authentication	Server Authentication
Message Queue	Message Queue
Message Library	Queue Library
Send Personal Certificate to Server if it is Requested	Send a Certificate
Send Personal Certificate Trusted by Server	Certificate Source
Send Personal Certificate Based on Key Usage	Enable Key Usage
Machine Mode	Terminal Type (VT session)

Table 3. List of Supported Parameters for Interoperability (continued)

ZIEWIN Parameter	ZIEWEB Parameter
AutoWrap	AutoWrap (VT session)

Note: Only the listed parameters will be modified from ZIEWeb / ZIEWeb Client for a ZIEWin profile. If any other parameters are updated from ZIEWeb / ZIEWeb Client, there will not be any changes to the ZIEWin session. Users should modify the ZIEWin sessions either from ZIEWin or ZIEWeb / ZIEWeb Client at a time and should avoid simultaneous modifications from different clients.

Interoperability 3.0 Configuration Introduction:

ZIEWeb v3.0 (from v2.1.0.0 onwards) introduced interoperability between ZIEWin and ZIEWeb. This allowed ZIEWin sessions to be accessed through ZIEWeb and ZIEWeb Client after the session definitions were uploaded to the ZIE server .

Password provided during the user creation will be encrypted using AES 128-bit algorithm and will be sent to the server through the HTTP/HTTPS protocol as Json object. UID is added to the WS and BCH profile files for unique identification. Only Connection parameters are considered for the interoperability between ZIEWin and ZIEWeb Clients and vice-versa.

After the ZIEWin sessions are converted and stored in the ZIE server , any changes made to the common parameters from any of the clients will be saved on the ZIE server . These parameter changes will be available to ZIEWin users after the next login.

Steps to install:

1. Install the ZIEWeb v3.0.
2. Install the ZIEWin v3.0.

WAR File Configuration:

The interoperability executable (**ZIEWeb_Interoperability.war**) is available under the lib directory of the product.

For Embedded Web Server:

If the Embedded Web Server is used, by default Interoperability application is running on context root "interop". If the user needs to change the context root, add the following parameter to the configuration file (***config.properties***), located in the ZIE server publish directory.

Example: InterOpContextPath=interop

The default ZIE server IP is 127.0.0.1 and the ZIE server port is 8999. If the user needs to connect to the ZIE server located on a different machine, then override the interoperability configuration by modifying the properties of ***"interop_overrides.xml"*** in the conf directory under the lib directory of the product.

Table 4. List of properties that can be used to configure the Interoperability

Property	Value	Description
ZIEWEB_SERVER_IP	127.0.0.1	ZIE server address

Table 4. List of properties that can be used to configure the Interoperability (continued)

Property	Value	Description
ZIEWEB_SERVER_PORT	8999	ZIEWEB Config Server port
Directory_Location	C:\\dir_location	Directory Location for logs

The user can utilize **ZIEWeb_Interoperability.war** file (available under the lib directory of the product) to deploy to different application servers such as WAS/Tomcat.

For WebSphere Application Server (WAS):

1. Log in to **WebSphere Application Server**.
2. Go to **Applications**.
3. Click WebSphere enterprise applications under **Application Type**.
4. Select **ZIEWeb_Interoperability.war file**.
5. Click on Initialize parameters for servlets link under **Web Module Properties** section.
6. Enter the required values.

Supported Application Servers: *Apache Tomcat and WAS*.

Limitations

1. Only connection parameters are considered for interoperability between ZIEWin and ZIEWeb and vice-versa.
2. Session creation from ZIEWeb / ZIEWeb Client will not be converted to a ZIEWin session.

Known Issues

1. For stored ZIEWin sessions, changes to any session parameters (not only the listed parameters) from ZIEWeb / ZIEWeb Client will be overridden or set to default when there is an update from **"Session Manager Online"** (ZIEWin Client).
2. If there are simultaneous profile updates from any of the two clients, the most recent update will be saved as the final copy in the ZIE server .
3. Modifications done in multiple sessions (add, delete sessions, or rename) from the ZIEWeb Clients do not reflect in the ZIEWin Client.
4. Saving/renaming profiles with special characters (Ex: \ / : * ? " < > |.) in ZIEWeb/ ZIEWeb Clients will result in unexpected behavior in the ZIEWin Client.

How to setup Managed HCL Z and I Emulator for Windows (ZIEWIN)

HCL Z and I Emulator for Windows uses Session Manager Online dialog to provide easy access to workstation profiles and batch files on the ZIE Server. With Session Manager Online users can create or start a single or multiple sessions and or batch files. Users can create their own profile to the ZIE server and migrate existing files such as the workstation profiles (*.WS) and batch files (*.BCH) that were stored on the ZIE Server.

This "How To" document aims to supplement additional detailed information in setting up Managed HCL Z and I Emulator for Windows (ZIEWIN) as referenced below.

Steps to Install Using Managed:

Refer to Planning to Install Z and I Emulator for Windows on page 25

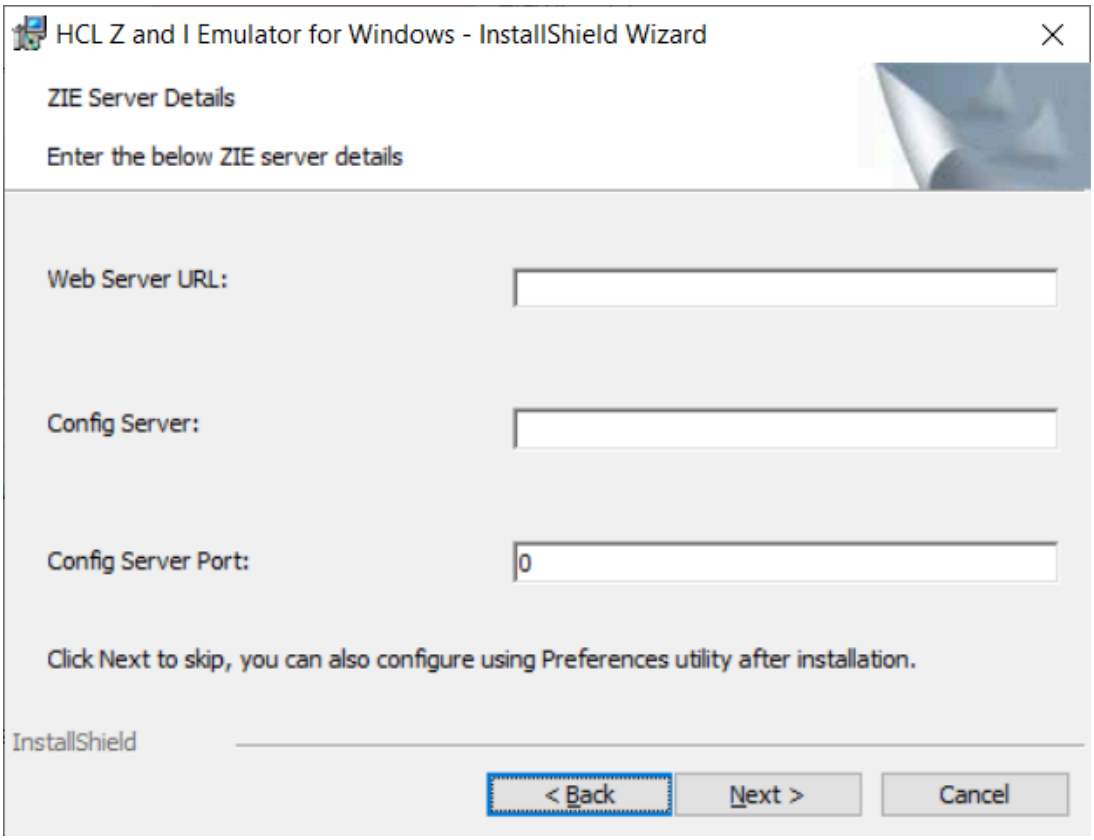
The steps provided in this document are applicable to all Windows 10 versions which are 64-bit OS level.

Prerequisites :

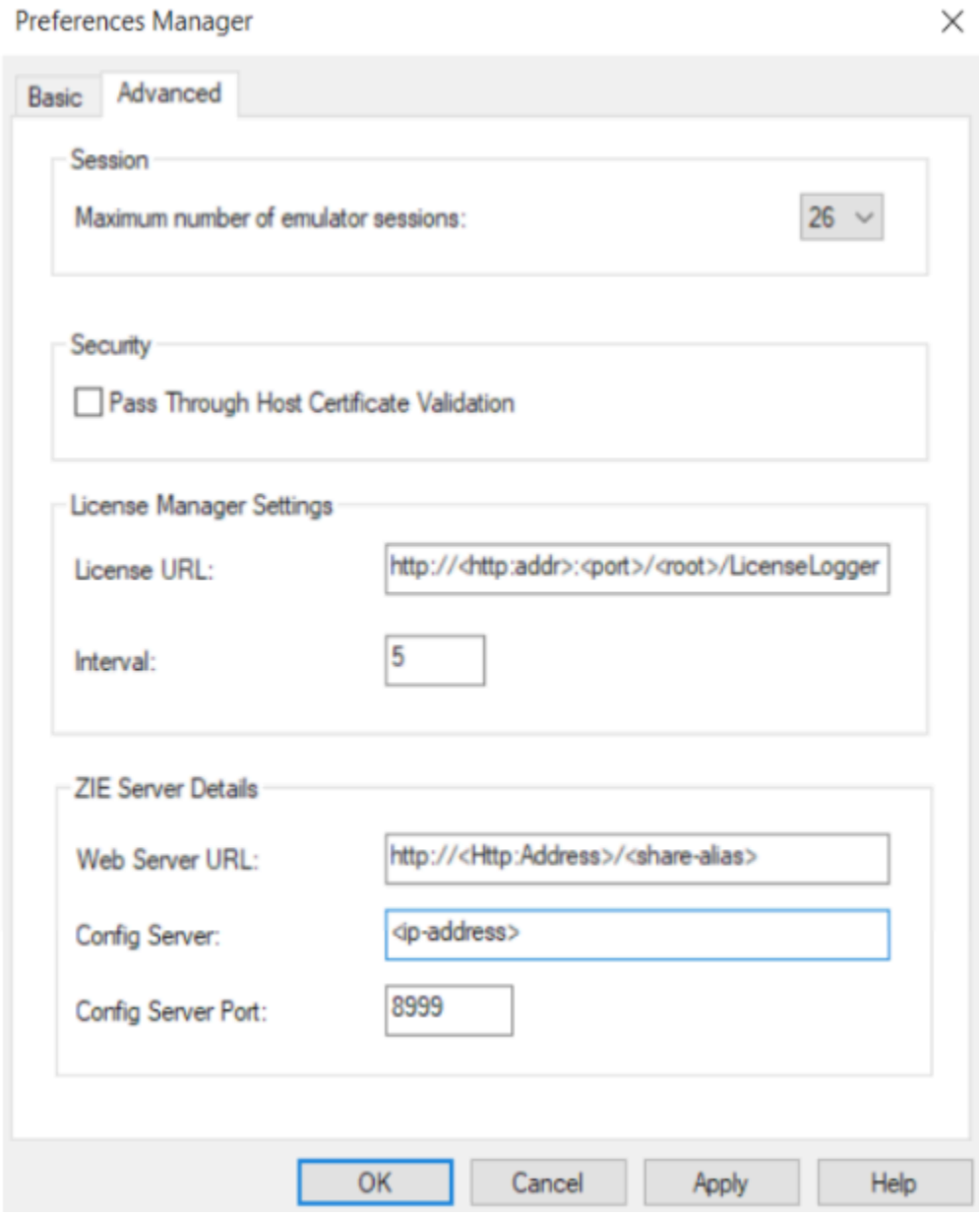
1. Download a copy of HCL Z and I Emulator for Windows 64-bit base package and HCL Z and I Emulator for Windows RP1.zip
2. A HCL Z and I Emulator for Web server is required for the Session Manager Online to work.
3. Create a folder (e.g. MPZiewin) in the ZIEWEB published directory.
4. Unzip and dump the HCL Z and I Emulator for Windows RP1 contents in *MPZiewin* folder.
5. Right click the *MPZiewin folder* > *Properties* > *Sharing* > *Advance Sharing* > *Put a check on Share this Folder*.
6. Click **OK** then **Close**.
7. Repeat steps 5-6 with ZIEWEB folder.
8. Obtain the IP address of the ZIEWEB server and use it at step 2 below.

Follow the steps below in setting up Managed HCL Z and I Emulator for Windows (ZIEWIN):

1. There are two ways to input the ZIE Server configuration details. Choosing to go either way will have the same results.
    - During the ZIEWIN installation a new panel has been added.



- Preferences Manager - Click on Start > HCL Z and I Emulator for Windows > Preferences > Advanced



2. Enter the configuration parameters based on the information below:
   - **Web Server URL** : The URL of the Web Server from where HCL Z and I Emulator for Windows fix pack file will be downloaded for installation. Installer or fix pack will be installed on the system by "Start or Configure Sessions - Online" program.>
   - **Config Server** : URL of the Application Server/Embedded Server, on which interoperability module (.war file) is deployed. It can be deployed on the HOD Embedded Server or on any configured Application Server.

     Example: http://< Application Server IP >/<Configured context root of the application>

For more details on WAR file deployment, refer to the technote <hyper-link>.

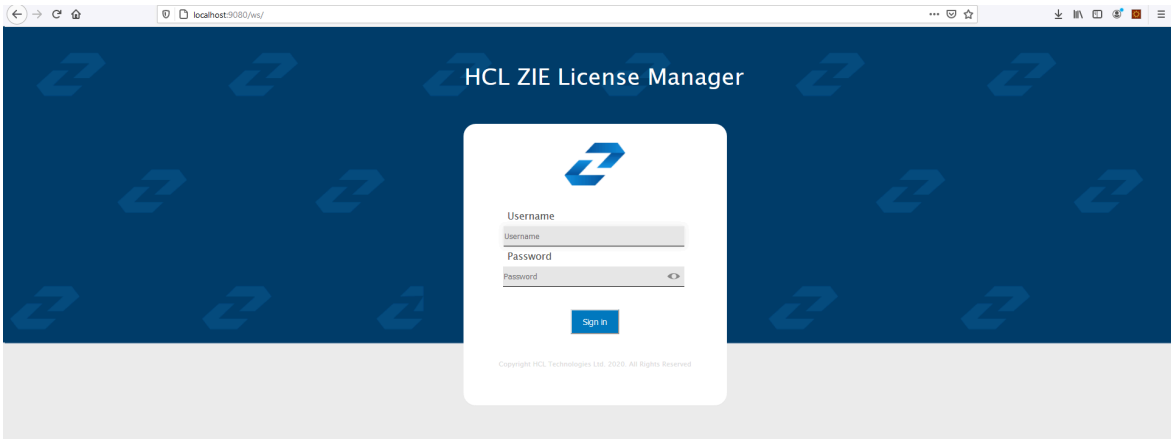
- **Config Server Port** : Port number of Application Server where interoperability module (.war file) is deployed.

  Example: 9080

3. Click **OK**.
4. *Open File Explorer > This PC > Map network drive.* Use the IP address of the Web Server along with the folder where the HCL Z and I Emulator for Windows RP1.msi is located. E.g. \\192.168.56.102\MPZiewin
5. Click **Save**.
6. Repeat steps 4-5 with ZIEWEB folder. E.g. \\192.168.56.102\ZIEWEB

Note: This completes configuring Managed HCL Z and I Emulator for Windows (ZIEWIN).

7. To validate that the configuration is correct, create a new Username or use an Existing User in the Session Manager Online. *Click on Start > HCL Z and I Emulator for Windows > Start or Configure sessions - Online*



Points to consider:

- When mapping the network drive ensure that client machine and ZIEWEB server is within the same network.
- The Session Manager Online checks for updates at startup. It is essential that HCL Z and I Emulator for Windows RP1 is in the ZIEWEB published directory.

Chapter 2. Introduction

Welcome to Z and I Emulator for Windows

Z and I Emulator for Windows brings the power of personal networking to your workstation by exploiting networking capabilities to provide a variety of connectivity options supporting local area network (LAN) and wide area network (WAN) environments. Whether it is for host terminal emulation, client/server applications, or connectivity, Z and I Emulator for Windows offers a robust set of communication, networking, and administrative features.

Z and I Emulator for Windows is a full-function emulator. In addition to host terminal emulation, it provides these useful features:

- File transfer
- Dynamic configuration
- An easy-to-use graphical interface
- Emulator APIs such as Emulator High-Level Language Programming Interface (EHLLAPI), Host Access Class Library (HACL), and PCSAPI. For example, EHLLAPI is often used for automated operator applications which read host screens and enter keystrokes without direct user intervention. Refer to *Emulator Programming* and *Host Access Class Library* for details.

A variety of application programming interfaces (APIs) are supported by Z and I Emulator for Windows. You can create applications that use the peer-to-peer client APIs, which are based on LU 6.2 and provided by Z and I Emulator for Windows. These APIs let you simultaneously access and process information on peer workstations.

What's New in Z and I Emulator for Windows

For information on new functions and enhancements in Z and I Emulator for Windows Version 3.0, refer to https://help.hcltechsw.com/zie/ziewin/3.0/doc/readme/readme.html.

Z and I Emulator for Windows Program Icons

When you have installed Z and I Emulator for Windows, the main functions that you can use are displayed as icons. Icons are grouped in sub-folders of the HCL Z and I Emulator for Windows program folder.

A brief explanation of each function follows:

Start or Configure Sessions

Use this icon to bring up the Session Manager. This dialog allows you to start or configure sessions. During configuration, you can specify the session type, screen size, LU number, graphics support, the type of communication link and its parameters, as well as other information. You can save all this

information in a workstation profile. After saving, you can start the session by just clicking the session icon. Authorized users can also create new batch files from this dialog

Start or Configure Sessions Online

Use this icon to bring up the Session Manager Online. This dialog allows you to manage and use the online sessions available on ZIE Server. This provides option for auto install of Z and I Emulator for Windows available on ZIE Server.

Administrative and Problem Determination (PD) Aids

Information Bundler

Use this icon to gather system files and specific trace and log files, as well as registry information, such as the software installed or running on a machine. This can also be run from an active session by clicking **Actions → Launch → Information Bundler**.

Log Viewer

Use this icon to view, merge, and sort the Z and I Emulator for Windows message and trace logs. Z and I Emulator for Windows logs errors and informational messages during initialization and operation. This can also be run from an active session by selecting **Actions → Launch → Log Viewer**.

Migration Utility

Use this icon to migrate your user-class and system-class files and desktop icons to Z and I Emulator for Windows Version 3.0.

Trace Facility

Use this icon to turn trace functions on and off and to capture communication protocol information that passes between your workstation and other host systems. You can use traces to resolve communication problems. This can also be run from an active session by selecting **Actions → Launch → Trace Facility**.

Utilities

Note

These programs are provided on an as-is basis without any warranty of any kind, including the warranties of merchantability and fitness for a particular purpose which are expressly disclaimed.

iSeries Connection Configuration

Use this icon if you want to define connections to each iSeries™, eServer™ i5, or System i5™ host that will use the data transfer function.

Convert Macro

Use this icon to convert an existing Z and I Emulator for Windows macro to an XML or VBScript file.

Data Transfer (iSeries™ only)

Use this icon to transfer data between a workstation and an iSeries™, eServer™ i5, or System i5™ database.

Multiple Sessions

Use this icon to create batch files (.BCH), which can specify multiple emulator sessions (workstation profiles) or other supported Windows® programs that you want to start concurrently. You can create an icon for each batch file and start the programs just by clicking the icon.

Preferences

Use this icon if you want to set up or change the user preferences, such as changing the user interface language.

ZipPrint (3270 only)

Use this icon to start the ZipPrint program, which allows you to print host system files or screens, PROFS® notes, calendars, and documents, CMS files, and XEDIT workspaces. When started, ZipPrint adds an item to the menu bar of the session window.

FTP Client

Use this icon to start the Z and I Emulator for Windows FTP client application, which allows files and directories upload and download, and directory navigation of local and remote file systems running FTP servers.

Z and I Emulator for Windows Sessions

The sessions that Z and I Emulator for Windows provides are logical connections enabling communication between your workstation and a host system. The following session types are available:

Display session

Use your workstation as a display terminal connected to the host system.

Printer session

Use your workstation printer as a host system printer.

Client/server session

Establish connections that allow peer communications using CPI-C and APPC (LU 6.2).

Z and I Emulator for Windows Connections

Z and I Emulator for Windows supports a variety of connections to the following host systems. Following are the icons you will encounter when you begin to configure an emulator session:

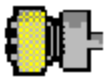
zSeries™

iSeries™

ASCII

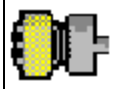
zSeries Emulator Connections

Table 5. zSeries Emulator Connection Icons

Interface	Attachment
LAN	Telnet3270 VT-over-Telnet (TCP/IP)
COM port 	Telnet 3270 VT over Telnet (TCP/IP)

iSeries Emulator Connections

Table 6. iSeries Emulator Connection Icons

Interface	Attachment
LAN	Telnet5250 over TCP/IP VT over Telnet
COM port 	

ASCII Emulator Connections (SBCS only)

Table 7. ASCII Emulator Connection Icons

Interface	Attachment
LAN	VT over Telnet (TCP/IP)
COM port	VT over Telnet (TCP/IP)

Planning to Install Z and I Emulator for Windows

Z and I Emulator for Windows supports a wide range of workstations. There are hardware and software requirements, as well as memory and storage requirements, to consider when planning the installation of Z and I Emulator for Windows.

The following sections describe and list support for monitors, adapters, and keyboards.

For detailed instructions on installing Z and I Emulator for Windows, refer to *Installation Guide*.

For instructions to install the HCL ZIE License Manager, refer to Installation of HCL ZIE License Manager, and see the topic Configuration of License Manager settings on page 104 to configure the ZIE License Manager for ZIEWin.

Workstation Hardware

Z and I Emulator for Windows supports workstations with the following hardware:

Table 8. Workstation Hardware Support

System units	The recommended system unit has an Intel Pentium® microprocessor and access to a DVD-ROM drive. A minimum of 180 MB of fixed drive space is required.
Display monitors	All VGA resolution or above display monitors supported by Windows®.
Video adapters	All VGA resolution or above video adapters supported by Windows®.
Keyboards	• Enhanced keyboard (101-key, 102-key, 104-key) • Space-saving keyboard • Microsoft® Natural keyboard
Printers	All printers supported by Windows® when a PDT file is not used. For more details about printers supported in PDT mode, refer to *Emulator User's Reference*.
Communication adapters	LAN, SDLC, COM Port, OEM, and Multiprotocol communication adapters.
Modems	All asynchronous modems that use the Hayes AT® command set and are supported by Windows®. Synchronous (SDLC) modems attached to a multiprotocol adapter (MPA) or SDLC adapter.

Workstation Memory Requirements

For Z and I Emulator for Windows the amount of memory you need depends on several factors, including the operating system you are running on, the attachment type, number of sessions, and the use of programming interfaces such as Emulator High-Level Language Application Programming Interface (EHLLAPI) and Dynamic Data Exchange (DDE).

Host Requirements

Refer to *Emulator User's Reference* for information about hardware requirements for host systems.

For all supported Windows operating systems, Java Runtime Environment 1.8 is installed.

Application Data

Application Data is generally defined to be files that contain user preferences or configuration information; an application may need some or all of these files to run properly. Z and I Emulator for Windows uses multiple

configuration files: *User Class* files can be stored individually by user profile, while *System Class* files are stored in a common location.

Table 9: Application Data File Types on page 27 lists the classifications of some of the most common Z and I Emulator for Windows file extensions.

Table 9. Application Data File Types

User Class		**System Class**	
Extension	**File Type**	**Extension**	**File Type**
.ws	Workstation Profile	.mlg	Default Message Log
.bch	Multiple Sessions	.trc	Unformatted Trace
.ini	Session Size and Location	.tlg	Formatted Trace
.pmp	Popup Keypad Configuration	.cfg	FTP Client Configuration
.kmp	Keyboard Configuration	.pub	Client/Host public key
.srl	File Transfer List	.dat	FTP Client data file
.ndc	iSeries™ Connection Configuration		
.tto	iSeries™ Data Transfer Request (Receive)		
.tfr	iSeries™ Data Transfer Request (Send)		
.bar	Toolbar Setup		
.mac	Macro		
.mmp	Mouse Setup		
.xlt	Translation Table		
.cert	Certificate		
.der	Binary DER		

Application Data Locations

The location for Application Data is specified during installation of Z and I Emulator for Windows. The following tables list the default Application Data locations, based on operating system.

If the [UserProfile]\Application Data location was selected at installation, the following profile paths are used:

Operating System	**User-Class Directory (Current User)**[1]	**System-Class Directory**
Windows 7, Windows 8/8.1, Windows 10, Windows Server 2008, Windows Server 2012	C:\Users\%USERNAME%\AppData\Roaming\HCL\Z and I Emulator for Windows	C:\ProgramData\HCL\Z and I Emulator for Windows

[1] The FTP Client configuration files are stored in the profile path mentioned above, under the `FTP` folder.

If the All Users\Application Data location was selected at installation, the following profile paths are used:

Operating System	User-Class Directory (Current User)[1]	System-Class Directory
Windows 7, Windows 8/8.1, Windows 10, Windows Server 2008, Windows Server 2012	C:\ProgramData\HCL\Z and I Emulator for Windows	C:\ProgramData\HCL\Z and I Emulator for Windows
[1] The FTP Client configuration files are stored in the profile path mentioned above, under the `FTP` folder.		

ZIEWin Trial Version

The ZIEWin Trial version package allows users to try and evaluate the product for up to 30 days. Trial version licenses can be obtained to use this version. Alternatively, users can also use the "Disable License" option to to try the ZIEWIN without licensing.

The ZIEWin trial version is supported in both English and Japanese languages.

To request a free trial version, users can visit the following link:

https://www.hcltechsw.com/mainframe-solutions/mainframe-solutions-free-trial?referrer=help.hcltechsw.com

Chapter 3. Using Z and I Emulator for Windows

Configuring Sessions

Z and I Emulator for Windows saves emulator configuration information to a workstation profile (.WS). Depending on your Z and I Emulator for Windows configuration, you might have a workstation profile only or both a workstation profile and a configuration file. The workstation profile can be used later by other Z and I Emulator for Windows sessions, or to restart this session.

LDAP

You can have an icon created for each workstation profile. Then you can select the session icon to establish communication with the host system using the saved workstation profile.

Configuring for iSeries™, eServer™ i5, or System i5™

To connect to an iSeries™, eServer™ i5, or System i5™, specific configuration information in the workstation profile must correspond to the information specified at the iSeries™, eServer™ i5, or System i5™ system. Refer to the iSeries™, eServer™ i5, or System i5™ configuration examples in *Emulator User's Reference* for more information about creating display, line, and controller descriptions on the iSeries™, eServer™ i5, or System i5™ system.

If you want to configure multiple links, refer to *Administrator's Guide and Reference*.

Creating a Configuration

To create a new session, use the following procedure:

1. From the Start menu, click **Programs → HCL Z and I Emulator for Windows → Start or Configure Sessions**.
2. From the Session Manager dialog, click **New Session**.

   The Customize Communication window appears.
3. Select the type of host from the **Type of Host** drop-down list box.
4. Select the interface you will use from the **Interface** drop-down list box.
5. Select the attachment type you want to use from the **Attachment** drop-down list box.
6. Click **Session Parameters** to modify the session type (display or printer), host code page, and display/graphics options.

   The Session Parameters – 3270, 5250, or ASCII – Host window appears (depending on the host you selected in step 3 on page 29). Click **OK**.
7. Click **Link Parameters**.

   Enter the appropriate information for each page and click **Next** to continue. Click **Finish** when you are done.

Based on the attachment type that you have chosen, make your selections for the parameters in the window displayed. Click **Help** or press **F1** to display parameter details. Click **OK** when you are finished.

Note: If your host is configured to support Secure Sockets Layer (SSL) or Transport Security Layer (TLS), then click the **Security Setup** tab. Refer to *Administrator's Guide and Reference* for details on configuring session security.

8. Click the **Host Definition** tab to configure the **Connection Options**.
   - Select **Auto-reconnect** to reestablish an interrupted connection.
   - The **Connection Timeout** value tells Z and I Emulator for Windows how long it should wait for connection to the host.
   - The **Try connecting to last configured host infinitely** option is enabled by default. Clear this box if you do not want Z and I Emulator for Windows to automatically and indefinitely wait for acknowledgement for a connect request from the last correctly configured server/host.
   - Select **Telnet keep alive** to send Telnet Keep Alive commands to the host.
   - There are two keep alive mechanisms supported: NOP and TIMING-MARK. The Keep Alive Timeout value specifies the interval between the keep-alive requests in seconds. The range of values is 30 to 99999 seconds.
   - Select **Bypass signon using Kerberos principal** to enable Kerberos authentication. A ticket is generated and passed to the iSeries™, eServer™ i5, or System i5™ host during TN5250 negotiation. This option is only available for 5250 sessions.

     Note: You must log into a Windows domain in order to use Kerberos authentication. Refer to the relevant Microsoft documentation for specific details. Refer to *Administrator's Guide and Reference* for details about express logon functions.

   - Select **Bypass signon using Password substitute** to enable the user to bypass the iSeries login screen by sending a SHA1 password substitute.
9. To set up printer association, click the **Printer Association** tab and do the following:
   a. Select **Associated Printer Session**.
   b. Enter the .WS file for the printer that is to be associated with the specific terminal. You can also click **Browse** to locate the file.

   You can also set the following options:
   - Select the **Start Associated Printer Minimized** check box, if preferred. This option is unavailable until an associated printer is selected.
   - Select the **Automatically close Associated Printer Session with this session** check box, if preferred. This option is unavailable until an associated printer is selected.
   - Select **Associated device name** to associate the display session with any printer device that currently exists on an iSeries™, eServer™ i5, or System i5™ host. This option is only available for 5250 sessions.
10. After configuring the session options, click **OK** in the Telnet tab panel.
11. Click **OK** on the Customize Communication window. The session is displayed automatically.

Save the workstation profile as described in Saving a Workstation Profile on page 32.

Creating an FTP configuration

1. Open the FTP client from Start Menu by clicking **Start -> HCL Z and I Emulator for Windows -> Utilities -> FTP Client**.
2. Click **Communication -> Configuration** from the menu.
3. Choose the options in the **Connect** tab.
    - Enter the host name or IP address of the FTP server.
    - Set the required options from the **Connection** group box if the default values are to be changed.
4. Click the **Logon** tab.
    - Enter the user name and password.
    - Enter the Remote/Local Home Directory values so that once the connection is established, the client will list these directories you specified.
5. Click the **File Transfer** tab and select the appropriate choice for the Transfer mode from the drop-down list. Browse and select a Transfer List File if any.
6. Click the **SSL** tab to specify the security parameters for Secure FTP. SSL is optional and not enabled by default.
    - Check **Enable Security** to enable the SSL security.
    - Select the Security provider for the connection.
    - Enter the Channel Security parameters for the connection.
    - Select the Client Authentication method from the two options.
7. Click the **Runtime Preferences** tab.
    - Enter the action to be taken if target file exists during a file transfer.
    - Startup Commands enables you to provide a comma-separated list of FTP Command(s) to be executed after a successful connection.
    - Pass Through Host Certificate Validation allows the FTP client to finish a successful handshake bypassing the server certificate validation.
8. Click **OK** to close the configuration dialog.
9. Connect to the host by clicking **Communication->Connect** or the **Connect** button.

Environment variables in workstation profile

In the .WS profile, you can specify environment variables for the paths of the following Z and I Emulator for Windows files:

- Bar files (.bar)
- Popup keypad files (.pmp)
- Mouse customization files (.mmp)
- Keyboard map files (.kmp)

The syntax is as follows:

```
[Toolbar]
BarFile=C:\%USERDIR%\disp.bar
```

```
[Poppad]
DefaultPoppad=C:\%PROFILEDIR%\test.pmp
```

```
[Mouse]
DefaultMouse=%ZIEWinPROFILE%\vtpf.mmp
```

```
[Keyboard}
DefaultKeyboard=C:\%USERFOLDER%UserMap.kmp
```

In the above examples, USERDIR, PROFILEDIR, ZIEWinPROFILE, and USERFOLDER are environment variables that you specify. See the following example:

```
USERDIR = profile\toolbarfiles
```

Saving Configuration Information

This section describes how to save configuration information. The emulator workstation profile, and FTP Client configuration information is stored in a .WS, and .CFG file respectively.

Saving a Workstation Profile

If you save your emulator configuration information, the session will have the same characteristics the next time you start it. If you have an icon added to the Z and I Emulator for Windows folder, you can restart the session with the saved configuration information by clicking this icon from the Start menu. You are automatically given the opportunity to save your session information when you close a session. However, if you want to save the information at any time, use the following procedure:

1. Select **Save** from the File menu in the session window.

   The **Save WorkStation Profile As** window appears.
2. Type a file name (.WS) and then click **OK**. The name you enter will become the icon title unless you enter a description. Note that you can choose the directory where this file is saved, but the default directory is the application data directory specified during installation.
3. An icon associated with the profile will appear in the Session Manager.

Saving an FTP Client Configuration

You can save the FTP Client configuration in two ways:

- When exiting the FTP Client after you create or change a configuration in the FTP Client Session Configuration panel, you are prompted to select whether to save changes, exit, or continue to work in the application. If you select to save changes, type the file name and click **Save**. The default file type is .CFG and the default directory is the application data directory specified during installation.
- You can save configuration changes by selecting **File->Save or File->Save As**.

Changing Configuration Information

You can change all of the configuration parameters in the workstation profile.

Changing a Workstation Profile

To change a workstation profile, use the following procedure:

1. If your session window is not active, select the icon corresponding to the workstation profile to be changed.

   The session window appears.
2. Select **Configure** from the Communication menu.

   The subsequent steps are the same as for creating a new configuration, beginning with step 3 on page 29.
3. After you have made your changes, the following message appears:

   ```
   Because you have changed the configuration,
   communication will be terminated if you
   proceed. Are you sure?
   ```

   If you click **OK**, communication ends, but then you are reconnected using the new configuration information.

   To save the changes in your workstation profile, click **Save** from the File menu in the session window and then click **Yes** to replace the existing file. Otherwise, click **No** to save this information in a new configuration file.

Tip

Unless you have deselected **Save on Exit** in the Exit Options dialog by selecting **Exit** from the **Settings** menu, changes are saved in the workstation profile automatically whenever you exit a session.

Starting and Stopping Emulator Sessions

This chapter describes how to start and stop single and multiple emulator sessions.

If you saved your emulator configuration information, as described in Saving Configuration Information on page 32, it is stored in a workstation profile (*.WS), which should be displayed in the Session Manager.

Note: If you are a first-time user of Z and I Emulator for Windows, or there are no session icons in the Session Manager, see Configuring Sessions on page 29 to create a configuration.

Session Manager

Z and I Emulator for Windows uses the Session Manager dialog to provide easy access to workstation profiles and batch files. You can use the Session Manager to start a single or multiple sessions, and create a new session or batch file.

Note: The Session Manager dialog only displays workstation profiles and batch files that are located in the Application Data location that was specified during Z and I Emulator for Windows installation. See Application Data on page 26 for more information about application data.

You can drag an icon from the Session Manager to the Windows® Start menu or to the desktop. Select one or more sessions and drag with the right mouse button. A contextual menu appears when the icons are dropped, which gives you the options for moving, copying, or creating a shortcut. If you drag an icon with the left mouse button held down, the icon is moved to that location. If you drag an icon while pressing the Ctrl key and with the left mouse button held down, the icon is copied to that location. If you drag an icon while pressing the Alt key and with the left mouse button held down, a shortcut is created for the icon.

You should use the shortcut option whenever possible. Moving and copying will affect the location (and therefore the function) of the profile. Specifically, when you copy a profile to the desktop instead of creating a shortcut, you have actually created another profile. Any changes you make to the desktop profile will not be reflected in the original profile (and vice versa). Also, the desktop profile is located in the desktop folder (not in the application data folder) and will not appear in the Session Manager—the original version of the profile remains in the Session Manager.

Session Manager Options

Various Session Manager options are available from the pull-down menus and the right-click menu. For example, you can customize the look of the displayed Session Manager information and import sessions or batch files into the Z and I Emulator for Windows Application Data directory.

Session Manager Menu

The following options are available from the Session Manager menu.

File

Change Directory

The user run files that are stored in a directory other than the Z and I Emulator for Windows Application Data directory.

Import

This option allows the user to copy sessions or batch files to the Z and I Emulator for Windows Application Data directory. Afterwards, the imported files is displayed in the Session Manager dialog.

View

Sessions

This option shows all valid workstation profiles that have the standard .WS extension and are located in the Application Data directory.

Multiple Sessions

This option shows all valid batch files that are have the standard .BCH extension and are located in the Application Data directory.

All File Extensions

This option shows all valid multiple sessions and workstation profiles that are located in the Application Data directory, regardless of extension.

Hidden

This option shows files that have been previously hidden using the right-click menu option. If this option is selected, hidden sessions are shown with black-and-white icons; otherwise, they will not be displayed.

Large Icons

This option shows large session icons in the Session Manager.

Small Icons

This option shows small session icons in the Session Manager.

Details

The following session detail information is displayed in the panel columns. The columns can be resized as needed.

- File Name
- File extension
- Type (session or batch file)
- Description (shows the information specified in the `Description=` field in the .WS file)
- The following session information is not shown for batch files.
    - Host Name
    - Host Type (shows the host type specified in the Customize Communication dialog during session configuration)
    - Interface (shows the interface specified in the Customize Communication dialog during session configuration)
    - Attachment (shows the attachment specified in the Customize Communication dialog during session configuration)
    - Session Type (printer or display)
- Modified (indicates the last modification date/time of the file)

Refresh

If the user manually copy a session or batch file into the Application Data directory, the user must refresh the Session Manager view in order to see the new files.

Package

Upgrade

The users can Upgrade to the latest RefreshPack via Session Manager (Online/Offline).

Rollback

The users can do the Rollback of installed RefreshPack via Session Manager (Online/Offline).

Detect and Repair

Detect and Repair might be automatically initiated if the Z and I Emulator for Windows installation is corrupted. This function uses Windows Installer to repair damage to the installed product. The user may be prompted for the installation source or image. User must be authorized in the System Policy to use this option. See Detect and Repair for more information about this feature.

Right-Click Menu (Contextual)

The following options are available by right-clicking on one or more session.

Start

Starts the selected sessions

Delete

Deletes the selected sessions. You must have permission in the System Policy to delete any sessions from the Session Manager.

Hide/Unhide

You can hide or unhide sessions using this option. To view hidden sessions, you must select **View → Hidden**. Hidden sessions have black-and-white icons when displayed.

Modify

This option is only available when selecting one or more batch files—the batch files are brought up in edit mode. You must have permission in the System Policy to modify batch files from the Session Manager.

Session Manager Online

ZIEWin uses the ZIE service manager (referred to, as 'ZIE Server' going forward) to provide auto-upgrade capability and centralized management of configuration files.

The Session Manager Online notifies users if any new version of Z and I Emulator for Windows is available online for update on the configured Web Server.

After confirmation from the User, Z and I Emulator for Windows will be auto-upgraded to newer versions. Z and I Emulator for Windows uses the Session Manager Online dialog to provide easy access to connect to the ZIE Server

and work with workstation profiles and batch files online. Users can configure the ZIE Server and work with their User Profiles in the Online mode, but by default, are not allowed to create new user entries on the server, unless permitted to do so, by a system administrator. To enable users to be able to create user entries, a ZIEWeb (Z and I Emulator for Web) administrator must enable the "*Allow users to create accounts*" check box on the ZIE for Web Server, using the ZIEWeb (Z and I Emulator for Web) Administration Console. The new users that are created are added to the "ZIEWin" group on the ZIE Server.

The ZIE Server can either be configured by providing the required server details in the 'InstallShield Wizard' at the time of ZIEWin installation itself, or can be added/updated in the 'ZIE Server Detail' section of the Advanced tab within the Preferences. Users can migrate the Workstation profiles and batch files from Application Data location, upon login to the ZIE Server. If the User chooses to migrate, the Workstation profiles, batch files and their dependent files available on "Application Data" location get migrated

List of the supported files for online option are below:

- **.ws** (Workstation profile)
- **.bch -** (Multiple Sessions or Batch)
- **.pmp** (Popup-Keypad Configuration)
- **.kmp** (Keyboard Configuration)
- **.bar** (Toolbar Setup)
- **.mmp** (Mouse Setup)
- **.xlt** (Translation Table)
- **.cmp** (Color mapping configuration file)

Multiple instances of the Session Manager (offline) can be invoked at a time, but for Session Manager Online, only one instance can be invoked at a time. An instance of Session Manager Online and Session Manager (offline) can both be operated simultaneously.

First time configuration of the Online Session Manager :

When you select **Start or Configure Sessions - Online** for the first time from the Windows Start menu, the 'Z and I Emulator for Windows: Online' panel is displayed with the following tabs :

- **Create User :**
  The 'Create User' window containing the fields, *'User Name', 'Password'* and *'Confirm Password'* is displayed to a user who launches the 'Z and I Emulator for Windows: Online' for the first time, to create a new User entry on the Server. (The New User entry will be created only if the entered User name and Password matches the required criteria. For more information about the criteria for valid user credentials, see the 'Quick Beginnings' book by selecting it from the **Help** menu.) You can also click on 'Existing User' on the Create User page to use an existing ID on the server, instead of creating a new User entry.

  Note: After the successful creation of a user on the server and after migrating the user's profiles to the server successfully, the 'Create User' tab will not appear again and the user will be directly taken to the 'Login' page, upon launching the 'Z and I Emulator for Windows: Online' subsequently.

- **Login :**

After creating a user, Login window appears with username and password fields for user to login. If user wants to create a new user, user can go back to 'Create User' window by clicking on create-user link. User can also change the password by checking the box of *'Change Password'*, while logging in. Once the login is successful, user is directed to profile migration window.

- **Profile Migration :**

  After a successful Login using an existing User Profile stored on the ZIE server, or upon the first time creation of a new User profile and connecting to the ZIE server, the user is taken to the 'Profile Migration' tab which gives the option to migrate (or upload) existing local user profiles (offline profiles) from the particular user's client machine to the ZIE server. The profiles that are migrated will be listed on the ZIE server as a server copy and can be retrieved for use thereafter, even if the offline copy of the profile is deleted from the client machine.

Session Manager - Online LOGIN Screen :

The **Login** Screen is the default page that opens whenever the Online Session Manager is launched, if a User is already created on the server and the Profile migration is also completed successfully. A user can login to the Online session manager using any of the User Profiles that were created on the ZIE server. The user can also change the password by clicking on the check box for *'Change Password'* on the Login page. If the user name or password entered on the Login page are incorrect, the user gets prompted to either 'Re-try with different credentials' to Login again, or, to 'Run offline', i.e, to close the Online Session Manager and launch the Offline Session Manager instead. After successful logon, profiles will be retrieved from the ZIE server, and can be viewed in the sessions list.

Interoperability between ZIEWin and ZIEWeb clients:

ZIEWin v2.1introduced interoperability between ZIEWin and ZIEWeb (Host On-Demand) clients. This allows ZIEWin sessions to be accessed through ZIEWeb and ZIEweb - Web Client products after the session definitions were migrated (uploaded) to the ZIE server.

From v2.1 onwards, ZIEWin client communicates with the ZIE server over HTTP/HTTPS connectivity using JSON data.

For Managed ZIEWin users configured with ZIE server of version lower than v2.0, a migration utility has been provided along with ZIEWeb v2.0 server component, to migrate the ZIEWin session definitions stored on the ZIE server to the new format. The migration is a pre-requisite for those who plan to migrate their ZIEWeb server to v2.0 and ZIEWin client to v2.0 or higher.

Password provided during the user creation will be encrypted using AES 128-bit algorithm and sent to the server through the HTTP/HTTPS protocol as a JSON object. UID is added to the WS and BCH profile files for the unique identification. Only connection parameters are considered for the interoperability between ZIEWin and ZIEWeb clients and vice-versa.

After the ZIEWin sessions are converted and stored in the ZIE server, any changes made to the common parameters from any of the clients will be saved on the ZIE server. These parameter changes will be available to ZIEWinusers after the next login.

For more information on ZIEWeb - ZIEWin interoperability and common parameters, refer to Interoperability between HCL Z and I Emulator for Windows and HCL Z and I Emulator for Web Clients on page 13

Session Manager Online Options :

- **Start**

  Select one or more sessions or batch files in the Online mode, and click this button to start.
- **New Session**

  Click this button to bring up the **Customize Communication** panel in the Online mode.
- **New Multiple Sessions**

  Click this button to bring up the **Create/Modify Batch File** pane in the Online mode. You must be authorized in the System Policy to use this option.
- **Logout**

  Click on this button to Logout from the Online Session Manager. It will prompt for a confirmation. When User confirms the logout, all the active online sessions will be ended automatically without any more confirmation for exit or Save. Session Manager Online's login screen will be displayed.

File menu options

- **Upload**

  This option allows user to select and upload sessions or batch files to the ZIE server. Upload of user profile file will also upload the dependent configuration files (like a .kmp file when associated with a .ws file etc) available in the same directory.
- **Download**

  This option allows users to Download the profile files or batch files from the ZIE Server to the selected directory. Download of user profile file will also download the dependent configuration files (like a .kmp file when associated with a .ws file etc).
- **Exit**

  Clicking on Exit, will prompt for the confirmation, if user confirms the exit, the active online sessions will ended and the application is closed.

View menu options

- **Sessions**

  This option shows all valid workstation profiles that have the standard .WS extension and are available in the ZIE Server.
- **Multiple Sessions**

  This option shows all valid batch files that have the standard .BCH extension and are available in the ZIE Server.
- **Large Icons**

  This option shows large session icons in the Session Manager.
- **Small Icons**

  This option shows small session icons in the Session Manager.
- **Details**

The following session detail information is displayed in the panel columns. The columns can be resized as needed.

- **File Name**
- **File Extension**
- **Type**

  Session or Batch file
- **Description**

  Shows the information specified in the **Description=** field in the .WS file
- **Host Name** (not shown for batch files)

  Shows the host name for a Telnet session. If the session is not Telnet, other relevant information is shown (for example, the .ACG file name for SNA).
- **Host Type** (not shown for batch files)

  Shows the host type specified in the Customize Communication dialog during session configuration
- **Interface** (not shown for batch files)

  Shows the interface specified in the Customize Communication dialog during session configuration
- **Attachment** (not shown for batch files)

  Shows the attachment specified in the Customize Communication dialog during session configuration
- **Session Type** (not shown for batch files)

  Printer or Display

- **All File Extensions**

  This option shows all valid multiple sessions and workstation profiles that are available in the ZIE Server, regardless of extension.
- **Hidden**

  This option shows files that have been previously hidden using the right-click menu option. If this option is selected, hidden sessions are shown with black-and-white icons; otherwise, they will not be displayed.
- **Refresh**

  This option refreshes the Session Manager view.

Detect and Repair

Detect and Repair might be automatically initiated if the Z and I Emulator for Windows installation has been corrupted. This function uses Windows Installer to repair damage to the installed product; you may be prompted for the installation source or image.

You must be authorized in the System Policy to use this option. See Detect and Repair on page 87 for more information about this feature.

Right-click menu options (contextual)

- **Start**

  Starts the selected sessions

- **Delete**

  Deletes the selected sessions. You must have permission in the System Policy to delete any sessions from the Session Manager.
- **Hide/Unhide**

  You can hide or unhide sessions using this option. To view hidden sessions, you must select **View > Hidden**. Hidden sessions have black-and-white icons when displayed.
- **Modify**

  This option is only available when selecting one or more batch files; the batch files are brought up in edit mode. You must have permission in the System Policy to modify batch files from the Session Manager.

Icon drag-and-drop options

You can drag an icon from the Session Manager to the Windows Start menu or to the desktop. Select the session(s) and drag with the right mouse button. A contextual menu appears when the icons are dropped, which gives you the options for moving, copying, or creating a shortcut.

If you drag an icon with the left mouse button held down, the icon is moved to that location. If you drag an icon while pressing the CTRL key and with the left mouse button held down, the icon is copied to that location. If you drag an icon while pressing the ALT key and with the left mouse button held down, a shortcut is created for the icon.

You should use the shortcut option whenever possible. Moving and copying will affect the location (and therefore the function) of the profile. Specifically, when you copy a profile to the desktop instead of creating a shortcut, you have actually created another profile. Any changes you make to the desktop profile will not be reflected in the original profile (and vice versa). Also, the desktop profile is located in the desktop folder (not in the application data folder) and will not appear in the Session Manager (the original version of the profile remains in the Session Manager).

Installer Enhancements

ZIEWin Installer panel

As part of Managed HCL Z and I Emulator for Windows (MZIEWin) feature, a panel is available in HCL Z and I Emulator for Windows Installer, where a user provide the ZIE Server configuration details in the installation panel.

Here are the configuration parameters,

1. **Web Server Details :** The URL of the Web Server from where HCL Z and I Emulator for Windows fix pack file is downloaded for installation. Installer or fix pack is installed on the system by "Start or Configure Sessions - Online" program.
2. **Config Server :** URL of the Application Server/Embedded Server, on which interoperability module (.war file) is deployed. It can be deployed on the Embedded Server or on any configured Application Server.

   Example: http://< IP >/<Configured context root of the application>

3. **Config Server Port :** Port number of Application Server where interoperability module (.war file) is deployed.

   Example: 9080.

The ZIE server configuration is optional only, user can click **Next** to skip the configuration, and can configure this through "Preferences" utility post installation. *For more details regarding the Preferences, see* Preferences on page 102.

Auto-Update of HCL Z and I Emulator for Windows (ZIEWin):

ZIEWin supports automatic upgrade. ZIE administrators manage the upgradation of ZIEWin clients by placing the upgrade configuration file in the Web Server, which has the information of recommended fix-packs or refresh packs that are available on the Web Server. The Web Sever URL can be provided during installation or can be configured via the "Preferences" utility.

When a User invokes the "Start or Configure Sessions - Online", the application checks if the installed version of ZIEWin is lower than the recommended version. If the ZIEWin installed on the system is of a lower version, the User gets a notification of the latest available ZIEWin version. The User can either choose to upgrade or decline the upgrade option.

Note: The upgrade configuration file is unique for every refresh pack installer and is shipped along with the Fixpack package.

For details regarding the Managed ZIEWin Configuration parameters and changes in Preferences, see ZIE Server Details on page 106.

Starting Sessions

You can use the following methods to start sessions:

- Select a previously configured session icon from the Session Manager.
- Start from an existing session window.
- Specify a workstation profile name in the Run window.
- Enter the PCOMSTRT command in the Run window or MS-DOS prompt.
- Select an icon that has been previously dragged from the Session Manager.
- Start multiple sessions with a batch file.

Note: Connection status messages are displayed on a status bar at the bottom of your session window during connection to the host.

Starting from the Start or Configure Sessions Icon

Select **Programs → HCL Z and I Emulator for Windows → Start or Configure Sessions** from the Start menu. Select the desired session from the Session Manager dialog and click the **Start** button.

Starting from an Existing Session Window

Use the following methods to start from an existing session window:

Starting Another Session Using the Same Profile

Select **Run the Same** from the **File** menu. Another session starts, using the same profile.

Starting Another Session Using a Different Profile

1. Select **Run Other** from the File menu.

   The Open Other Workstation Profile window appears.
2. Double-click the desired workstation profile in the **File Name** list.
3. Select **OK**.

   Another session starts, using the profile specified in step 2 on page 43.

Starting a Different Type of Session from a Session Window

1. Select **Open** from the File menu.
2. Specify the desired workstation profile and then select **OK**.

   The current session ends and then another session starts, using the selected profile.

Starting Using a Command

To start a session, use the following procedure:

1. Start a DOS command prompt.
2. Enter the command

   ```
   PCOMSTRT /P=x:\AppData\my.WS
   ```

   where `my.WS` is the workstation profile stored in the Application Data directory specified during installation. This is the only required parameter.

   Note: If multiple `/p` parameters are given, PCOMSTRT only uses the last one to start a profile (.WS file).

   For a complete description of parameters, refer to *Administrator's Guide and Reference*.

Another method for invoking Z and I Emulator for Windows using a command is with the command for the PCSWS.EXE module (see Command line options for PCSWS.EXE on page 44).

Starting Multiple Sessions

If you installed the Multiple Sessions utility, you can use the batch program PCSWS.EXE, which runs batch files (*.BCH), to start two or more workstation profiles at the same time. Z and I Emulator for Windows batch files can also

start other programs when you include their startup commands. This is especially useful if you always want to start an application when you start a session. For example, you might want to start an application, such as ZipPrint, that uses a Z and I Emulator for Windows API.

Note: You must have permission in the System Policy in order to create a new batch file.

If you created an icon for your batch file, double-click the icon in the Session Manager or select the icon and click the **Start** button.

Command line options for PCSWS.EXE

You can use the following options when creating or modifying a batch file.

- To specify which view should be used during a session, add the command `/V=myview`, where `myview` is the name of the previously saved view:

  ```
  C:\ZIEWin\PCSWS.EXE  C:\AppData\LAN1.WS /V=myview
  ```

  If the specified view does not exist, the command is ignored. See Managing Emulator Sessions on page 86 for information on how to save a view.
- To suppress the HCL logo when you start one or more sessions, add the parameter `/Q` to the first command in the batch file:

  ```
  C:\ZIEWin\PCSWS.EXE C:\AppData\TCPIP1.WS /Q
  ```

  where `C:\ZIEWin\` is the directory where you have Z and I Emulator for Windows installed, and *C:\AppData* is the Application Data directory.
- To start a session as an icon, not as a window, add the parameter `/I` to the command in the batch file:

  ```
  C:\ZIEWin\PCSWS.EXE C:\AppData\LAN1.WS /I
  ```

  where `C:\ZIEWin\` is the directory where you have Z and I Emulator for Windows installed, and *C:\AppData* is the Application Data directory.
- To start a *hidden* session, not as an icon or a window, add the parameter `/H` to the command in the batch file:

  ```
  C:\ZIEWin\PCSWS.EXE C:\AppData\LAN1.WS /H
  ```

  where `C:\ZIEWin\` is the directory where you have Z and I Emulator for Windows installed, and *C:\AppData* is the Application Data directory.
- To start a session with a specific short session ID (session letter), insert the parameter `/S=m` after PCSWS.EXE in the batch file:

  ```
  C:\ZIEWin\PCSWS.EXE  /S=m C:\AppData\LAN1.WS
  ```

  where `C:\ZIEWin\` is the directory where you have Z and I Emulator for Windows installed, `m` is the short session ID, and `C:\AppData\` is the Application Data directory.
- To start a macro after the session start, add the parameter `/M` to the command in the batch file:

  ```
  C:\ZIEWin\PCSWS.EXE C:\AppData\LAN1.WS /M=mymacro
  ```

where `C:\ZIEWin\` is the directory where you have Z and I Emulator for Windows installed, `C:\AppData\` is the Application Data directory,

```
LAN1.WS
```

is the profile, and

```
mymacro
```

is the Z and I Emulator for Windows macro/script file name.

If the specified macro/script does not exist, there will be a pop up with "PCSKBD400- The file: <macro name> is not a Z and I Emulator for Windows macro/script-file."

Note:

1. If you use the /S option to assign A as the short session ID, you should use this option for all of the sessions in the batch file. Otherwise, if another session starts first, it becomes the A Session and the session with the `/S=a` option will not start because of the conflicting short session IDs. Another way to prevent conflicts is to assign a character later in the alphabet for the short session ID.
2. Several parameters can be specified for controlling the particular characteristics for starting sessions; the switch values are designated by a single character.

Creating a Batch File

To create a batch file, use the following procedure:

1. From the Session Manager dialog, click **New Multiple Sessions**. You can also start a new batch file from the Windows® **Start** menu, using the **HCL Z and I Emulator for Windows → Utilities → Multiple Sessions** program.

   The Create/Modify Batch File panel appears.
2. There are several methods for including profiles or programs in a batch file:
   - Double-click the file names in the **File Name** list box.
   - Drag and drop the file names (using the right mouse button) from the **File Name** box to **Batch-File Entries**.
   - Select a file name from the **File Name** list box and then select **Add**.
   - Type the complete path and command file name in the batch files entries area.
   - You can also use the **Capture View** button to capture multiple session windows into a view.

   Z and I Emulator for Windows places the full path and command that is needed to run the workstation profile or other program above the cursor line in the edit area. If there is no cursor, the command is added to the last line.

   To see the contents of the profile you added to the batch file, click it in the **File Name** list box and then click **View File** or the magnifying glass.

Note: Some brief instructions appear at the top of **Batch-File Entries**; you need not remove them, because they do not affect the running of the batch file.

3. Repeat step 2 on page 45 for each subsequent file to be added.
4. When you complete the edit, save the created batch file by selecting **Save** from the **File** menu.

   The Save Batch File As window appears.
5. Enter a name for the batch file (***.BCH**).

   The name you enter is used as the icon title, unless you enter a description as well.

The following example is a batch file that runs four workstation profiles located in the Application Data directory, and then runs **MYAPP.EXE**.

```
C:\dir\PCSWS.EXE C:\AppData\SLAN1.WS
C:\dir\PCSWS.EXE C:\AppData\SLAN2.WS
C:\dir\PCSWS.EXE C:\AppData\AS4Y1.WS
C:\dir\PCSWS.EXE C:\AppData\VT220.WS
C:\APPL\MYAPP.EXE
```

where *C:\AppData* is the Application Data directory specified during installation and *dir* is the installation directory.

Saving Multiple Session Views

You can use the Create/Modify Batch File panel to capture up to multiple session views. Simply size and position up to Maximum session windows, which is configured in the Preferences and click the **Capture View** button. Name the view and click **Save View** in the View Setup panel. You can save up to eight views. You may also delete previously saved views from the drop-down list in the View Setup panel.

If a view is already being used when you click Capture View, that view is automatically used and you are not prompted to save a new view.

Starting a Batch File

You can use one of the following methods to run a batch file:

- If you created an icon for your batch file, double-click the icon in the Session Manager or select the icon and click the **Start** button.
- Run the batch file from the Run command line:

  ```
  [drive]:\[path]\PCSBAT.EXE  [drive]:\[path]\xxxx.BCH /R
  ```

  Note: To run a batch file, specify the /R option.

- Start the **Multiple Sessions** Utility.
  1. Select **Open** from the **File** menu in the Create/Modify Batch File window.
  2. Select the desired batch file and then select **OK**.

     The contents of the batch file appears in the edit area.
  3. Select **Run** from the Run menu.

Editing an Existing Batch File

To edit an existing batch file, do one of the following:

- Right-click on the icon in the Session Manager and choose **Modify**.
  You can also use the following procedure:
  1. Start the **Multiple Sessions** Utility from the Start menu. The Create/Modify Batch File window appears.
  2. Select **Open** from the File menu. The Open Batch File window appears.
  3. Select the batch file you want to edit and then select **OK**. The contents of the batch file you selected appear in the edit area of the Create/Modify Batch File window.
- Edit the batch file. See step 2 on page 45 for more details.
- When you complete the edit, save your changes by selecting **Save** or **Save As** from the **File** menu.
  - Select **Save** to save your changes in the existing file.
  - Select **Save As** to save your changes in a new file and then continue with step 5 on page 46.
- Exit the Create/Modify window.

Starting Multiple Sessions without a Batch File

To start multiple sessions without a batch file, use the following procedure:

1. Start the Session Manager.
2. Select the icons for the sessions, then click the **Start** button. You can select icons using a drag selection box or holding down the Ctrl key while selecting icons with the mouse.
3. After it connects to the host, select one of the following choices from the **File** menu:
   - **Run the Same** to start another session with the same configuration.
   - **Run Other** to start a session with a different configuration.

     When the Open Other Workstation window appears, select the profile you want to start and then click **OK**.

Automatically Starting Sessions

To start one or more sessions automatically, use the following procedure:

1. From the **Start** menu, select **Settings → Taskbar**.
2. Click the **Start Menu Programs** tab and then click **Add**.
3. Click **Browse** and then open the Application Data directory specified during installation.
4. Change the file type to `All Files`.
5. Double-click the session icon or the batch icon.
6. Click **Next** and then double-click the Startup folder.

7. Accept the icon name or type a new one.
8. Click **Finish** and then **OK** when you are done.

You can also drag an icon from the Session Manager to the Startup folder as a shortcut.

Stopping Sessions

To stop a session, click the **X** in the upper right corner or double-click the upper left corner of the session window, or select **Exit** from the **File** menu.

To stop multiple sessions at the same time, select **Exit All** from the File menu. All emulator sessions end, and the associated session windows are closed.

Sessions can also be stopped using a command:

1. Select **Run** or **Programs → MS-DOS® Prompt** from the Start menu.
2. Enter one of the following commands:

```
PCOMSTOP /S=x
PCOMSTOP /ALL
```

where `x` is the session letter of the particular session to be stopped; use `ALL` to stop all active sessions. There are other parameters; for a complete description, refer to *Emulator User's Reference*.

Note: Stopping a Telnet session automatically closes an associated printer session, if that option was selected when configuring the session. See Printer Session Association on page 51 for information on how to automatically close an associated printer session.

Option to suppress confirmation message for pcomstop

When invoking pcomstop.exe from the command line, the NCE option can be used to suppress the exit confirmation message, which is shown when one or all sessions.

Example:

```
PCOMSTOP /S=<session>|/ALL [/Q] [/C] [/NCE] [/?]
```

One of the following parameters must be specified:

- /S stops the session, while <*session*> is the letter of the session to be stopped
- /ALL stops all sessions

The following parameters are optional:

- /Q specifies quiet mode
- /C converts the output to Windows code page

- /NCE (No Confirm on Exit) stops one or all sessions (as defined by /S or /ALL) without confirmation, even if the Confirm on Exit or Exit All options are set.
- /? displays help information

Stopping an emulator session without access to the tool bar

This method can help you to stop a session when security restrictions do not allow tool bar access.

To stop an emulator session without access to the tool bar, you can use the mouse or a keyboard shortcut to launch pcomstop.exe. Use the following procedure to set up the pcomstop.exe shortcut:

1. Create a shortcut for pcomstop.exe on the desktop or wherever you need.
2. Right-click the shortcut to view the **Properties** window.
3. Click the **Shortcut** tab.
4. The executable name and path are in the **Target** input box. Append any required parameters to this path and click **OK**. These parameters will be used when the pcomstop.exe file is launched. For example, if you want to stop session A, modify the appended path:

   ```
   "E:\Program Files\HCL\Z and I Emulator for Windows\pcomstop.exe" /s=a
   ```

   Note: The /S or /ALL option is required to run pcomstop.exe. The /ALL option stops all sessions, while the /S=x option stops a particular session (where x is the session letter).

5. In the **Shortcut Key** input box, type the key that you want to use as a shortcut (for example, X), and click **OK**.

You can then launch pcomstop.exe by the following methods:

- Mouse
- Double-click the modified shortcut
- Keyboard

Windows® always adds the Ctrl+Alt sequence to the shortcut key. For example, Ctrl+Alt+X becomes the shortcut for invoking pcomstop.exe and closes the emulator session.

Using Emulator Sessions

This chapter describes how to use the printing, editing, and data transfer functions in an emulator session. It also describes some of the choices in the emulator session **Actions**, **Window**, and **Settings → Appearance** menus.

Accessibility

Z and I Emulator for Windows provides functionality with assistive technology such as screen readers. Following are some of the accessibility-related enhancements.

Sounds

Z and I Emulator for Windows supports the **ShowSounds** and **SoundsSentry** options available in the Windows® **Control Panel → Accessibility Options → Sound** dialog. The **ShowSounds** option displays a string representing the event that generated a sound in the status bar.

To mute all of the sounds generated by Z and I Emulator for Windows, select the **Mute** option in the **Settings → Appearance → Display Setup → Sound** panel.

Screen Reader Assist

Users can configure a toggle key to enable Z and I Emulator for Windows to replace blank and null characters in the input field with another character. This option enables screen readers to report the length of the field to visually impaired users. Data sent to and from the host is not changed—only the screen display and the screen reader's voicing of the display are affected. By default, this function is not enabled.

For 3270 and VT emulators, the default padding character is a blank. For 5250, the default replacement character is an underscore. You can choose another character if you prefer.

During the emulation session, you can turn the screen reader assist on or off, as needed. To map the screen reader toggle to a key, click **Settings → Keyboard**. Click **Customize** to access the keyboard setup dialog. Refer to the online help for a complete list of available keyboard functions.

Expanded OIA

For an accessible version of the Operator Information Area (bottom line of the session), you can display the expanded OIA window. Click **View → Expanded OIA** from the session menu bar. You can also select **Show Expanded OIA** from the session's system menu. You can change the number of lines displayed in the expanded OIA in the **Settings → Appearance → Window Setup** dialog.

To set focus to the expanded OIA so that a screen reader can read the values, you need to map a key to the function **OIA: Toggle focus to/from Expanded OIA**. This key enables you to toggle focus back and forth between the session window and the expanded OIA window. When you set focus to the expanded OIA window with a key, the focus in the expanded OIA is always set to the first line. When you return to the session window, the cursor should be where it was before you went into the expanded OIA window. Refer to the online help in the **Settings → Keyboard → Customize** dialog, for more information about custom key mapping.

Popup Keypad

Even though most users use the popup keypad with a mouse, it is possible to customize and use the poppads with the keyboard alone. To display (execute) a poppad without a mouse, you must map a few keys in the **Settings → Keyboard → Customize** dialog.

The **Display Poppad** function shows the last poppad and puts keyboard focus on it. The functions **Display Poppad Pad 1**, **Display Poppad Pad 2**, **Display Poppad Pad 3**, and **Display Poppad Pad 4** display a specific poppad and put keyboard focus on that pad. You can execute the button with current focus by pressing the space bar or the Enter key.

If you are using a sticky poppad, the poppad window remains open until you close it. A regular poppad exits when you push one of the buttons. To get focus to a sticky pad without a mouse, you must map the **Set Focus to Poppad** function to a key—this sets focus to the sticky poppad from the session window. Because you must use the Ctrl-Tab key combination to get focus from the sticky poppad back to the session, mapping the **Set Focus to Poppad** function to the Ctrl-Tab key combination is not advisable.

Quick Connect

You can connect a Telnet (3270/5250/ASCII) session quickly using the Quick Connect bar by configuring only Host, Port and LU Name (3270)/Workstation Id (5250). The LU Name and Workstation ID are optional.

The Quick Connect bar is enabled only for Telnet sessions (both display and Printer). For non-Telnet Sessions, the Quick Connect bar does not appear.

While using the Quick Connect bar, the other session parameters are taken from the active session, if any. If no session is active, then all session parameters will be of default.

You can activate or deactivate the Quick Connect bar by clicking **View -> Quick Connect Bar** in the session window menu.

Power Management

Z and I Emulator for Windows complies with Microsoft Windows Power Management requirements for handling sleep events (stand by and hibernate). This support minimizes session interruptions due to network disconnections caused by sleep on Windows 7 and later versions.

Refer to the *Administrator's Guide and Reference* for more information about Power Management.

Connected State

When Z and I Emulator for Windows is in the connected state and Windows 7 or later operating system indicates that the user is available for interaction, Z and I Emulator for Windows prompts the user to grant permission to sleep.

You can specify a setting in the Preferences Manager that allows the system to standby or hibernate without prompting. In default mode (unchecked), if there is at least one connected session, you will be prompted to allow the system to standby or hibernate. If there are no connected sessions, Z and I Emulator for Windows allows the system to standby or hibernate without prompting. See Standby/Hibernate on page 108.

Non-Connected State

When Z and I Emulator for Windows is not in the connected state, Windows 7 and later operating systems might automatically sleep, without prompting the user for permission.

Critical Sleep

When Windows 7 and later operating system's resumes after an emergency suspension, Z and I Emulator for Windows might display and log a warning message.

Printer Session Association

When you configure a 3270 or 5250 display session, Z and I Emulator for Windows lets you specify an associated printer session.

Advantages of this association are as follows:

- If sessions are associated, the person who configures the client workstation does not have to know any details about the printer session.
- When you start the display session, the associated printer session is started automatically.

When configuring a session, if you want the server to associate a printer with the session, do the following:

1. Click the **Printer Association** tab.
2. Select **Associated Printer Session**.
3. Enter the .WS file for the printer that is to be associated with the session. You can also click **Browse** to locate the file.

You can also set the following options:

- Select the **Start Associated Printer Minimized** check box, if preferred. This option is unavailable until an associated printer is selected.
- Select the **Automatically close Associated Printer Session with this session** check box, if preferred. This option is unavailable until an associated printer is selected.
- Select **Associated device name** to associate the display session with any printer device that currently exists on an iSeries™, eServer™ i5, or System i5™ host. This option is only available for 5250 sessions.

Note:

1. Stopping a Telnet session automatically closes an associated printer session, if that option was selected when configuring the session.
2. If a 5250 printer session is associated with multiple 5250 display sessions, then the printer session ends only when the last associated display session ends.
3. For a 5250 session, if the host name in the selected printer session profile differs from the values in the display session profile, then the display session profile host name is used instead. The display session values are not saved to the printer session profile.

Print Session Setup (3270 and 5250)

The Print Session Setup dialog enables you to customize the display options for a 3270 or 5250 printer session. This dialog can be accessed by clicking **Settings → Appearance → Print Session Setup**. You can also add the Print Session Setup dialog to the session tool bar.

The following customization options are available.

Show Text Information

You can specify the title and other information to be shown in the printer session display window. If this option is not selected, no text information about the session is displayed.

Configuration Details

The following items can be included in the text information.

Connection Details

The following display options are based on the session status and the settings of the **Session Parameters → Advanced** and **Customize Communications** dialog.

Connection Status	If this item is selected, **Connected** is displayed if the session is in connected state. **Disconnected** is displayed if the session is not connected.
Host Name	Host name or the IP address for the connection.
Host Type	Host system type to which the session is connected.
Interface	Interface type selected in the **Customize Communication** dialog.
Attachment	Physical and logical connection selected for the session.
WS Profile	If the session is started from a saved workstation (.WS) profile, the name of the profile is displayed. The field is blank if it is a newly configured session.
Host Codepage	Code page selected in the host Session Parameters configuration panel.

Host Device Details

The following display options are based on the selected device and the settings of the **Session Parameters – 5250 Host > Advanced** dialog. These options are available for 5250 sessions only.

Device Status	If this item is selected, **Started** is displayed if the device is in ready state. **Stopped** is displayed if the device is not in Ready state.
Workstation ID	Device name for the session.
Message Queue/Library	**Message Queue** and **Message Library** specified in the **Session Parameters → Advanced** dialog
Host Font	Host font selected in the **Session Parameters → Advanced** dialog
HPT	If this item is selected, **TRUE** is displayed if **Host Print Transform** is enabled. **FALSE** is displayed if HPT is not enabled.
HPT Printer Model	If this item is selected, the **Printer Model** is displayed. If HPT is not enabled, **Not configured** is displayed.
HPT Drawer 1	If this item is selected, the HPT **Drawer 1** paper size is displayed. If HPT is not enabled, **Not configured** is displayed.

HPT Drawer 2	If this item is selected, the HPT **Drawer 2** paper size is displayed. If HPT is not enabled, **Not configured** is displayed.
Envelope Hopper	If this item is selected, the **Envelope Hopper** is displayed. If HPT is not enabled, **Not configured** is displayed.
Customization Object/Library	If this item is selected, the **Customizing Object** and **Customizing Library** are displayed. If HPT is not enabled, **Not configured** is displayed.
ASCII code page 899	If this item is selected, **TRUE** or **FALSE** is displayed, depending on whether **ASCII Code Page 899** is enabled. If HPT is not enabled, **Not configured** is displayed.

- **Page Setup Details**

  The following display options are based on the workstation profile and the **Page Setup** dialog. For 3270 sessions, the listed options are on the **Text** and **Text Options** tabs. For 5250 sessions, the listed options are on the **Orientation** and **Advanced Options** tabs.

CPI/LPI (3270 sessions only)	Number of characters printed per inch and number of lines per inch.
MPL/MPP (3270 sessions only)	Maximum print line and maximum print position.
Font Name (3270 sessions only)	Device font of the printer device driver.
Margin – Left/Top	Left and top margin values.
Drawer1	Drawer 1 orientation.
Drawer2	Drawer 2 orientation.
Bestfit Scaling	If this item is selected, **TRUE** is displayed if Bestfit is enabled in the .WS profile. If Bestfit is not enabled, **FALSE** is displayed.
Suppress Null Lines (3270 sessions only)	If this item is selected, **TRUE** is displayed if **Suppress Null Lines** is enabled. If **Suppress Null Lines** is not enabled, **FALSE** is displayed.
Nulls as Spaces (3270 sessions only)	If this item is selected, **TRUE** is displayed if **Nulls as Spaces** is enabled. If **Nulls as Spaces** is not enabled, **FALSE** is displayed.
Ignore FF at First PP	If this item is selected, **TRUE** is displayed if **Ignore FF at First PP** is enabled. If **Ignore FF at First PP** is not enabled, **FALSE** is displayed.

(3270 sessions only)	
FF Takes PP if followed by Data (3270 sessions only)	If this item is selected, **TRUE** is displayed if **FF Takes PP if followed by Data** is enabled. If **FF Takes PP if followed by Data** is not enabled, **FALSE** is displayed.
CR at Max PP + 1 (3270 sessions only)	If this item is selected, **TRUE** is displayed if **CR at Max PP + 1** is enabled. If **CR at Max PP + 1** is not enabled, **FALSE** is displayed.
NL at Max PP + 1 (3270 sessions only)	If this item is selected, **TRUE** is displayed if **NL at Max PP + 1** is enabled. If **NL at Max PP + 1** is not enabled, **FALSE** is displayed.
FF - Any Position / Column 1 (3270 sessions only)	If this item is selected, **TRUE** is displayed if **FF - Any Position / Column 1** is enabled. If **FF - Any Position / Column 1** is not enabled, **FALSE** is displayed.
Ignore color while printing (3270 & VT sessions only)	Select this option to ignore the colors in PS and print in black & white.
Replace FF by LF (3270 and 5250 sessions only)	Select this option to replace a form feed by the number of lines entered in the edit box.
Automatic Orientation	If this item is selected, **TRUE** is displayed if automatic page orientation is enabled. If automatic page orientation is not enabled, **FALSE** is displayed.
Printer Font Codepage	The printer font code page used for printing on the workstation.
No CR between Fields	If this item is selected, **TRUE** is displayed if **No CR between Fields** is enabled. If **No CR between Fields** is not enabled, **FALSE** is displayed.
Bold as Normal	If this item is selected, **TRUE** is displayed if **Bold as Normal** is enabled. If **Bold as Normal** is not enabled, **FALSE** is displayed.
Use Raster Fonts	If this item is selected, **TRUE** is displayed if **Use Raster Fonts** is enabled. If **Use Raster Fonts** is not enabled, **FALSE** is displayed.

Show Wallpaper

You can specify a bitmap file as a background in the session window. You can use the default graphic or another monochrome, 16-color, 256-color, or 24-bit file.

Print Status Dialog → Show Dialog

You can have a printer status dialog displayed along with the session window. This option is available only for 5250 sessions.

Print Status Dialog → Contain in Session Window

You can display a printer status dialog that is tied to the session window. When the session window is moved or minimized, the printer status dialog is moved with it. This option is available only for 5250 sessions.

Printing

You can use Z and I Emulator for Windows to print from display or printer sessions:

- From display sessions, you can print all (**Print Screen**) or part (**Trim Print**) of the screen of your session window on a workstation printer.

  To print only part of the session window, drag the mouse to create a trimming rectangle around the part of the window you want to print and then select **Print Screen** from the **File** menu.
- With printer sessions, you can print files directly from a host system to a workstation printer. Refer to the online help for more information.

  Configure a printer session to designate a workstation printer as a system printer that will use either the printer definition tables (PDTs) provided with Z and I Emulator for Windows or the Windows® printer drivers. Refer to the online help for more information.

To print, the following methods apply:

- You can use Windows® printer drivers that you configure through the session **File → Printer Setup** menu.
- You can use printer definition tables (PDTs), which give greater control over the print data stream.
- For 5250 only: You can use Host Print Transform, where the host formats and builds the printer commands.

For more information about printing, refer to *Emulator User's Reference*.

Print Screen Collection functions

Using the **Collect Screen** function, you can add a capture of all or part of the screen to a collection of captures.

To add the current screen (or part of the screen) to the collection, click **File → Print Screen Collection → Collect Screen**.

To print and purge all the collected screens, click **File → Print Screen Collection → Print and Purge Collection**.

To print and keep all the collected screens, click **File → Print Screen Collection → Print and Keep Collection**.

To preview the collected screen and select collected screens to be printed or purge, click **File → Print Screen Collection → Prpcess Collection**.

All the collected screens can be deleted without printing by clicking **File → Print Screen Collection → Purge Collection**. An individual screen or part of the collection cannot be deleted.

The **File → Print Screen Collection → Print Collection on Exit** option ensures that the collected screens are printed before you close or disconnect the session. This option is enabled by default. To end the session without printing the collected screen, clear the Print Collection on Exit option. All the collected screens are then deleted when you close or disconnect the session.

Note: The Collect Screen feature works independently of the normal **Print Screen** function. You can still use Print Screen to print individual screens, while collecting multiple screens.

You can add the **Collect Screen** and **Print Collection** functions to the toolbar, a popup keypad, or a custom keyboard map. The settings in the Page Setup dialog are used (shared with the normal Print Screen function).

In PDT mode, there is an option available for printing more than one screen in a page. Refer to *Administrator's Guide and Reference* for more information.

Collecting Print Jobs (5250 Printer Session)

You can collect 5250 print jobs and print them as a single job or in a group. The collected print jobs are stored in a .SCS file.

You can set the following .WS profile keywords to specify the path and file name for the .SCS file.

```
[Printers]
SCSFile=<filename>.scs
SCSPath=<local path>
```

The functions associated with this feature are listed below. The functions can be mapped to the keyboard, popup keypad, mouse button, or toolbar button.

- **Collect Mode**

  When Collect Mode has been started, print jobs that have been sent are saved in the .SCS file. They are not printed immediately.
- **Print Collection**

  The print jobs that have been saved are sent to the printer as a single job.
- **Purge Collection**

  The collected print jobs are deleted.

Refer to the online help for details about mapping the functions.
The CombineJobs profile keyword enables you to collect the jobs for printing, while maintaining them as individual jobs (instead of one job in the .SCS file). Specify the .WS keyword as follows:

```
[Printers]
CombineJobs=N
```

If you set CombineJobs to **N**, the Print Collection function sends the separate, collected jobs to the printer. While in Collect Mode, if the keyword is set to **Y** or is not specified, the print jobs are combined as a single job in the .SCS file.

Using the Windows Printer Driver

To set up your printer to use a Windows® printer driver:

1. Click **File → Printer Setup** in the session window.

   The Printer Setup window lists the supported printers.
2. Select the printer driver to be used from the **Printer** list box. **DEFAULT** will cause the use of the Windows® default printer.

   Note:
   a. The **DEFAULT** selection is shown when the .WS file specifies `printer=DEFAULT` in the [printers] stanza.
   b. When this selection is made, no message appears before the job is printed.
   c. When a printer has been selected for a session, the name of that printer is displayed in the status bar of the session window.
3. If desired, click on the check box to **Show this dialog before every print**.
4. Confirm that the **Use PDT file** check box is not selected and then select **OK**.

   Z and I Emulator for Windows will now use the printer driver you selected, and the Printer Setup window is closed.

Using Printer Definition Table (PDT) Files

Printer Definition Table files define the transfer of characters and control codes to a printer, and the printer output format. If a PDT file is used, the Windows® printer driver is not used, and Z and I Emulator for Windows generates print output based on printer control information defined in the PDT file.

Refer to *Administrator's Guide and Reference* for more information about PDT files.

To use PDT files:

1. Click **File → Printer Setup** in the session window.

   The Printer Setup window appears.
2. Select the port to be used from the **Printer** list box.

   Selected PDT files are available for the port selected here.
3. Select **Setup** and then specify the paper size of the selected printer driver.
4. Select the **Use PDT file** check box and then select **Select PDT**.

   The Select PDT file window appears.
5. To use an existing PDT file, select a PDT file to be used and then select **OK**.

Using Host Print Transform (5250 only)

When configuring a 5250 printer session, the HPT mode may be selected. To use Host Print Transform (HPT), do the following:

1. From the Session Parameters panel, click **Advanced**.
2. Select **HPT Yes**. You can then enter the following parameters:
    - Printer Module
    - Drawer 1, Drawer 2, and Envelope form names
    - Code Page 899, **Yes** or **No**
    - Customizing Object and Library (optional)

Image Print Transform

Z and I Emulator for Windows allows use of Image Print Transform in 5250 print sessions, when using Host Print Transform. Refer to the most recent IBM® iSeries™, eServer™ i5, or System i5™ printing reference for more information on this feature.

Page Setup

Z and I Emulator for Windows allows you to set Page Setup parameters, such as the maximum number of lines per page, the maximum number of columns, and fonts. You can also add a header or footer to a page.

For detailed Page Setup information and instructions, refer to *Emulator User's Reference*.

Scalable (Truetype) APL Font Support on Printers

Because special APL characters are not provided for printers, the APL fonts provided for displays are used when APL characters are printed. In some cases, APL characters are printed rather small. To print larger APL characters, you should install the Z and I Emulator for Windows AICAPL font, using the Windows **Control Panel → Font** dialog.

ZipPrint (3270 Only)

Use ZipPrint to print PROFS® notes, calendars, CMS files, XEDIT workspaces, and 3270 session screens.

Preparing to Use ZipPrint

Before you can use ZipPrint, DDE/EHLLAPI must be enabled for the sessions. To do this, click **Settings → API** and refer to the online help for detailed instructions. DDE/EHLLAPI is enabled by default.

Note: By default, PROFS-oriented functions of ZipPrint are U.S. English PROFS®. You can customize ZipPrint for other languages. Start ZipPrint before you start any display sessions.

Starting ZipPrint

Start ZipPrint before you start any display sessions. The ZipPrint menu is added to the menu bar of the specified session window; then you can use it from the menu bar the same as with the other functions.

Start ZipPrint by selecting the **ZipPrint** icon in the Z and I Emulator for Windows program folder. This starts ZipPrint for Session A only.

You can also start ZipPrint by placing it as the first command in a Z and I Emulator for Windows batch file.

For more information about ZipPrint, including information about using ZipPrint for additional emulator sessions, search for ZipPrint in Help.

Using ZipPrint

Keep the following consideration in mind when using ZipPrint.

ZipPrint uses the Z and I Emulator for Windows File Transfer function to print VM/CMS notes and files. On slower communication lines such as SDLC, Async (IIN), or when using a large packet or block size, you might experience a file transfer timeout. If this happens, you should increase the *timeout delay* as follows:

1. Click **Settings → Transfer** in the session window.
2. Increase the timeout value to 150 seconds or longer.

Editing

You can edit the contents of your session window using the Windows® clipboard and the **Edit** menu.

Note: When using copy/cut functions, Z and I Emulator for Windows takes the entire contents from the session window and places it on the clipboard. To copy or cut only marked sections from the session window, you need to update the Cut/Copy options. To update the Cut/Copy options, do the following:

1. Click **Settings → Edit**.
2. From the Edit Options window, select the **Cut/Copy** tab.
3. From the Cut/Copy page, select the **Only if a trim-rectangle is marked** check box.
4. Close the Edit Options window.

Undo

Cancels the most recent Edit operation, except for Copy Link, and restores the contents of the session window and the clipboard accordingly.

Cut

Copies the marked area into the clipboard and removes it from the display session window.

Copy

Copies (or duplicates) the marked area into the clipboard without removing it from the display session window.

Copy Append

Copies the marked area into the clipboard without removing it from the display session window. If there is already data in the clipboard, Copy Append adds the new data to it.

Copy As Image

Copies the marked area as a bitmap into the clipboard. If no area is marked, Copy As Image captures the entire presentation space as bitmap.

Note: Undo functionality is not supported for Copy As Image.

Paste

Overlays the current contents of the clipboard into the session window, starting at the current cursor position.

Paste Next

If not all data was pasted, Paste Next is enabled and the remaining clipboard data can be pasted.

Clear

Removes the marked area of the session window. The clipboard contents are not altered.

Copy Link

Supports the DDE Copy Link function. To start a link between Z and I Emulator for Windows and another application program, mark an area of the session window, select **Copy Link**, and then select **Paste Link** in the other application program.

Note: The command you should use for Paste Link or Paste Special depends on the application program you are using.

Find

Find text in Presentation Space of a display session. The text found is highlighted on screen. The search can be case sensitive or insensitive.

Send to Scratch Pad

Sends the selected contents of the Presentation Space into the Scratch Pad of the corresponding session.

Unmark

Removes the clipping (or marking) rectangle. The session window and the clipboard contents are not altered.

Select All

Marks the entire session window.

Edit Options

Paste Options

You can control how text is pasted before and after protected fields, and how tabulated text appears after it is pasted. The following Paste functions are available.

Field Wrap

Check this box if you want pasted data that falls onto a protected field to move to the next unprotected field. If you do not check this box, any data that falls onto an unprotected field is lost.

Line Wrap

Check this box to allow pasting of copied text across lines.

Don't Split Words

Check this box to avoid words being split across fields and lines. The text being pasted into fields is split on word boundaries, which breaks the text and starts the new word in the next field. If one word is being pasted into a field, but the field is not long enough to hold the word, then as much of the word as possible is put into the field, and the rest of the word is carried on to the next field.

Note: If the Field Wrap or Line Wrap option is not enabled, the word break option is not available.

Paste to marked area

Check this box to restrict pasting to a marked area, if it exists. If the marked area doesn't exist, pasting will take place at the current location.

Stop pasting when protected line encountered

Check this box to have the pasted text stop when it comes to a protected line on the emulator screen. If you do not check this box, the paste continues.

Tab Character Processing

Advance to next tab stop

You can choose to align tabulated text at specified tab stops. For example, if you choose Advance to next tab stop 4 column(s), your tabulated text is advanced to the column position that is the next multiple of 4.

Replace with n space(s)

You can choose to replace tab stops with a certain number of spaces. For example, if you choose replace with 3 spaces, each tab stop in your original text becomes 3 spaces.

The default setting is to replace each tab character with one space.

Paste data to fields

You can choose to have tabulated text placed in subsequent unprotected fields. With this option, when a tab character is encountered, the following text data will be pasted into the next unprotected field of the emulator session.

Note: This option is available only for 5250 sessions.

Cut/Copy Options

You can control the size of the copy area and how +/- signs behave with signed numeric fields (5250 only).

Only if a trim rectangle is marked

Select this box if you want to copy only the trim rectangle that has been marked on the session screen. The default is to copy the entire screen if no rectangle is marked.

Autocopy

This option enables you to automatically copy the selected text to the clipboard. When an existing selected area is moved to another screen area, the text inside the new selected area is automatically copied to the clipboard.

Force Leading +/-

On a signed numeric field, the Force Leading +/- option will force the +/- sign to be at the beginning of the field rather than at the end.

Note: This option is available only for 5250 sessions.

Trim Options

You can control the behavior of the trim rectangle.

Classic Box Style

This option allows you to draw a normal box like Trim Rectangle.

Trim Rectangle sizing handles

Check this box to add "handles" to the trim rectangle, allowing you to modify the size.

Trim Rectangle remains after edit function

This option keeps the trim rectangle active after completing the trim.

Expand Trim Rectangle during drag

This option causes the trim rectangle to step to character boundaries while it is being sized.

Use solid Trim Rectangle

This option changes the appearance of the trim rectangle. Instead of the standard outline boundary, the trim area appears as a solid box.

Windows Style

This option allows you to make uneven selection in the PS. When this option is selected, solid Trim rectangles without sizing handles are drawn by default.

Note: Undo functionality under the Edit menu is disabled for this functionality.

Editing by Linking to Windows Application Programs

Linking to Windows® application programs supporting **Paste Link** lets you paste session-window data to the windows of those application programs. You can run **Copy Link** when DDE/EHLLAPI is usable.

Confirming the DDE/EHLLAPI Settings

To check whether DDE/EHLLAPI is currently set to usable status, do the following:

1. Click **Settings → API**.
2. Make sure the **DDE/EHLLAPI** check box is selected.

   If the box is checked, DDE/EHLLAPI is set to usable status. Continue to step 4 on page 64.
3. If the box is not checked:
   a. Click the **DDE/EHLLAPI** check box and then click **OK**.
   b. Stop and then start your session to enable the new settings.
4. If DDE/EHLLAPI was already set to usable status, select **OK**.

Using Copy Link and Paste Link

1. Mark the session window area for which **Copy Link** should be issued.
2. Select **Copy Link** from the Edit menu.

If the session window is already linked with an application program, **Copy Link** appears in gray and cannot be selected. In this case, force the application program to end the linkage, or stop the application program. Then you can select **Copy Link**.

3. Start the Windows® application program for the window to which an area should be copied.
4. Specify the location for which **Paste Link** should be run.
5. Issue **Paste Link** or **Paste Special** by using the menu for the application program.

   The contents of the marked area are pasted into the specified location in the window of the application program.

   Copy Link is now completed.

When the contents of the marked area in the session window are updated during linking, the contents of the area pasted to the window of the linked application program are also updated.

See the online help for more information about the Copy Link and Paste Link functions.

Copying Table Data to a Spreadsheet

You can use the **Cut**, **Copy**, **Copy Link**, or **Copy Append** choices in the Edit menu to copy data in the session window to the window of a Windows® spreadsheet application program.

To use **Copy**, select the **Paste** or **Paste Link** choice in the application program window into which data is to be copied.

Data in the marked area can be copied in the following three data formats, depending on the format supported by the spreadsheet for the window to which data is to be copied:

Sylk format

Data format for general-purpose spreadsheets, such as Multiplan

BIFF format

Data format for Microsoft® Excel

Wk3 format

Data format for Lotus® 1-2-3

Note: Whether application programs, such as Excel or Lotus® 1-2-3, also support these data formats in subsequent versions depends on individual application program specifications.

Individual items of data in tables of the session window are divided automatically such that they are suitable for spreadsheets, and they are copied into individual cells of tables in the application program.

Copying Marked Data without Dividing It into Cells

To paste data in the marked area per line, without dividing it into individual cells, add the following lines to the workstation profile:

```
[Edit]
Sylk=N       (If Sylk format data is not divided into cells)
Biff3=N      (If Biff3 format data is not divided into cells)
Wk3=N        (If Wk3 format data is not divided into cells)
```

Copying Lines Containing Only Operational Signs

If data in the marked area contains signs, such as +, -, =, or |, the signs are regarded as being ruled lines of the table. Once they are removed, only numeric data is copied.

Table 10. Table Data in Marked Area

	1	2	3	4
1990	60	-63	71	+58
1991	+69	69	90	80
1992	71	+80	80	-30

Table 11. Data Copied to Spreadsheet

	1	2	3	4
1990	60	-63	71	58
1991	69	69	90	80
1992	71	80	80	-30

To copy these signs without replacing them with null characters, add the following lines to the workstation profile:

```
[Edit]
MaskGridCharacter=N
```

Copying Data in Cells As Text Data

Data in the marked area is treated as numeric data by default. Therefore, currency symbols, such as $, and punctuation marks, such as commas, are removed before copying. To copy data containing such signs and marks as text data rather than numeric data, add the following lines to the workstation profile:

```
[Edit]
ConvertToNumeric=N
```

Data in the marked area containing signs and marks is then copied as text data. In addition, all numeric data that does not contain signs and marks is also copied as text data.

Transferring Files

Z and I Emulator for Windows enables the transfer of one or more files between a host system and workstation. You can define file transfer options in advance to help you transfer a variety of files quickly and easily.

Note:

PCT400 was withdrawn from marketing 3/98.

With Z and I Emulator for Windows, you can perform the following file transfer functions:

Send files to the host system

Send files using the **Send File to Host** from the **Actions** menu; or by clicking the **Send** button on the tool bar; or, when using 3270 sessions, the SEND command from the DOS prompt.

You can also send files by using an EHLLAPI or DDE application or a macro that invokes file transfer.

Receive files from the host system

Receive files using the **Receive File from Host** from the **Actions** menu; or by clicking the **Receive** button on the tool bar; or, when using 3270 sessions, the RECEIVE command from the DOS prompt.

You can also receive files by using an EHLLAPI or DDE application or a macro that invokes file transfer.

Data Transfer

For 5250 sessions, click **Transfer** from the **Appearance** menu; then select **Data Transfer** on the property page with the **General** tab. This causes the invoking of data transfer functionality when one of the above actions is taken. If **Data Transfer** is not selected, normal file transfer is invoked.

Create, test, replace, and delete templates

Create a template to have Z and I Emulator for Windows automatically generate a workstation or host file name and transfer type when you select a file to be sent or received.

Note: It is not possible to define a file transfer template with the long file name naming convention.

Define transfer types

Define up to 16 transfer types for each host system. Text, binary, and append (except for CICS®) are initially set as transfer types.

Select, create, and customize translation tables

Select translation tables to define which translation table is used during file transfer.

Import or export files (PC/3270 only)

Import/Export is an office system communication program and an application program run on the IBM® Customer Information Control System (CICS®). The import/export function makes it possible to import or export Final Form Text (FFT), Revisable Form Text (RFT), and PC documents.

When you export a file from the host, your workstation receives the file you exported and an interchange document profile (IDP) file. Before you can import a file to your workstation, you need to create an IDP file with transmission information.

Create interactive document profile (IDP) files (PC/3270 only)

An IDP file contains document header information, has the same name as the file to be transferred, and has the extension .IDP.

To create an IDP file, select **Transfer** from the **Appearance** menu.

Note: When you transfer a file on a Telnet5250 session, you cannot transfer a file that includes FFEF. The current version of the iSeries™, eServer™ i5, or System i5™ Telnet program misinterprets FFEF in the file as an end-of-record marker.

ASCII Host Data Transfer

When you are transferring files between two computers, specific protocols must be followed. Files can be transferred only when your PC uses the same protocol as the host. Z and I Emulator for Windows supports the XMODEM and YMODEM public domain protocols.

For XMODEM, Z and I Emulator for Windows uses the XMODEM and XMODEM1K protocols. XMODEM is a block-oriented, error checking protocol that is a single file, half duplex protocol. XMODEM1K is the same as XMODEM, except that it uses larger 1024 byte (1K) packets.

The YMODEM protocol is similar to the XMODEM1K protocol in that it transfers data in 1K packets, but it also allows multiple files to be sent in one transfer.

The YMODEMG protocol transfers multiple files like YMODEM, but performs no error detection or error correction. It can be much faster than YMODEM, but requires an error-free data connection.

With Z and I Emulator for Windows, you can perform the following data transfer functions to or from ASCII hosts:

Send any type of files to the host system

Send files using the Transfer menu using XMODEM, YMODEM, XMODEM1K, or YMODEMG.

Receive files from the host system

Receive files using the Transfer menu and XMODEM, YMODEM, XMODEM1K, or YMODEMG.

Create, test, replace, and delete templates

Create a template to have Z and I Emulator for Windows automatically generate a workstation or host file name and transfer type when you select a file to be sent or received.

Setting Up the Appearance of a Session Window

You can use the following functions to define the appearance of your session window. These options are in the **Settings → Appearance** menu.

Display Setup

Customize a variety of characteristics, such as the cursor, pointer, rule line, and trimming styles, graphics, sound, and color palette, in the display session.

Color Mapping

Set the colors used in session windows.

Font

Choose the font to use for display session windows, the style, and whether it will be an automatic sizing font or a fixed size font. If you use a fixed size font, you can also choose its size. The set of fonts from which you can choose depends on the type of display you are using.

Note: You cannot change the font size when the session window is maximized.

Window Setup

Change the appearance and title of the session window and change the session icon.

Sounds

Z and I Emulator for Windows enables customization of program sounds through the Windows Control Panel. You can configure specific program sounds using sound files included with the Z and I Emulator for Windows product.

A **Mute** function can be used to silence all program sounds. This option is available from the **Settings → Appearance → Display Setup → Sound** dialog.

Tool Bar Setup

The tool bar displays under the menu bar in your session window to allow quick access to the Z and I Emulator for Windows functions, commands, and defined macros.

Use the tool bar pop-up menu to quickly and easily create, edit, and delete tool bar items, as well as to save and load customized tool bars. When you customize the tool bar, you can change the order of items, add and delete items, change the function, title, or graphic associated with any item, change the fonts, colors, and other tool bar visual style elements. The settings are stored in a .BAR file.

To customize your tool bar, select **Tool Bar → Tool Bar Style** from the **Settings** menu, or display the Tool Bar pop-up menu by clicking on the right mouse button while pointing at any part of the tool bar.

For information about customizing the tool bar, refer to the online help.

If you want to hide the tool bar, see Showing or Hiding the Menu Bar, Status Bar, or Tool Bar on page 69.

Showing or Hiding the Menu Bar, Status Bar, or Tool Bar

You can show or hide the menu bar, status bar, or tool bar. If the menu bar is displayed, enable or disable status bar or tool bar from the session **View** menu. You can also do the following:

- Click the upper left corner of the session window to display the system menu.
    - **Hide Menu Bar** appears when the menu bar is shown.
    - **Show Menu Bar** appears when the menu bar is not shown.
    - **Hide Status Bar** appears when the status bar is shown.
    - **Show Status Bar** appears when the status bar is not shown.
    - **Hide Tool Bar** appears when the tool bar is shown.
    - **Show Tool Bar** appears when the tool bar is not shown.
    - **Show Expanded OIA** appears when the expanded OIA is not shown.
    - **Hide Expanded OIA** appears when the expanded OIA is shown.
    - **Hide Quick Connect Bar** appears when the Quick Connect bar is shown.
    - **Show Quick Connect Bar** appears when the Quick Connect bar is not shown.
- To hide the menu bar, status bar, tool bar, or expanded OIA, select **Hide Menu Bar**, **Hide Status Bar**, **Hide Tool Bar**, **Hide Expanded OIA**, or **Hide Quick Connect Bar**.
- To show either the menu bar, status bar, tool bar, or expanded OIA, select **Show Menu Bar**, **Show Status Bar**, **Show Tool Bar**, **Show Expanded OIA**, or **Show Quick Connect Bar**.

Window Setup

For some Windows® operating systems, if you clear the **Maximized Style → With Title Bar** option in the session **Settings → Appearance &rarrow; Windows Setup** dialog, then the **Minimize All Windows** option on the Microsoft Windows® taskbar may not have any effect. To minimize the window, press Alt-Space and click **Minimize**.

Customizing the Color Mapping using a configuration File

This feature enables users to apply the color mapping configuration to a session using a color mapping configuration file (CMP). You can import, modify and save the color mapping configuration in a CMP file, and can also customize the "Default" color mapping configuration for all the profiles using the default color mapping configuration file (‘DefaultColorConfig.CMP’).

The colors of the various parts of the host-session window can be customized; each component has its own default foreground and background colors, which are determined by the attributes (base or extended) sent to the screen by the host application to which the session is connected.

Use the Category tree control to change a category, or place your mouse pointer on the section of the Presentation Space screen you wish to change the color for and click the left mouse button. On the Color Mapping tab, this will set the correct Category/Element, as well as the current colors for that field in the color pulldowns and the Sample text.

The color modification pulldowns give 16 basic colors, each with a name and a color preview. Click the right-hand button to open up the standard Windows color palette, where you can further modify the colors.

How to Enable/Disable the creation of CMP

The **'EnableCMP'** parameter in the Color section of *pcswin.ini*, can be set to 'Y' or 'N' respectively to enable or disable the creation of Color Mapping files.

For Example:

```
[Colors]

EnableCMP=Y
```

When enabled, the Color mapping dialog will have four additional options in the 'File' menu:

1. **Open ->** Imports the color mapping changes from the selected color mapping file (.CMP) to the current session.
2. **Save ->** Saves the changes made by the User to the currently imported or the associated color mapping file.
3. **Save as->** Copies the color mapping configuration set in the color mapping dialog to a new file.
4. **Exit ->** Exits the color mapping dialog.

This feature enables users to apply the color mapping configuration to a session using a color mapping configuration file (CMP). You can import, modify and save the color mapping configuration in a CMP file, and can also customize the "Default" color mapping configuration for all the profiles using the default color mapping configuration file ('DefaultColorConfig.CMP').

The colors of the various parts of the host-session window can be customized; each component has its own default foreground and background colors, which are determined by the attributes (base or extended) sent to the screen by the host application to which the session is connected.

Use the Category tree control to change a category, or place your mouse pointer on the section of the Presentation Space screen you wish to change the color for and click the left mouse button. On the Color Mapping tab, this will set the correct Category/Element, as well as the current colors for that field in the color pulldowns and the Sample text.

The color modification pulldowns give 16 basic colors, each with a name and a color preview. Click the right-hand button to open up the standard Windows color palette, where you can further modify the colors.

Default Color Settings

If a user has enabled this function and needs to apply the "Default" color mapping configuration to all sessions, the *'DefaultColorConfig.CMP'* file should be saved to the ZIEWin Application Data folder (based on type of installation). To make a new default color mapping configuration file, rename any "*.CMP" file to *'DefaultColorConfig.CMP'*.

If a session does not have a Color Mapping file associated with it, the color mapping configuration from *'DefaultColorConfig.CMP'* would be used by default. If the session already has a CMP file connected with it, the color mapping configuration in the CMP file will override the *'DefaultColorConfig.CMP'* configuration.

For Example:

If a user has a Color mapping file associated with their session profile's file then the color mapping file would take priority over the *'DefaultColorConfig.CMP'* file file in terms of keyword precedence.

Session Profile file name: ABC.WS

Color mapping file: ABC.CMP (associated with the session profile) has content as below:

```
[Colors]

BaseColorNormalUnprotected=24D830 000000
```

DefaultColorConfig.CMP have below contents:

```
BaseColorIntensifiedUnprotected=F01818 000000
BaseColorNormalUnprotected= F01818 F01818
```

The Session profile (ABC.WS) will read the value of *BaseColorNormalUnprotected* from the 'ABC.CMP' file and *BaseColorIntensifiedUnprotected* from the '*DefaultColorConfig.CMP*' file.

Note:

1. If this feature is enabled, the colors in Session Profile file will be ignored.
2. *The "DefaultColorConfig.CMP"* has colors that users can set for all their session profile files. This could be different from the product default colors.
3. *The "DefaultColorConfig.CMP"* file needs to be created manually by the user. This does not get created automatically by the system.

Migration of Color mapping content

When a User enables this feature and launches a session, the color mapping configuration from the Session profile file (if it exists) is migrated once to the Color Mapping file.

Note: A single Color mapping file may be associated with several profile files. The color configuration of the last migrated profile will be stored in the common color mapping file.

When a User disables this feature and launches a session, the color settings from the Color Mapping file are migrated once to the Session profile file.

For Example:

Before Enabling this feature, the content in a Session profile has a Color section and a few colors customized in it:

Session Profile file name: ABC.WS

```
[Colors]

BaseColorNormalUnprotected=24D830 000000
```

After the user enable this feature, if there is no color mapping file associated with the session profile name then a new color mapping file will be created with the same name as the session profile file and will copy the color configuration to the newly created color mapping file.

File Name: ABC.CMP

```
BaseColorNormalUnprotected=24D830 000000
```

The Colors will not get deleted from the session profile name but it will be ignored.

Setting Up and Using the Assist Functions

The auxiliary functions described in this chapter let you operate the system more efficiently. **Keyboard/Macro/Script Function** can be customized from the **Actions** menu. The other functions can be customized from the **Edit** menu.

Keyboard, Macro, and Script Functions

A Keyboard/Macro/Script Function command lets you run scripts, macros or Z and I Emulator for Windows-supplied key functions without using the keyboard. Run the scripts, macros or key functions from the current cursor position in the session window.

Scripting Functions

You can write, execute, record and terminate VBScripts in the emulator environment. These scripts have access to the HACL automation API. The programming environment includes methods, class descriptions and properties. VBScript is a subset of the Visual Basic® programming language.

Macro Functions

A macro is a sequence of key or mouse actions and host commands that you can perform with a single action, such as a keystroke. Before you can use a macro function, you need to define it. For more information, see Macro/Script Setup and Use on page 76.

Key Functions

Z and I Emulator for Windows provides many key functions that can be assigned to the keys on the keyboard, the mouse buttons, or the buttons of the pop-up keypad. You can also use them to generate macros.

Hotspot Setup

A *hotspot* is an area of the session window on which you can double-click the left mouse button to perform a command or function. You do not need to use the keyboard. For example, you can double-click a function key number to perform the function.

Tip: Select **Show hotspots** to get three-dimensional (3D) hotspots; these only require a single click, and they stand out on your screen.

You can define the following actions for a hotspot:

- Click on a URL to connect to a World Wide Web site.
- Simulate function keys.
- Play a macro that has the same name as the character string you select on the session window.
- Enter the selected string at the cursor position.
- Simulate the Enter key at the cursor position.
- For VT, simulate two sets of function keys, PF1 through PF4 and F6 through F20.

Using Hotspots

Note: You must have a mouse to use hotspots

To use a hotspot:

1. Move the mouse pointer to the hotspot displayed in the session window.
2. Double-click the left button of the mouse, except for 3D hotspots, which only require a single click.

   Z and I Emulator for Windows determines whether you have specified a hotspot function that matches what appears at the position of the mouse pointer. If so, it processes the hotspot. When two or more hotspots are specified for a single character string, the *first retrieved hotspot* is processed.

   Hotspots are retrieved in the following order:

   a. Point-and-select (connect to Web site using URL)
   b. PFnn, FPnn, Fnn, nn
   c. Point-and-select (run the macro)
   d. Point-and-select (enter the selected string)
   e. Point-and-select (enter at the cursor position)

Keyboard Setup

You can use Keyboard Setup to modify the function defined for each key on the keyboard, except some reserved keys.

You can define the following functions for the keys.

- Performing a key function
- Playing a macro
- Entering characters

Note: By default, the Enter function is assigned to the Ctrl key. To change this assignment or, if the Enter key does not work properly, you need to customize your keyboard. For 3270 and 5250 sessions, you can use the keyboard map files provided with Z and I Emulator for Windows. Refer to *Emulator User's Reference* for more information about keyboard mapping and functions.

Keyboard File

When you specify a key, you can save the new keyboard layout in a file (.KMP). If you create two or more keyboard files, you can alternate between them as required.

To assign a function to a key on the keyboard:

1. Select **Keyboard** from the **Settings** menu or click the map icon on the tool bar.
2. When the Keyboard Setup window appears, select **Customize**.

   Note: Select **Spain** from the Language menu during keyboard setup if you want Catalan support.
3. Assign the key functions, referring to the online help for detailed instructions.
4. Save your changes and exit the Customize Keyboard window.
5. Select **OK** after completing the setup.

You can reset either the entire keyboard or specific keys to defaults:

- To reset the entire keyboard, set the current keyboard to **Default** in the Keyboard Setup window.
- To reset specific keys, select a key in the Customize Keyboard window and then select **Default** from the Current Actions for Selected Key box.

Note: There are seven keys that you cannot redefine and they are gray or dimmed in Keyboard Setup; these keys are: Alt, AltGr, Print Screen, Scroll Lock, CapsLock, NumLock, and Shift.

Customizing the VT Emulator Keyboard

If you are using a VT emulator session, you can represent ASCII control characters in the character strings that you define for your customized keyboard.

Use the # character to represent the CTRL key, following it by any character from the following list (only upper-case alphabetics are allowed):

```
@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_
```

Use ## to represent an actual #. For example, `123##45` represents `123#45`.
If you follow # with any other character than those shown, you will get an error message:

```
PCSKBD160 - Unrecognized key-action: "character string
```

For example, the error for the string "#a is

```
PCSKBD160 - Unrecognized key-action: "#a
```

The set of control characters is as follows:

Character pair	Control	Notes
#@	Control-@	NULL
#A	Control-A	
through		
#Z	Control-Z	
#[	Control-[	ESC
#\	Control-\	
#]	Control-]	
#^	Control-^	
#_	Control-_	

Because the *.KMP file can be edited, there is a run time check to ensure that the character string is correct. If `"###` is processed, then `#` will be displayed, followed by a beep to signify that the entire character string was not played. If `"123#a456` is processed, then `123` will be displayed, followed by a beep.

Macro/Script Setup and Use

A macro is a sequence of key or mouse actions and host commands that you can perform with a single action, such as a keystroke. You can edit an existing macro or create a new macro by selecting **Macro/Script** from the **Appearance** menu.

A script is a VBScript program that is a subset of the Visual Basic® programming language. For information on VBScript, see the online help pages.

Using a Macro or Script

You can use a macro or script in various ways. Table 12: Macro Use Examples and Settings on page 77 lists examples of how you can set up and then use macros and scripts.

Table 12. Macro Use Examples and Settings

If you want to...	Do this...
Automatically play a macro or script when your session starts.	Set an **Auto-Start Macro/Script**.
Play a macro or script while attached to a host application.	**Start Playing Macro/Script**.
Play a macro or script with the keyboard or macro function.	Use the **Keyboard/Macro/Script Function**.
Click on a hotspot to play a macro or script.	Set a **Hotspot**.
Assign a macro or script to a pop-up keypad button.	Customize the **Pop-Up Keypad** file.
Press the mouse button to play a macro.	Customize a **Mouse** file.
Press a key on the keyboard to play a macro or script.	Customize a **Keyboard** file.

Creating a Macro

You can create a macro manually or by recording some of your interactions with the host system, such as your logon procedure.

To create a macro manually:

1. **Macro/Script** from the **Appearance** menu.
2. When the Macro/Script Setup window appears, select **Customize**.
3. When the Customize Macro/Script window appears, select **File**, then **New**, then **Macro**, and edit the macro. You can type statements directly or select functions, characters, or even other macros, from the list of Key Actions in the **Select a Key-Action** subpanel.

   Refer to the online help for detailed information.
4. Click **File**, then **Save** to save the macro file.

Note:

1. Macros that are converted to XML are intended for use in ZIEWeb (Z and I Emulator for Web) and will not function in Z and I Emulator for Windows emulation sessions. Use the ZIEWeb Macro Manager to import a converted Z and I Emulator for Windows macro into ZIEWeb. These converted macros will not appear in the list of available Z and I Emulator for Windows macros.

Macro Statements

You can use the following statements when you create a macro:

Key function

Use Z and I Emulator for Windows-supplied key functions

Macro

Define a macro within another macro but you cannot create a macro in a permanent loop where the first macro is repeatedly called at the end of the macros.

Character

Use any characters in the **Character** list in the Customized Macro window.

Character string

Use character strings you can type from the keyboard. You must use a double quotation mark (“) at the beginning of the character string.

Wait condition

Specify wait conditions to stop the process until the specified time has elapsed or the status satisfying the specified condition occurs.

Tokens

You can use tokens, such as goto and run, to add logic.

Macro Loop Considerations

If you use a GOTO and a label in a macro to create a loop, you may experience unpredictable behavior if that loop executes a large number (more than 1000) of iterations.

Creating a Script

You can create a script manually or by recording some of your interactions with the host system, such as your logon procedure. Scripts, however, allow a higher level of programming control unavailable with macros.

To create a script:

1. **Macro/Script** from the **Appearance** menu.
2. When the Macro/Script Setup window appears, select **Customize**.
3. When the Customize Macro/Script window appears, select **File**, then **New**, then **Script**, and edit the script. The **Select a Key-Action** subpanel, in gray, is not available for creating scripts.

   Refer to the online help for detailed information.
4. Click **File**, then **Save** to save the script file.

Configuring a Macro or Script to Autostart

To configure a macro or script to autostart, do the following:

1. Click **Settings → Macro/Script**.

   The Macro/Script Setup window appears.

2. Set a macro or script to autostart when your workstation starts.
3. Refer to the online help for detailed instructions and then select **OK** after completing your setup.

Auto-start macro support

To specify which macro should be started automatically after start of a session, add the PCSWS option /M=<*mymacro*>, where <*mymacro*> is the name of the Z and I Emulator for Windows macro or script file. See the following example:

```
C:\ZIEWin\PCSWS.EXE C:\AppData\LAN1.WS /M=mymacro
```

If the specified macro or script does not exist, the following error message will be returned:

PCSKBD400-
The file: <macro name> is not a Z and I Emulator for Windows macro/script-file

Configuring a Java Applet to Autostart

To run a Java applet automatically, you can add the function **Run Applet** to a macro. You can add this function to an autostart macro, so that an applet can be run at session startup.

1. Click **Settings → Macro/Script**.

   The Macro/Script Setup window appears.
2. Select **Run Applet** from the Function drop-down list and type the name of the class.

Refer to the online help for syntax and detailed instructions.

Note: The applet class specified must exist in the same directory path as the .WS file in which the macro is included.

Recording Macros or Scripts

To start macro or script recording, use the following procedure:

1. Click **Start Recording Macro** from the **Actions** menu.
2. Type the macro or VBScript name.
3. Select the record format.

   If you are recording a macro format file for Express Logon, select the **Enable** check box and enter the Express Logon Feature (ELF) Application ID.
4. Configure the other options and click **OK**.

Note: When recording a macro, the processing of a nondisplayable field is controlled by the setting of the parameter HideNonDisplayDataOnRecord=Y in the [Keyboard] stanza of the .WS file. The hidden fields are ignored during the recording session.

To cancel macro or script recording, click **Actions → Cancel Recording Macro**. The recording operation is canceled, and the macro or script is not saved.

To pause macro or script recording, click **Actions → Pause Recording Macro**. The recording operation stops. To restart recording, click **Resume Recording Macro**.

To end macro or script recording, click **Actions → Stop Recording Macro**. Recording ends and the macro is saved in the specified file.

Playing Macros and Scripts

To play a macro or script, click **Actions → Start Playing Macro/Script**, select the macro or script, and click **OK**. The selected macro starts to play.

To stop playing a macro or script , click **Actions → Quit Playing Macro/Script**. The macro or script stops playing.

Note: Z and I Emulator for Windows macro files more than 32KB in size cannot be played in the Z and I Emulator for Windows emulator session. If you want to play a macro file that is greater than 32KB, you will have to break the macro into multiple files.

Note: When playing a macro, the processing of a non-displayable field is controlled by the setting of the parameter HideNonDisplayDataOnRecord=Y in the [Keyboard] stanza of the .WS file; setting this causes a pop-up window to display, requiring your input. When this appears, type in the requested information and press **Enter** to continue.

ThisMacroName support

The ThisMacroName property is used to enable a running script to obtain the name of the macro file that is running. This is useful when writing a script that will be using the name of the macro file.

See the following example of ThisMacroName:

```
[ZIEWin SCRIPT HEADER]
LANGUAGE=VBSCRIPT
DESCRIPTION=Example of usage of property ThisMacroName
[ZIEWin SCRIPT SOURCE]
OPTION EXPLICIT
Dim sName, sHandle

REM App Main
Main
```

```
sub Main()
 'Initialize the session
 autECLConnMgr.autECLConnList.Refresh
 sName = autECLConnMgr.autECLConnList(1).Name
 sHandle = autECLConnMgr.autECLConnList(1).Handle

 'Connect to the current session
 autECLSession.SetConnectionByName(ThisSessionName)
 sName = autECLSession.Name
 sHandle = autECLSession.Handle

 MsgBox("The current session name :")
 MsgBox(ThisSessionName)
 MsgBox("The macro name is :")
 'Should pop up correct macro file name in the message box
 MsgBox(ThisMacroName)
end sub
```

Express Logon Feature

The Express Logon Feature (ELF) allows a Z and I Emulator for Windows TN3270E user to logon to a host application without sending the user ID and password. This function is designed to be implemented only in certain circumstances by administrators of Z and I Emulator for Windows. Refer to *Administrator's Guide and Reference* for detailed information on implementation.

Recording an Express Logon Macro

To record an ELF macro, do the following:

1. Choose **Actions** from the WorkStation-window menu-bar.

   The Actions pull-down menu appears.
2. Choose **Start Recording Macro** from the menu.

   The **Record Macro/Script As** dialog-box is displayed.
3. Select the format of file to be recorded: **VBScript or Plain text Macro**, if you are recording an Express Logon Feature macro.
4. Select the Record User Wait Time to be used. This affects only unconditional wait statements. There is no change for the interval in conditional wait statements (interval with condition). For these statements the interval is a time-out value, processing normally continues when the condition is satisfied. In most cases the script will fail if the time-out value expires before the condition is satisfied.
   - Actual- the default no change to existing function.
   - None - unconditional wait statements will not be written to the macro/script file. You have to edit the script and add any required unconditional wait statements where they are needed.
   - Fixed - unconditional wait statements will be written to the macro/script file with a fixed wait time of 25 ms. You may edit the script file and either increase the time interval or remove the wait statement if it not needed.
5. Type the name of the file in which you want to save the macro.

6. If you are recording an Express Logon Macro, select the **Enable** check box and enter the Express Logon Feature (ELF) Application ID.
7. Click **OK**.

   The Record operation starts. In the Actions menu, Start Recording Macro/Script is changed to Stop Recording Macro/Script; Pause Recording Macro/Script and Cancel Recording Macro/Script are added.
8. Record the keystrokes.
   - If, while you are recording, you choose **Cancel Recording Macro/Script**:

     The Record operation is canceled and nothing is saved. Cancel Recording Macro/Script and Pause Recording Macro/Script are removed from the pull-down list. Stop Recording Macro/Script is changed to Start Recording Macro/Script.
   - If, while you are recording, you choose **Pause Recording Macro/Script**:

     The Record operation is paused and Pause Recording Macro/Script is changed to Resume Recording Macro/Script.
   - If you choose **Resume Recording Macro/Script**:

     The Record operation is resumed and Resume Recording Macro/Script is changed to Pause Recording Macro/Script.
9. When you want to end the recording, choose **Stop Recording Macro/Script.**

   The Record operation stops and the macro is saved in the file you named. Stop Recording Macro/Script is changed to Start Recording Macro/Script. Cancel Recording Macro/Script and Pause Recording Macro/Script are removed from the list.

Verifying an Express Logon Feature Macro

You can visually inspect an existing Macro recording of a host application logon to verify that the UserID and Password have been replaced by Express Logon Feature (ELF) tags. The procedure is as follows:

1. From the Action Bar, open the Macro file containing the recorded keystrokes by selecting **Settings > Macro/ Script**.
2. Select the Macro file to be inspected and then select **Customize**.
3. Verify that the UserID has been replaced with two tags: the ELF Application ID and the ELF UserID placeholder. The Application ID tag consists of the following three words, each separated by a blank character: "elf", "applid", and the identifier of the host application that will be logged onto. The UserID placeholder is **)USR.ID(**.

   For example

   "myUserID

   should have been replaced with

   ")USR.ID(
4. Verify that the Password has been replaced with the ELF Password placeholder tag **)PSS.WD(**.

   For example

   "myPassword

should have been replaced with

")PSS.WD(

5. Verify below entry must be available

   For Example:

   - For Plain Text macro : **elf applid TSOIPO1**
   - For VBSCript macro : **autECLSession.SetELFApplID " TSOIPO1**.

Updating an Existing Macro for Express Logon

You can manually update an existing Macro recording of a host application logon to use the Express Logon Feature (ELF). The procedure is as follows:

1. From the Action Bar, open the Macro file containing the recorded keystrokes by selecting **Settings > Macro/ Script**.
2. Select the Macro file you just recorded and then select **Customize**.
3. Replace the UserID recorded in the Macro with two tags: the ELF Application ID and the ELF UserID placeholder. The Application ID tag consists of three words, each separated by a blank character: "elf", "applid", and the identifier of the host application that will be logged onto. The UserID placeholder is **)USR.ID(**.

   For example, replace

   "myUserID"

   with

   ")USR.ID("
4. Replace the Password recorded in the Macro with the ELF Password placeholder tag **)PSS.WD(**.

   For example, replace

   "myPassword"

   with

   ")PSS.WD("
5. Add below new entry to convert Normal macro into ELF macro:

   For Example:

   - For Plain Text macro : **elf applid TSOIPO1**
   - For VBSCript macro : **autECLSession.SetELFApplID " TSOIPO1"**.

Mouse Setup

The **Mouse Setup** command lets you allocate functions to the right and left buttons of the mouse; this enables you to perform the following actions without having to use the keyboard:

- Running the Z and I Emulator for Windows-supplied key functions
- Running the user-defined macros
- Placing a character at the current cursor location

Mouse File

The user can save the functions defined for the mouse buttons in a mouse file (*.MMP). The user can create two or more mouse files and switch between them as required.

To set up the mouseand assign functions to the mouse buttons:

1. Select **Mouse** from the **Settings** menu.

   The current settings appear in the Mouse Setup window.
2. Set up the required items, referring to the online help for detailed instructions.
   If the user want to create or edit a mouse file:
   a. Select **Customize**.
   b. When the Customize Mouse window appears, allocate functions to the right and left buttons of the mouse. These appear in **Current Action for Mouse Button**.
   c. Select the required functions from **List of Key Actions**.
   d. Save your changes and then select **OK**.
3. Select **OK**.

   The mouse setup is complete.

Mouse Wheel Functionality

Mouse wheel scroll up and scroll down is mapped to the “PF7” and “PF8” function key (aid key) respectively for 3270 host.

Mouse wheel scroll up and scroll down is mapped to the “Roll Down” and “Roll Up” function key (aid key) respectively for 5250 host.

Using the mouse wheel scroll option, users can scroll up and down on the Mainframe green screen, in case if the host data exceeds more than one screen.

Example: User can scroll on z/OS syslogs.

Pop-Up Keypad Setup

The pop-up keypad is a small window in which some buttons are arranged. To display the pop-up keypad, put the pointer anywhere in the session window and press the right mouse button.

You can allocate the following functions to these buttons:

- A standard key function provided by Z and I Emulator for Windows
- A user-specified macro
- A character entry

To perform these functions, you only need to click a button on the pop-up keypad with the left mouse button.

To view the description of a short-name key function or macro, click the right mouse button while pointing at one of the function or macro names.

Pop-Up Keypad File

You can specify the number of buttons displayed in the pop-up keypad, the functions allocated to those buttons, and colors of the buttons. You can save the specified pop-up keypad contents in a pop-up keypad file (also referred to as a *poppad* file).

A pop-up keypad file (*.PMP) contains the information for the number of buttons displayed in the pop-up keypad, the functions allocated to those buttons,and color information. You can define which pop-up keypad file is allocated to the pop-up keypad.

Using the Pop-Up Keypad

To use a pop-up keypad:

1. With the mouse pointer anywhere in the session window, click the right mouse button.
2. Select **Pad 1, Pad 2, Pad 3**, or **Pad 4**.
3. Click the required button in the pop-up keypad.

To set up the pop-up keypad:

1. Select **Popup Keypad** from the **Settings** menu.
2. When the Popup Keypad Setup window appears, set the required items, referring to the online help for detailed instructions.

   If you want to edit the pop-up keypad file, select **Customize** and then make your changes.
3. Select **OK**. The pop-up keypad you selected is ready for use.

Tab Setup (VT only)

Tab Setup allows you to define tab stops for your VT sessions.

Web Browser Setup

Web Browser Setup allows you to define a preferred web browser and to use it rather than the one that comes with your operating system.

Managing Emulator Sessions

Z and I Emulator for Windows provides the following functions, in addition to those provided by Windows®, for those who work with several open session windows simultaneously. These functions allow you to manage your session windows easily and quickly. The Window menu has the following selections:

Jump

Use **Jump** to switch between the currently opened session windows.

You cannot use Jump to switch to a session window that is currently hidden. Instead, select **Show Session** from the Window menu to display the session window on the screen. Then, select **Jump**.

Hide Session

Use **Hide Session** to stop displaying a visible session window.

You cannot hide all sessions. At least one session is always shown.

Show Session

Use **Show Session** to display a session window that was previously hidden with **Hide Session**.

Use the View menu to display a previously-saved arrangement of windows, or to save an arrangement of windows.

Z and I Emulator for Windows can save and restore the following information relating to the session window view:

- Position and size of each window
- Window status (standard, minimized, or maximized)
- Window font

You can save view information for up to eight windows.

Getting Help

For more information about managing session windows, refer to the online help:

1. Select **Procedures** from the Help menu.
2. When the help window appears, scroll down to **Managing Workstation Windows®**.

   Select choices from that list for detailed information.

Online Emulator Session

Emulator sessions started from Session Manager online are displayed with “Online” Tag at end of Session Titles. Dialogs where create/modify or delete opertations for the .ws (Workstation profile),.bch - (Multiple Sessions or Batch),.pmp (Popup-Keypad Configuration).kmp (Keyboard Configuration).bar (Toolbar Setup), .mmp (Mouse Setup) .xlt (Translation Table) are always online

Detect and Repair

The user use the **Help → Detect and Repair** function to check the Z and I Emulator for Windows product integrity. The Detect and Repair operation performs a check on the installed Z and I Emulator for Windows files to determine whether the installation has been damaged. A subsequent repair is performed, if necessary.

Note: The user must stop all active sessions before starting the Detect and Repair function.

Check **Restore my shortcuts** if the user want original shortcuts restored. If the user have modified shortcuts since the original Z and I Emulator for Windows installation, the user might want to keep your shortcuts intact—in that case, do not choose this option.

In order to use the **Detect and Repair** function, the user must be authorized in the System Policy. The user might be prompted to provide the original Z and I Emulator for Windows installation source.

Z and I Emulator for Windows **Detect and Repair** is invoked from the Session Manager or from an emulator session window. Windows Installer repair of the Z and I Emulator for Windows product is invoked from the Windows® Add/ Remove Programs function. Note the following differences in the operations.

Z and I Emulator for Windows Detect and Repair performs the following operations:

- Reinstalls a file if it is missing or corrupt, or if it is an older version.
- Rewrites all registry settings for the application in the LOCAL_MACHINE section of the registry.
- Rewrites all registry settings for the application in the CURRENT_USER section of the registry.
- Reinstalls all shortcuts (optional).

Alternatively, Windows Installer performs the following operations:

- Reinstalls a file if it is missing, or if it is an older version. Windows Installer does not check files for corruption.
- Rewrites all registry settings for the application in the LOCAL_MACHINE section of the registry.
- Rewrites all registry settings for the application in the CURRENT_USER section of the registry.
- Reinstalls all shortcuts. This function is not optional in Windows Installer.

Managed ZIEWIN and Interoperablity

This section provides detailed information about Managed ZIEWin and Interoperabilty between HCL Z and I Emulator for Windows and HCL Z and I Emulator for Web Clients.

HCL Z and I Emulator for Windows uses Session Manager Online dialog to provide easy access to workstation profiles and batch files on the ZIE Server. With Session Manager Online users can create or start a single or multiple sessions and or batch files. Users can create their own profile to the ZIE server and migrate existing files such as the workstation profiles (*.WS) and batch files (*.BCH) that were stored on the ZIE Server.

This "How To" document aims to supplement additional detailed information in setting up Managed HCL Z and I Emulator for Windows (ZIEWIN) as referenced below.

Steps to Install Using Managed:

Refer to Planning to Install Z and I Emulator for Windows on page 25

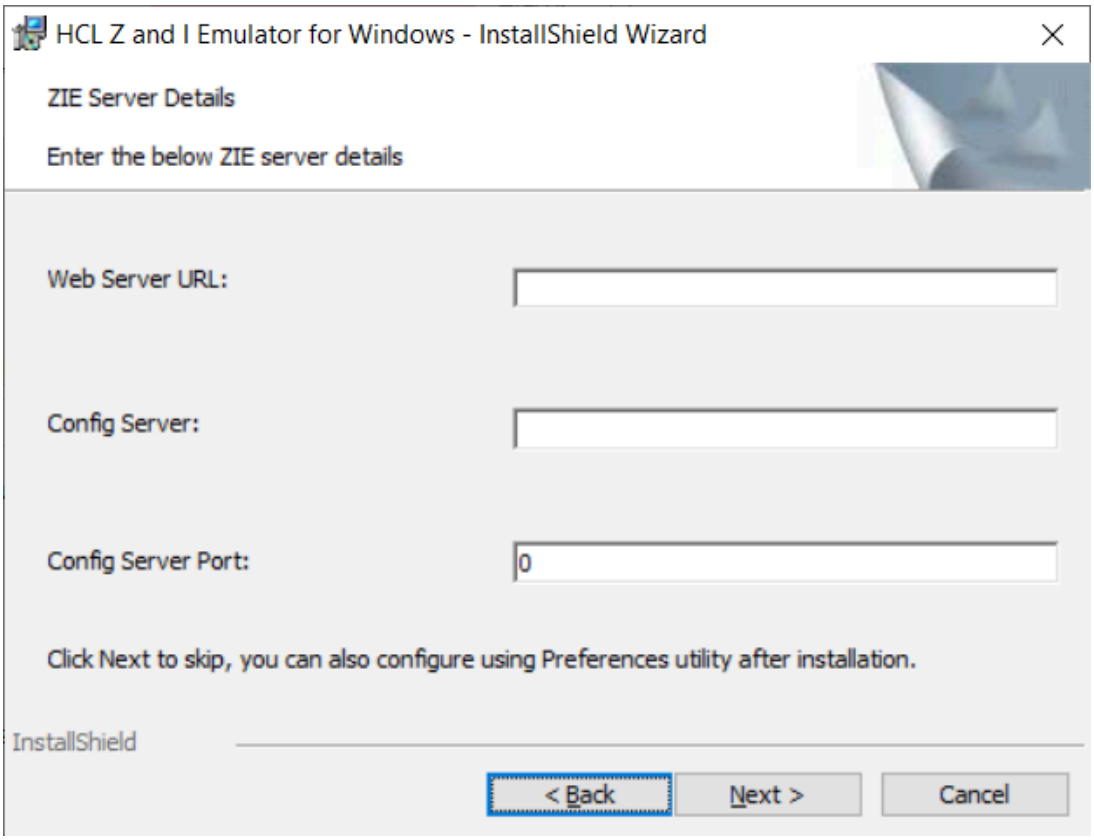
The steps provided in this document are applicable to all Windows 10 versions which are 64-bit OS level.

Prerequisites :

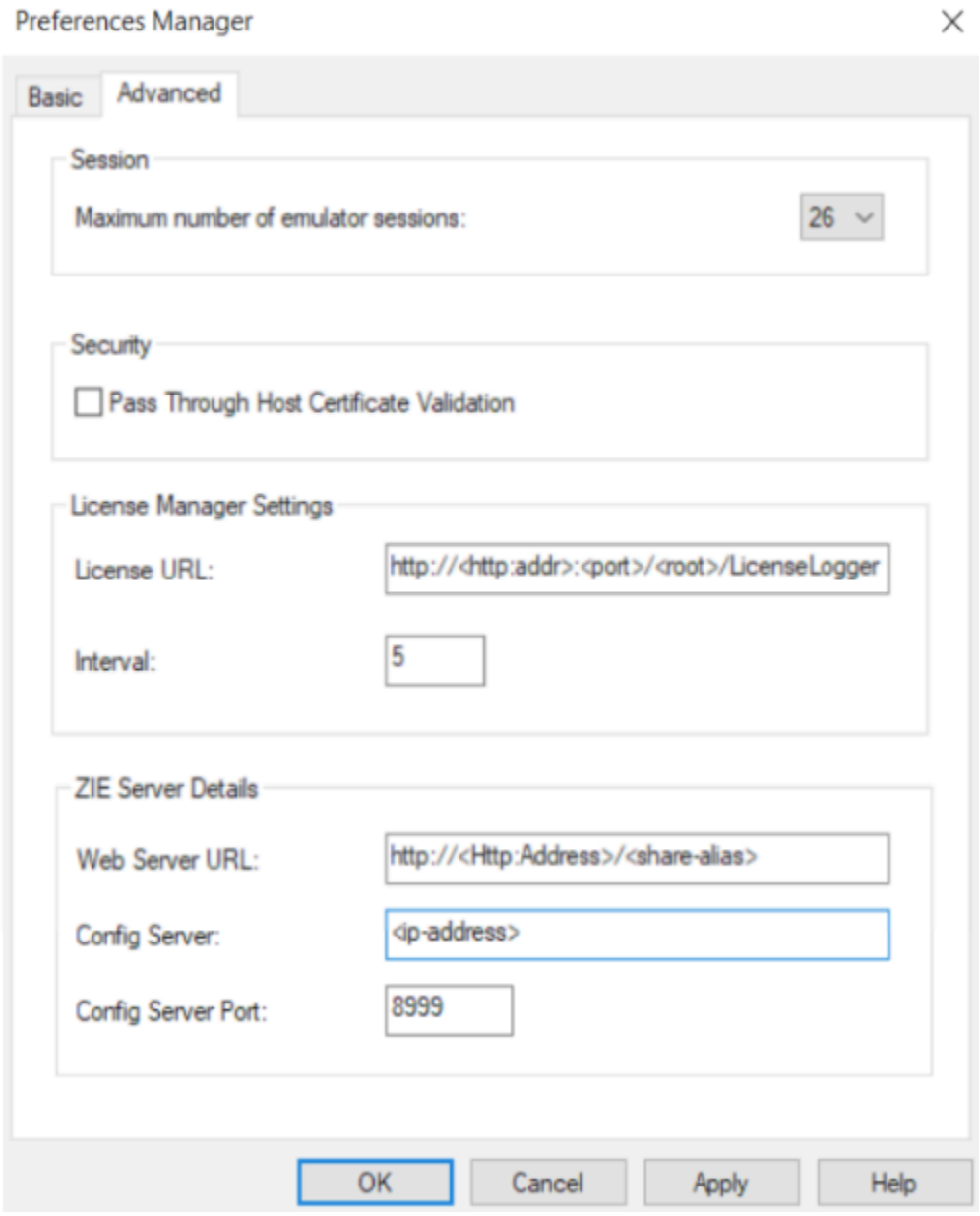
1. Download a copy of HCL Z and I Emulator for Windows 64-bit base package and HCL Z and I Emulator for Windows RP1.zip
2. A HCL Z and I Emulator for Web server is required for the Session Manager Online to work.
3. Create a folder (e.g. MPZiewin) in the ZIEWEB published directory.
4. Unzip and dump the HCL Z and I Emulator for Windows RP1 contents in *MPZiewin* folder.
5. Right click the *MPZiewin folder* > *Properties* > *Sharing* > *Advance Sharing* > *Put a check on Share this Folder*.
6. Click **OK** then **Close**.
7. Repeat steps 5-6 with ZIEWEB folder.
8. Obtain the IP address of the ZIEWEB server and use it at step 2 below.

Follow the steps below in setting up Managed HCL Z and I Emulator for Windows (ZIEWIN):

1. There are two ways to input the ZIE Server configuration details. Choosing to go either way will have the same results.
    - During the ZIEWIN installation a new panel has been added.



- Preferences Manager - Click on Start > HCL Z and I Emulator for Windows > Preferences > Advanced



2. Enter the configuration parameters based on the information below:
   - **Web Server URL** : The URL of the Web Server from where HCL Z and I Emulator for Windows fix pack file will be downloaded for installation. Installer or fix pack will be installed on the system by "Start or Configure Sessions - Online" program.>
   - **Config Server** : URL of the Application Server/Embedded Server, on which interoperability module (.war file) is deployed. It can be deployed on the HOD Embedded Server or on any configured Application Server.

     Example: http://< Application Server IP >/<Configured context root of the application>

For more details on WAR file deployment, refer to the technote <hyper-link>.

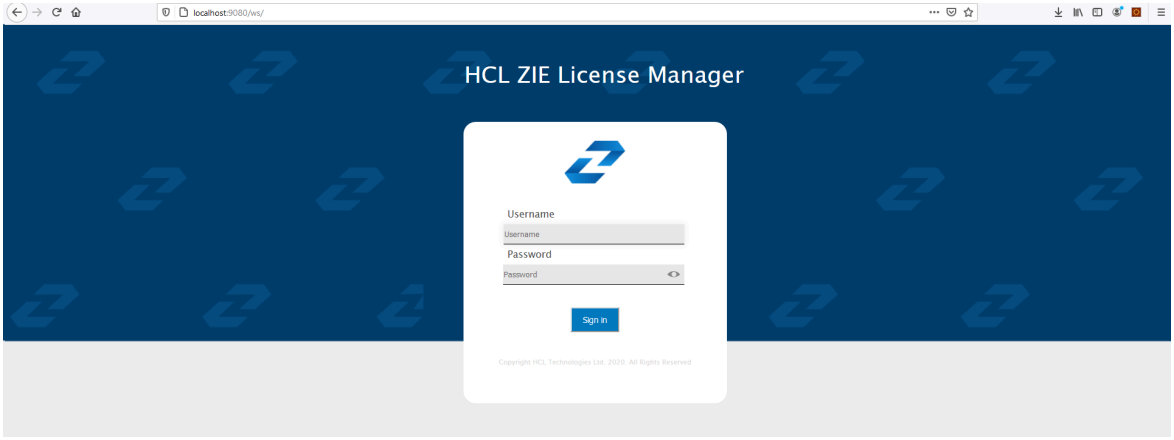
- **Config Server Port** : Port number of Application Server where interoperability module (.war file) is deployed.

  Example: 9080

3. Click **OK**.
4. *Open File Explorer > This PC > Map network drive.* Use the IP address of the Web Server along with the folder where the HCL Z and I Emulator for Windows RP1.msi is located. E.g. \\192.168.56.102\MPZiewin
5. Click **Save**.
6. Repeat steps 4-5 with ZIEWEB folder. E.g. \\192.168.56.102\ZIEWEB

Note: This completes configuring Managed HCL Z and I Emulator for Windows (ZIEWIN).

7. To validate that the configuration is correct, create a new Username or use an Existing User in the Session Manager Online. *Click on Start > HCL Z and I Emulator for Windows > Start or Configure sessions - Online*



Points to consider:

- When mapping the network drive ensure that client machine and ZIEWEB server is within the same network.
- The Session Manager Online checks for updates at startup. It is essential that HCL Z and I Emulator for Windows RP1 is in the ZIEWEB published directory.

Interoperability between HCL Z and I Emulator for Windows and HCL Z and I Emulator for Web Clients

The interoperability feature allows the ZIEWin users to use the ZIEWin sessions from other HCL terminal emulator clients, such as ZIEWeb and ZIEWeb Client. ZIEWin users can use the “Session Manager Online” utility to store the new sessions and migrate the existing sessions to ZIE server, these sessions are then converted to ZIEWeb Session formats for the ZIEWeb and ZIEWeb Client usage.

Note: Interoperability feature is introduced in ZIEWin 2.1 version.

ZIEWin client communicates with the ZIE server over HTTP/HTTPS connectivity using JSON data format.

The interoperability feature is supported from ZIEWeb v2.1.0.0 & ZIEWeb Client v2.1.0.0 onwards and is applicable for 3270 Display, 5250 Display, 3270 Printer, 5250 Printer, and VT sessions.

Note: The session conversion happens only for ZIEWin to ZIEWeb sessions and not vice versa.

When the user stores the ZIEWin sessions using the “Session Manager Online” utility, they are converted to ZIEWeb sessions before saving them to the ZIE server . After storing to the ZIE server , users can log in from ZIEWin, ZIEWeb, or ZIEWeb Client to work with the stored ZIEWin sessions.

Using ZIEWin Sessions from ZIEWeb and ZIEWeb Client:

After the ZIEWin sessions are stored in the ZIE server , if any changes are made to the session definition from any of the clients, it is saved in the ZIE server . These session changes will be available to ZIEWin users after the next login.

Below is the list of supported parameters as part of the Interoperability feature.

Table 13. List of Supported Parameters for Interoperability

ZIEWIN Parameter	ZIEWEB Parameter
Primary Host Name or IP Address	Destination Address
Primary Port Number	Destination Port
Primary LU or Pool Name	LU or Pool Name
Screen Size	Screen Size
Host Code-Page	Host Code-Page
Auto-reconnect	Auto-reconnect
Backup 1 Host Name or IP Address	Backup 1 Destination Address
Backup 2 Host Name or IP Address	Backup 2 Destination Address
Backup 1 Port Number	Backup 1 Destination Port
Backup 2 Port Number	Backup 2 Destination Port
Backup 1 LU or Pool Name	Backup 1 LU or Pool Name
Backup 2 LU or Pool Name	Backup 2 LU or Pool Name
Enable Security	Protocol
Workstation ID	Workstation ID
Server Authentication	Server Authentication
Message Queue	Message Queue
Message Library	Queue Library
Send Personal Certificate to Server if it is Requested	Send a Certificate
Send Personal Certificate Trusted by Server	Certificate Source
Send Personal Certificate Based on Key Usage	Enable Key Usage
Machine Mode	Terminal Type (VT session)

Table 13. List of Supported Parameters for Interoperability (continued)

ZIEWIN Parameter	ZIEWEB Parameter
AutoWrap	AutoWrap (VT session)

Note: Only the listed parameters will be modified from ZIEWeb / ZIEWeb Client for a ZIEWin profile. If any other parameters are updated from ZIEWeb / ZIEWeb Client, there will not be any changes to the ZIEWin session. Users should modify the ZIEWin sessions either from ZIEWin or ZIEWeb / ZIEWeb Client at a time and should avoid simultaneous modifications from different clients.

Interoperability 2.1.0.0 Configuration Introduction:

ZIEWeb v3.0 (from v2.1.0.0 onwards) introduced interoperability between ZIEWin and ZIEWeb. This allowed ZIEWin sessions to be accessed through ZIEWeb and ZIEWeb Client after the session definitions were uploaded to the ZIE server .

Password provided during the user creation will be encrypted using AES 128-bit algorithm and will be sent to the server through the HTTP/HTTPS protocol as Json object. UID is added to the WS and BCH profile files for unique identification. Only Connection parameters are considered for the interoperability between ZIEWin and ZIEWeb Clients and vice-versa.

After the ZIEWin sessions are converted and stored in the ZIE server , any changes made to the common parameters from any of the clients will be saved on the ZIE server . These parameter changes will be available to ZIEWin users after the next login.

Steps to install:

1. Install the ZIEWeb v3.0.
2. Install the ZIEWin v3.0

WAR File Configuration:

The interoperability executable (**ZIEWeb_Interoperability.war**) is available under the lib directory of the product.

For Embedded Web Server:

If the Embedded Web Server is used, by default Interoperability application is running on context root "interop". If the user needs to change the context root, add the following parameter to the configuration file (***config.properties***), located in the ZIE server publish directory.

Example: InterOpContextPath=interop

The default ZIE server IP is 127.0.0.1 and the ZIE server port is 8999. If the user needs to connect to the ZIE server located on a different machine, then override the interoperability configuration by modifying the properties of ***"interop_overrides.xml"*** in the conf directory under the lib directory of the product.

Table 14. List of properties that can be used to configure the Interoperability

Property	Value	Description
ZIEWEB_SERVER_IP	127.0.0.1	ZIE server address

Table 14. List of properties that can be used to configure the Interoperability (continued)

Property	Value	Description
ZIEWEB_SERVER_PORT	8999	ZIEWEB Config Server port
Directory_Location	C:\\dir_location	Directory Location for logs

The user can utilize **ZIEWeb_Interoperability.war** file (available under the lib directory of the product) to deploy to different application servers such as WAS/Tomcat.

For WebSphere Application Server (WAS):

1. Log in to **WebSphere Application Server**.
2. Go to **Applications**.
3. Click WebSphere enterprise applications under **Application Type**.
4. Select **ZIEWeb_Interoperability.war file**.
5. Click on Initialize parameters for servlets link under **Web Module Properties** section.
6. Enter the required values.

Supported Application Servers: *Apache Tomcat and WAS*.

Limitations

1. Only connection parameters are considered for interoperability between ZIEWin and ZIEWeb and vice-versa.
2. Session creation from ZIEWeb / ZIEWeb Client will not be converted to a ZIEWin session.

Known Issues

1. For stored ZIEWin sessions, changes to any session parameters (not only the listed parameters) from ZIEWeb / ZIEWeb Client will be overridden or set to default when there is an update from **"Session Manager Online"** (ZIEWin Client).
2. If there are simultaneous profile updates from any of the two clients, the most recent update will be saved as the final copy in the ZIE server .
3. Modifications done in multiple sessions (add, delete sessions, or rename) from the ZIEWeb Clients do not reflect in the ZIEWin Client.
4. Saving/renaming profiles with special characters (Ex: \ / : * ? " < > |.) in ZIEWeb/ ZIEWeb Clients will result in unexpected behavior in the ZIEWin Client.

   How to setup Managed HCL Z and I Emulator for Windows (ZIEWIN)

   HCL Z and I Emulator for Windows uses Session Manager Online dialog to provide easy access to workstation profiles and batch files on the ZIE Server. With Session Manager Online users can create or start a single or multiple sessions and or batch files. Users can create their own profile to the ZIE server and migrate existing files such as the workstation profiles (*.WS) and batch files (*.BCH) that were stored on the ZIE Server.

   This "How To" document aims to supplement additional detailed information in setting up Managed HCL Z and I Emulator for Windows (ZIEWIN) as referenced below.

   Steps to Install Using Managed: Refer to Planning to Install Z and I Emulator for Windows on page 25

The steps provided in this document are applicable to all Windows 10 versions which are 64-bit OS level.

Prerequisites :

a. Download a copy of HCL Z and I Emulator for Windows 64-bit base package and HCL Z and I Emulator for Windows RP1.zip

a. A HCL Z and I Emulator for Web server is required for the Session Manager Online to work.

b. Create a folder (e.g. MPZiewin) in the ZIEWEB published directory.

c. Unzip and dump the HCL Z and I Emulator for Windows RP1 contents in *MPZiewin* folder.

d. Right click the *MPZiewin folder > Properties > Sharing > Advance Sharing > Put a check on Share this Folder*.

e. Click **OK** then **Close**.

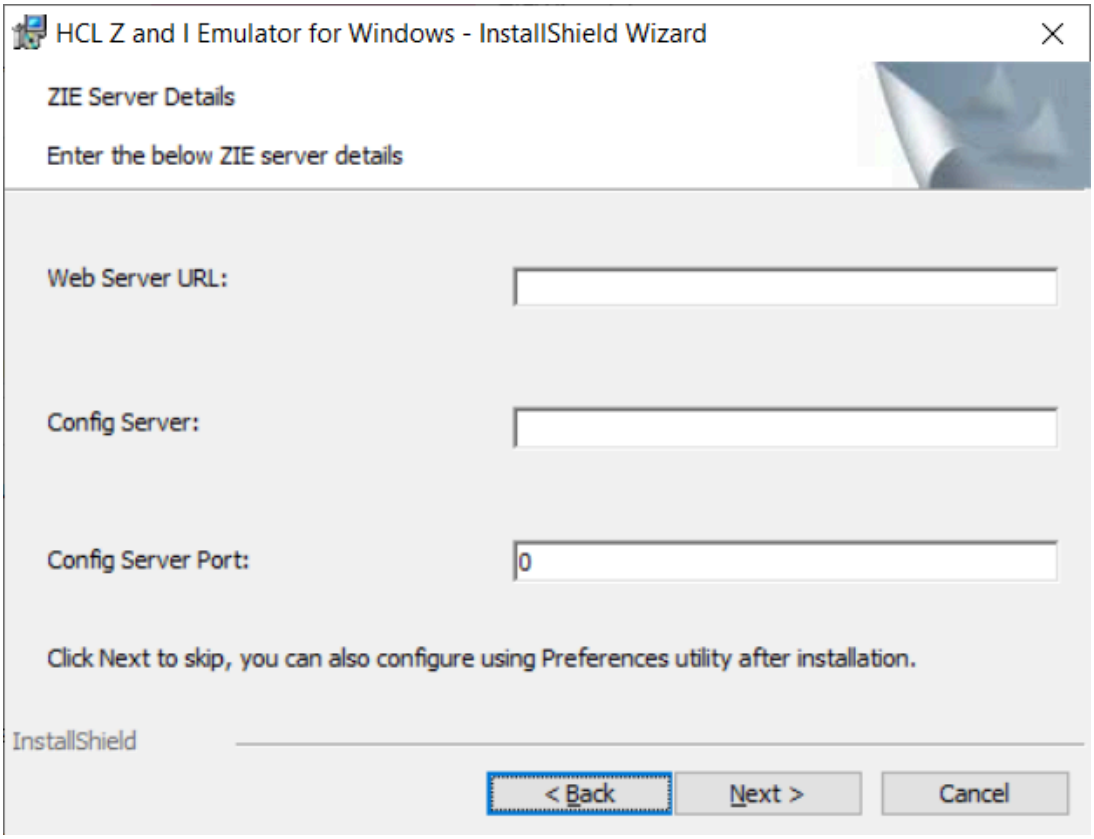
f. Repeat steps 5-6 with ZIEWEB folder.

g. Obtain the IP address of the ZIEWEB server and use it at step 2 below.

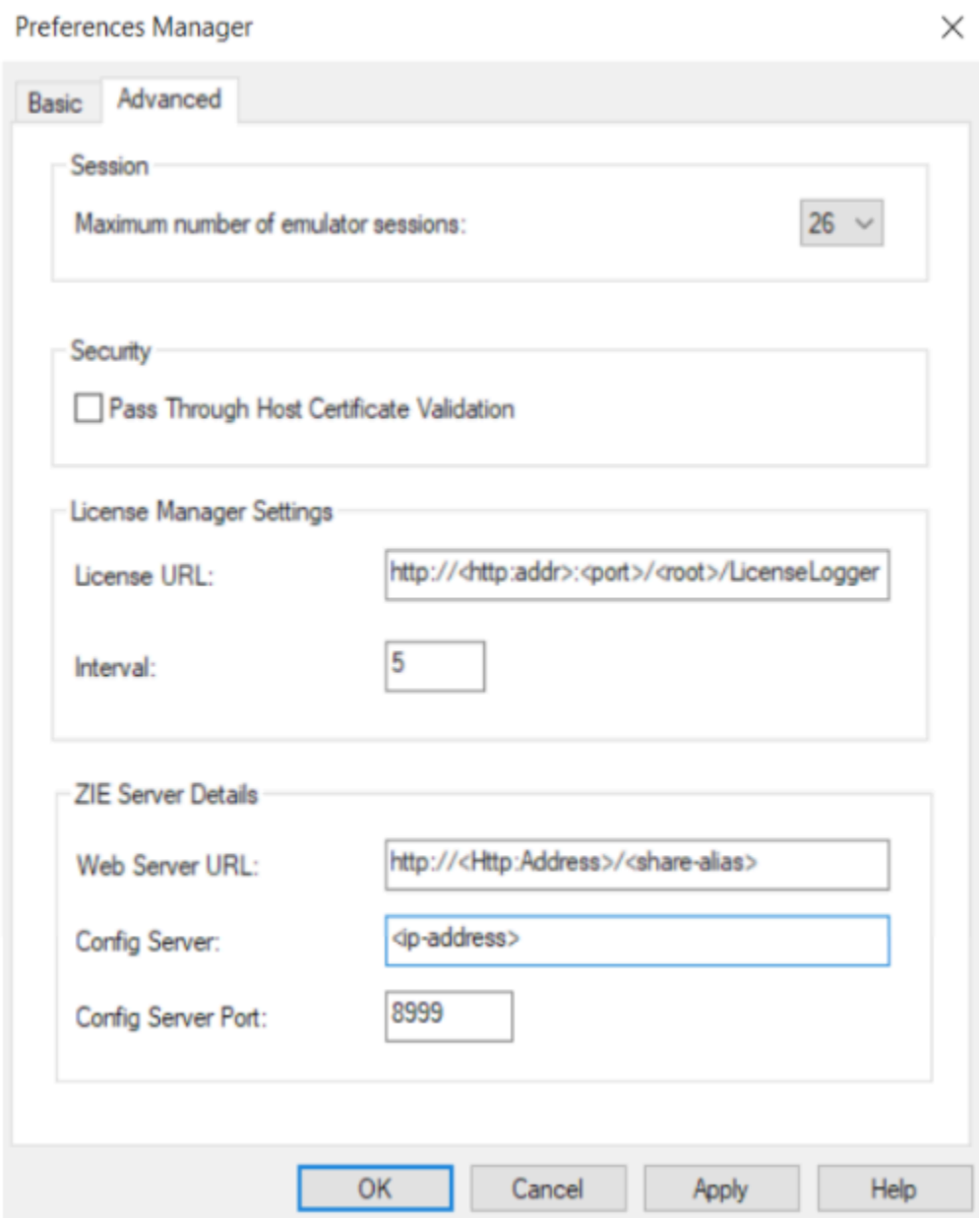
Follow the steps below in setting up Managed HCL Z and I Emulator for Windows (ZIEWIN):

There are two ways to input the ZIE Server configuration details. Choosing to go either way will have the same results.

- During the ZIEWIN installation a new panel has been added.



- Preferences Manager - Click on Start > HCL Z and I Emulator for Windows > Preferences > Advanced



a. Enter the configuration parameters based on the information below:
   - **Web Server URL** : The URL of the Web Server from where HCL Z and I Emulator for Windows fix pack file will be downloaded for installation. Installer or fix pack will be installed on the system by "Start or Configure Sessions - Online" program.>
   - **Config Server** : URL of the Application Server/Embedded Server, on which interoperability module (.war file) is deployed. It can be deployed on the HOD Embedded Server or on any configured Application Server.

     Example: http://< Application Server IP >/<Configured context root of the application>

     For more details on WAR file deployment, refer to the technote <hyper-link>.

- **Config Server Port** : Port number of Application Server where interoperability module (.war file) is deployed.

  Example: 9080

b. Click **OK**.

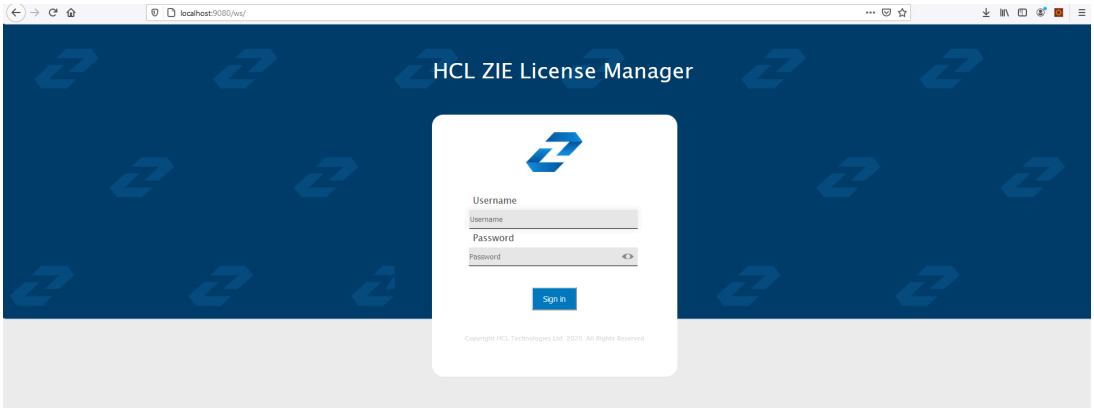
c. *Open File Explorer > This PC > Map network drive.* Use the IP address of the Web Server along with the folder where the HCL Z and I Emulator for Windows RP1.msi is located. E.g. \ \192.168.56.102\MPZiewin

d. Click **Save**.

e. Repeat steps 4-5 with ZIEWEB folder. E.g. \\192.168.56.102\ZIEWEB

Note: This completes configuring Managed HCL Z and I Emulator for Windows (ZIEWIN).

f. To validate that the configuration is correct, create a new Username or use an Existing User in the Session Manager Online. *Click on Start > HCL Z and I Emulator for Windows > Start or Configure sessions - Online*



Points to consider:

- When mapping the network drive ensure that client machine and ZIEWEB server is within the same network.
- The Session Manager Online checks for updates at startup. It is essential that HCL Z and I Emulator for Windows RP1 is in the ZIEWEB published directory.

Utilities

Z and I Emulator for Windows provides the following utilities:

32-bit ODBC Administrator

Allows you to add, configure, or delete an ODBC data source.

Scratch Pad

The Scratch Pad is a lightweight text editor with the capability of normal edit operations, such as cut, copy and paste.

Note that Scratch Pad requires .NET Framework 3.5 or lower versions installed. The menu item is grayed out in Windows 8 or 8.1 as .NET Framework 3.5 is not available by default on these operating systems. Install .NET Framework 3.5 to resolve the problem.

Multiple Sessions

Provides the capability to run multiple host sessions using a single icon.

ZipPrint

Allows you to print PROFS® notes, calendars, CMS files, XEDIT workspaces, and 3270 session screens.

Convert Macro

Allows an existing Z and I Emulator for Windows Macro file to be converted to an XML or VBScript file.

Data Transfer

Transfers data from the iSeries™, eServer™ i5, or System i5™ to your workstation, or from your workstation to the iSeries™, eServer™ i5, or System i5™ (record-level data transfer).

iSeries Connection Configuration

Define connections to each iSeries™, eServer™ i5, or System i5™ host that will use the data transfer function.

Preferences

Configuration of certain advanced parameters.

PcsSound

The PcsSound utility, available under the product installation directory, allows you to:

- Assign labels to sound events.
- Associate sound files to sound events.
- Cleanup sound labels from the registry.
- Save the current sound scheme to a file.
- Restore a saved sound scheme.

Note: Saving and restoring a sound scheme will be useful while changing Windows themes.

32-Bit ODBC Administrator

ODBC is a programming interface that enables applications to access data in database management systems that use Structured Query Language (SQL) as a data access standard.

Use the following steps to set up the Z and I Emulator for Windows ODBC data source:

1. Select the **32-bit ODBC Administrator** icon from the Windows® Control Panel. The Data Sources window appears.
2. Select IBM® DB2® ODBC Driver data source in the Data Sources (Drivers) list. Then click **Finish**.
3. Click **Add Database**. The Z and I Emulator for Windows Add Database SmartGuide appears to prompt you through the set up.
4. Select the **Manually Configure a Connection to a DB2® Database** radio button.
5. Specify the information to set up the data source, by clicking **Next**.
6. When you are finished specifying the information, click **Done**.
7. You will be prompted to test the connection. To test the connection, click **OK**.

Note:

1. Z and I Emulator for Windows uses ODBC 32-bit drivers. Applications, such as Lotus® 1-2-3® included in the Lotus® SmartSuite® 96 package, require a 16-bit driver and will not work with Z and I Emulator for Windows. You should see your product vendor for a version that utilizes 32-bit ODBC drivers (Lotus 1-2-3® included in Lotus® SmartSuite® 97 for example).

Multiple Sessions

The Z and I Emulator for Windows Multiple Sessions Batch Program enables you to start several host sessions by clicking a single icon; the necessary commands are specified in a batch file (.BCH). You can include in a batch file other programs, which may communicate with a host session using the DDE or EHLLAPI interface.

ZipPrint

ZipPrint is a 3270 utility that enables you to print PROFS® notes, calendars, OV documents, CMS files, XEDIT workspaces, and 3270 session screens. By default, it uses the Windows® printer currently set up for the host session, but you can change it if you wish.

You do not have to install ZipPrint—you just start it. It adds itself to the menu bar of the sessions for which you define it, so you can use it in the same way as any other menu bar function. You must start ZipPrint before you start a session in which you want to use it.

ZipPrint needs the DDE/EHLLAPI, so you must make sure that this is enabled for the sessions for which you want to use ZipPrint. (It is enabled by default, but you should check that it has not been turned off.)

For more information about ZipPrint, see ZipPrint (3270 Only) on page 59.

File Transfer Considerations

ZipPrint uses the Z and I Emulator for Windows file transfer function to print VM/CMS notes and files. In order for this function to work correctly, you should use the VM/CMS host type for 3270 file transfer.

In the emulator session window, click **Settings → Transfer**. On the **File Transfer Settings → General** tab, select **VM/CMS** from the **Host Type** drop-down list.

On slow communications lines, if you are using a large packet or block size, you may experience a file transfer timeout. If you do, you should increase the timeout delay. To change the timeout delay, do the following:

1. From the session menu, click **Settings → Transfer**.
2. On the **General** tab, change the **File Transfer Timeout** to 150 seconds.

Convert Macro

The Convert Macro utility enables you to convert an existing Z and I Emulator for Windows Macro file to XML or a VBScript file.

Note: Macros that are converted to XML are intended for use in ZIEWeb (Z and I Emulator for Web) and will not function in Z and I Emulator for Windows emulation sessions. Use the ZIEWeb Macro Manager to import a converted Z and I Emulator for Windows macro into ZIEWeb. These converted macros will not appear in the list of available Z and I Emulator for Windows macros.

To use the conversion utility, click **HCL Z and I Emulator for Windows → Utilities → Convert Macro**.

To convert an existing macro to XML or a VBScript, do the following:

1. Select the name of an existing macro to be converted.

   Note: The macro must exist in the application data directory specified during installation.

2. Select **VBScript** or **XML** as the type of macro to which to convert.
3. Click **Convert**.
4. Enter a name for the new XML file or VBScript or accept the generated name. The extension will be added automatically.

   Note: When saving a converted XML macro you can choose where you would like to save it. You should not change the location of the converted VBScript macros.

5. Click **Save**.
6. Repeat the procedure to convert another macro, or click **Close** to end the application.

Data Transfer

Z and I Emulator for Windows Data Transfer enables you to transfer data between an iSeries™ system and your workstation. To use the Data Transfer function, select the **Data Transfer** icon.

Transferring data is quite different from transferring files, which is described in Transferring Files on page 66.

Requirements

Before you can transfer data with Z and I Emulator for Windows:

- IBM® PC Support/400 (5738-PC1) must be installed on your iSeries™, eServer™ i5, or System i5™, unless OS/400® Version 3 (or later) or i5/OS™ is installed.

There are two types of data transfer, depending on the direction of the transfer.

Data sending

Data is transferred from your workstation to the iSeries™, eServer™ i5, or System i5™.You can transfer data to any of the following destinations:

- Existing members in an existing iSeries™, eServer™ i5, or System i5™ physical file
- New members in an existing iSeries™, eServer™ i5, or System i5™ physical file
- New members in a new iSeries™, eServer™ i5, or System i5™ physical file

Note: You cannot transfer data from a workstation file to an iSeries™, eServer™ i5, or System i5™ logical file.

Data receiving

Data is transferred from the iSeries™, eServer™ i5, or System i5™ to your workstation.

While receiving data from the host, you can specify the data to be received and where the data is to be output.

Receivable data includes:

- An entire iSeries™, eServer™ i5, or System i5™ file
- Part of an iSeries™, eServer™ i5, or System i5™ file
- Data combined from several iSeries™, eServer™ i5, or System i5™ files
- Summary of record groups

Specify the following output destinations:

- Display
- Disk
- Printer

Also, you can specify the numeric value format.

For more information about data transfer, refer to *Emulator User's Reference*.

iSeries Connection Configuration Utility

The iSeries™ Connection Configuration Utility is used to define connections to each iSeries™, eServer™ i5, or System i5™ host that will use the data transfer function. The connection definitions are saved in an .NDC file in ASCII format.

You can use this utility for TCP/IP connections.

For more information on Data Transfer see Data Transfer on page 99.

To use the utility, click **Start → Programs → HCL Z and I Emulator for Windows → Utilities → iSeries Connection Configuration**; the resulting iSeries™, eServer™ i5, or System i5™ configuration screen has the following options:

Show IP Host Connections

Click this button to display and configure IP connections to the iSeries™, eServer™ i5, or System i5™ host.

Add

Click the type of connection and then click **Add**. Enter the **Host name** and **Alias** in the resulting dialog box.

Modify

Select a host name from the connection list, and then click **Modify** to edit the **Host name** and the **Alias** in the .NDC file.

Remove

Select a host name from the connection list, and click **Remove** to delete this connection definition from the .NDC file.

Note: When disabling a connection, if you want to preserve the connection definition but disable the connection, clear the checkbox next to the name in the connection list.

Global Parameters

Click this button to edit the **Extension list** and **Cache size**.

Extension List

The extension list parameter specifies the extension of a file on an iSeries™, eServer™ i5, or System i5™. You can specify more than one extension parameter in the extension list. The code pages of files with the specified extensions are translated from the EBCDIC code page to the ASCII code page when the file is transferred between the iSeries™, eServer™ i5, or System i5™ and the client. Up to three characters are allowed. There are two special cases:

- A dot alone (`.`) indicates that data for files having no extension should be converted.
- The character pair `.*` indicates that data for all files should be converted.

Cache Size

The cache size parameter specifies the number of kilobytes of iSeries™, eServer™ i5, or System i5™ data that is buffered in the read-ahead cache of the client. The default is 256 KB; the maximum is 4 MB. A value of zero requests that no cache be used. iSeries™, eServer™ i5, or System i5™ data can be retrieved in amounts that are first cached locally on the client. The client retrieves the data from the cache to populate the local device. This read-ahead caching reduces the number of times the client has to access the iSeries™, eServer™ i5, or System i5™ to retrieve the data.

Preferences

The Preferences utility provides a method for changing configuration and setup items.

Note:

1. Preferences set with the Preferences Utility pertain to you whenever you log on to the same user ID on the affected workstation; they apply to all of your sessions while you are logged on.
2. Preferences set using the session **Edit** menu apply to all sessions controlled by the workstation profile created or changed while using a session—when that session profile is used again, the preferences are applicable, regardless of the user ID at the time.
3. One of the capabilities of the Preferences Utility is to allow specification of a directory to be used for storing your profiles; this allows full control of your environment.

To access the Preferences Utility, click **Programs -> HCL Z and I Emulator for Windows -> Utilities -> Preferences** from the Windows **Start** menu. Select the **Basic** tab to change the preferences and select **Advanced** tab to change the maximum number of emulator sessions and pass through host certification validation.

Basic

Emulator Profile File Location

If the All User application data directory location was selected during installation of Z and I Emulator for Windows, you can specify the default location of workstation profiles.

Macro/Script Location

You can specify where emulator macro and script files are to be placed. This directory will be common to all sessions.

By default, macros are placed in the application data directory specified during the installation of Z and I Emulator for Windows, and the macro/script location field value is blank.

User Interface Language

You can view the language of the installed package by selecting **Help > About Z and I Emulator for Windows** from the session menu bar.

If your system was installed with multiple-language support, the **Basic** property page shows a section labeled **Select a default user interface language**. If you click on the radio button for **Z and I Emulator for Windows User Interface Language Preference**, it also shows a drop-down list box, with the language selected that is currently being used; you can select any other language from the list, and that language will be used for the user interface when you subsequently restart Z and I Emulator for Windows. Or you can click the radio button **User Default from Regional Settings** if you want the language to be that specified in the Windows® settings. You can also click the radio button **Post a Language Selection Dialog for each process**; this results in a pop-up dialog each time you start a new application from the Z and I Emulator for Windows group of programs.

Note: You might receive a warning message, if the selected language is incompatible with your system's current code page. You can ignore this, if you are planning to reboot your computer to select a new system locale with a compatible code page.

Advanced

Maximum number of emulator sessions

Specify the maximum number of Telnet emulator sessions. It can be either 26 or 52 sessions. Default is 26 sessions.

Pass Through Host Certificate Validation

Choose whether to enable or disable the default certificate validation process during SSL/TLS handshake. Default is enable the certification validation. Applicable only for Microsoft schannel provider.

Note: By default, schannel (MSCAPI) is responsible for validating the host certificate chain received during SSL/TLS handshake. Schannel runs several checks on the received certificate chain, one of which verifies that the signature affixed to the certificate is valid. The hash value computed on the certificate contents must match the value that results from decrypting the signature field using the public component of the issuer. To perform this operation, the user must own the public component of the issuer, either through some integrity-assured channel or by extracting it from another (validated) certificate. The default certificate validation process is exhaustive and runs several checks on the host certificate chain to successfully validate it. Enable this option, the user must effectively suppress the default validation done by schannel and the identity of the host would not be verified. As we are skipping the host certificate validation, the status bar is updated with the following message: “Skip the certificate validation since pass-through host certificate validation option is enabled.” Using this option is not recommended.

When the Host certificate is not added to the trusted root and “Pass-Through Host Certificate Validation” is enabled, a pop-up is displayed. Users can suppress this pop-up by adding the

"SuppressPassThroughPopup=Y" keyword under the "[Security]" section in the pcswin.ini file. By default, SuppressPassThroughPopup is disabled.

Configuration of License Manager settings

The License Manager settings can either be configured by providing the required server details in the 'InstallShield Wizard' at the time of ZIEWin installation itself, or can be added/updated in the 'License Manager Settings' section of the Advanced tab within the Preferences.

License Manager settings

- **License URL :**

  Specifies the HTTP URL of the License Manager Server to which the HCL Z and I Emulator for Windows session sends the license parameters. It is mandatory to configure this field to use the product. If this field is not configured the emulator session initiation will be aborted.

  For Example:

  http://<appserver-address>:<port-num>/<context-root>/LicenseLogger

  where,
  - <*appserver-address*> is the hostname or IP address of the server on which the License Manager is installed,
  - <*port-num*> is the port that is specified during the deployment of the application server and,
  - <*context-root*> is the location name that can be configured by the Administrator.
- **Interval :**

  Specifies the time period in minutes, after which the HCL Z and I Emulator for Windows session sends the license parameters. It is the request interval after which the server marks the client as timeout if the request is not sent. The minimum value is 5 minutes (which is the default), and the maximum value is 30 minutes.

  Note: The License Manager Settings set using the *'Preferences'* utility takes precedence over the values set during installation. If the installation is custom 'User Installation' where the application data location is *%appdata%* in the User directory, the values set in the 'Preferences' utility is applicable only for the current user.

1. **Configure the License Manager Settings during the GUI installation of ZIEWin**

   The *'License Manager URL'* and *'Interval'* fields can be set during installation, in the 'License Manager Server Details' panel. Users may skip the License Manager configuration at installation time and choose to configure it after installation using the 'Preferences' utility.

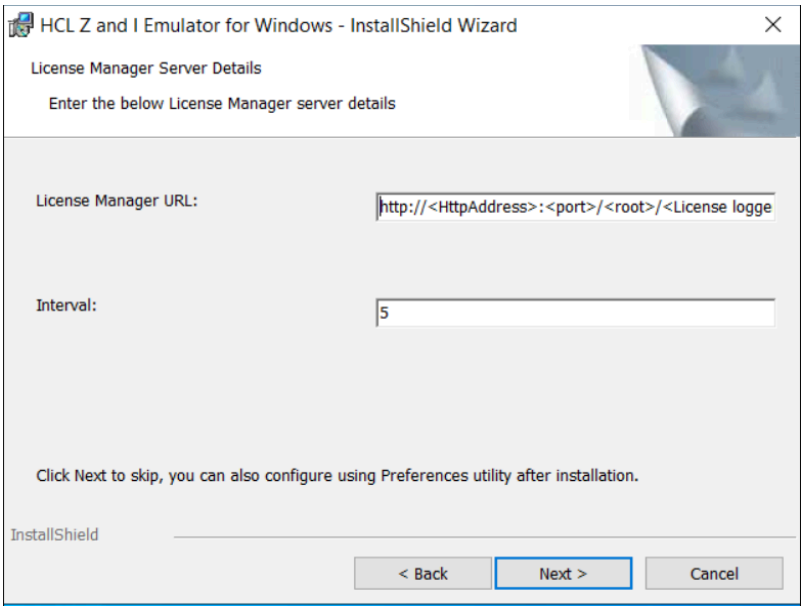


Figure : License Manager Settings section in the 'Preferences Manager' panel ZIEWin.

2. **Configure the License Manager Settings using "Preferences" utility**

   The *'License URL'* and *'Interval'* fields can be set using the 'Preferences' utility, by entering values to the respective fields under the 'License Manager Settings' in the 'Advanced' tab.

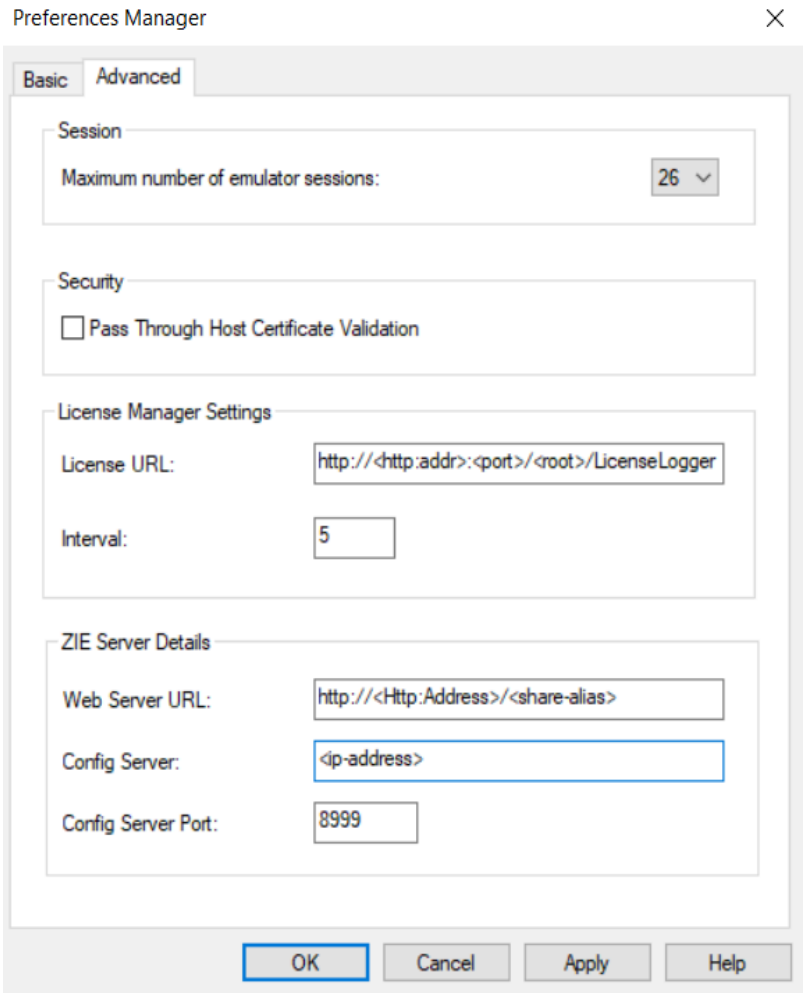


Figure : License Manager Settings section in the 'Preferences Manager' panel ZIEWin.

ZIE Server Details

Configuration of ZIE Server details

The ZIE Server can either be configured by providing the required server details in the 'InstallShield Wizard' at the time of ZIEWin installation itself, or can be added/updated in the 'ZIE Server Detail' section of the Advanced tab within the Preferences.

- **Web Server Details:** The URL of the Web Server from where Z and I Emulator for Windows installer or fix pack file will be downloaded for installation. Z and I Emulator for Windows prompts the user with a Pop-Up message for an Auto-Upgrade, if a newer version of ZIEWin is available on the Web Server. Upon receiving a confirmation from the user to upgrade, the latest version of installer or fix pack will be installed on the system by Z and I Emulator for Windows Session Manager ONLINE.
- **Config Server:** URL of the Application Server/Embedded Server, on which interoperability module (.war file) is deployed. It can be deployed on the Embedded Server or on any configured Application Server.

Example: http://< IP >/<Configured context root of the application>

For more information on ZIEWeb - ZIEWin interoperability and common parameters, refer to Interoperability between HCL Z and I Emulator for Windows and HCL Z and I Emulator for Web Clients on page 13

- **Config Server Port:** Port number of Application Server where interoperability module (.war file) is deployed. Example: 9080.

1. **Configure the ZIE Server Settings during the GUI installation of ZIEWIN**

   During the installation in the “ZIE Server Details” install panel user can configure the “Web Server URL”, “Config Server” and “Config Server Port” fields. User may skip configuration during the installation and can configure using “Preferences” utility after installation.

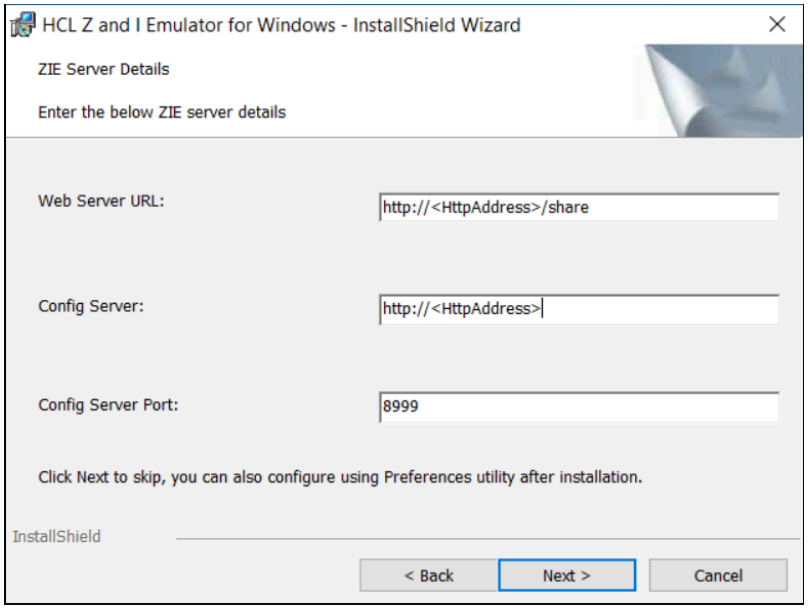


Figure : ZIE Server Details section in the ‘InstallShield Wizard' of ZIEWin.

2. **Configure the ZIE Server Settings using “Preferences” utility**

   In the “Preferences” utility, go to “Advanced” tab to find the section “ZIE Server Details”, user can configure the fields “Web Server URL”, “Config Server” and “Config Server Port” here. Please refer to the figure below.

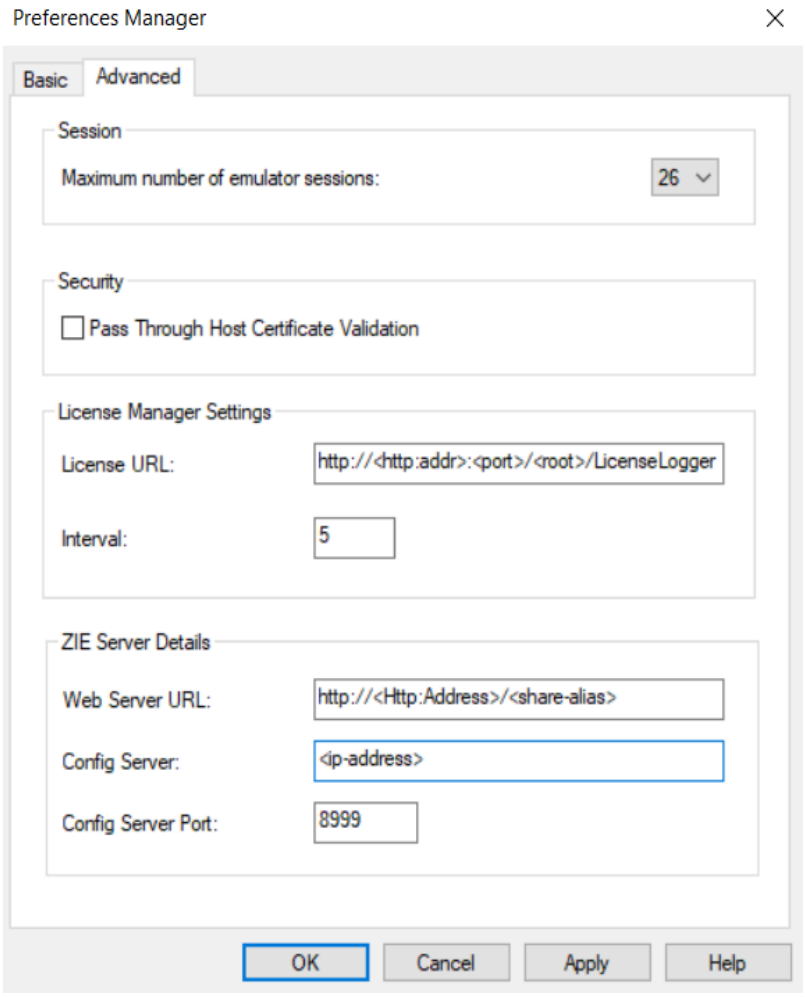


Figure : License Manager Server and ZIE Server Details section within the Advanced tab of Preferences utility in ZIEWin.

Standby/Hibernate

Choose whether to prompt for acceptance when the system attempts to go to standby or hibernate (power saving) mode. If you select **Standby/Hibernate without prompting**, Z and I Emulator for Windows allows the system to standby or hibernate without prompting you, even if sessions are connected. By default, this option is clear.

See Power Management on page 51 for more information.

Z and I Emulator for Windows FTP client

The Z and I Emulator for Windows FTP client implements the client functionality specified by File Transfer Protocol (FTP), which is the standard protocol for transferring files to and from remote machines running FTP servers. The FTP client enables file and directory upload and download, and directory navigation of remote and local file systems.

The Z and I Emulator for Windows FTP client supports the following servers:

- UNIX
- iSeries (AS/400)
- Windows
- z/OS MVS
- VMS

The following limitations apply:

- Secure connections (SSL/TLS) are not supported.
- The local file list does not support listing multiple local or LAN-attached drives.

  To view files on a different drive, type the drive letter of the drive you would like to view in the Directory field and click Enter. The new drive is displayed in the local file list.
- Code page conversion for files is not supported.
- Directory transfer is not supported on systems that do not have directory structures similar to Windows and UNIX. Such systems include the following:
  - VM
  - OS/390 or z/OS MVS services
  - OpenVMS
  - i5/OS and OS/400 Library File System

Command Line FTP

The command line FTP is used to achieve the FTP functionality over the command line. It is used to transfer files using FTP to and from a host with a UNIX file system, using pcsftpcmd.exe. It can be invoked from the command line using a set of parameters and switches. The functions supported by the executable are:

- Download a file
- Upload a file
- Delete a file (host side)
- Create a new directory (host side)

The necessary arguments for invoking the executable are:

hostname

This is the first argument and you need to specify the FTP server host name to which you want to connect.

username / password

These are the second and third arguments, which specify the user credentials to access the given host.

operation

In this argument you can specify the operation that needs to be performed. Possible operations are:

- **/d** - This switch is used for downloading a file from the host to the client system. This switch should be followed by the local directory where the file needs to be downloaded, a space and the complete path of the host file along with the name of the file that needs to be downloaded.
- **/u** - This switch is used for uploading a file from the client system to the host server. This switch should be followed by the complete path of the local directory along with the name of the file that needs to be uploaded, a space and the host directory where the file needs to be uploaded.
- **/FILE** - This switch is used to specify that a set of FTP commands are contained in a separate file and needs to be executed. This switch is followed by the complete path and the name of the file that contains the batch commands.
- **MKDR** - This switch is used to create a new Directory at the host. This is followed by the name of the directory to be created.
- **DELE** - This switch is used to delete a file from the host. This switch is followed by the complete path along with the name of the file to be deleted.

The transfer mode is set to AUTOMATIC, that is, the executable automatically checks to see if the extension of the file to be transferred is one of .log, .ini, .txt, .bat, .inf, in which case the mode is set to ASCII. For everything else it is set to BINARY mode.

Use one of the following switches to invoke help:

- -?
- /?
- -HELP

The issue here is that the password would be in plain text, which would be a security concern which can be overcome by requesting the customer to explicitly enter the password when the connection is being made.

The initial command line FTP being developed would entertain non-secure connections alone and would not support secure connections. The command line FTP currently under development would support only Windows/Unix style file systems. Other file systems would be supported in future releases.

If the user does not want to give the password in plain text along with the other parameters, a - can be entered in the password field, and then run the command which asks for the user to input the password dynamically.

The command line FTP is currently available only in English language.

Messages

Online messages are displayed during Z and I Emulator for Windows sessions, but a message does not always mean an error occurred. For example, a message might tell you that an operation is in progress or has been completed. A message can also prompt you to wait for the completion of an operation.

Press F1 to display help for the messages that appear.

Security-Related Messages

Z and I Emulator for Windows optionally utilizes Transport Layer Security (TLS) or Secure Sockets Layer (SSL) to establish sessions with servers; this might require input from you (for example, a password). Refer to *Administrator's Guide and Reference* for details.

Functions Restricted by System Policies

If your workstation is centrally administered, you may be shown a warning or pop-up error message whenever you attempt to use certain restricted functions. For example, if your ability to remap the keyboard is restricted, a message would be displayed when you select **Keyboard** from the **Settings** menu.

Contact your system administrator for further guidance. For further information about the systems policies provided with Z and I Emulator for Windows, refer to *Administrator's Guide and Reference*.

System Error Messages

If a page fault or similar system error message appears in a pop-up window, you can copy its contents into the Windows® clipboard. Use the following procedure:

1. Click **Details Command** on the pop-up window.
2. Mark the text that you want to copy.
3. Right click the marked text and then click **Copy**.
4. Start an editor, such as Notepad, and click **Edit → Paste**.
5. Save the file in case an HCL service representative needs this information to diagnose your problem.

OIA Messages

Z and I Emulator for Windows displays messages in the operator information area (OIA) or in a pop-up window. Messages from Z and I Emulator for Windows are displayed in the message window; messages from the host system are displayed in the OIA of the session window.

The bottom line of the session window is the OIA. The OIA indicator indicates the status of Z and I Emulator for Windows and information about the workstation, host system, and attachment method.

All of the OIA indicators, reminders, and messages are described in the online help.

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