

IBM z10 Enterprise Server Overview

First you must recognize that IBM's enterprise servers (System z and referred to as a mainframe), similar to a PC, Mac or any computer, must have an operating system. For the System z it is z/OS—however, the System z also supports UNIX and Linux. IBM's mainframe (z Series z10 in our case) has evolved over a long period of time.

The IBM mainframe OS was first created in the 60s so it certainly has a long history. IBM has continued to invest heavily in evolution of the System z with continued development of many improvements, capabilities and a GUI interface, Rational Developer for z (RDz). The initial mainframe systems used a character based interface. However, menu systems were added to the mainframe OS over the years to make it easier to use and later a GUI interface has been added.

Faculty and students can use our z10 for any of the following for teaching and research purposes. The list of software includes the following:

- z/OS
 - MVS (Multiple Virtual Storage
 - z/VM (a Virtual Memory hypervisor)
 - TSO (Time Sharing Option)
- RDz (Rational Developer for z)
- Linux
- DB2
- CICS
- Programming languages C, C++, Cobol, Java
- Job Control Language (JCL)
- System Oriented Architecture (SOA) Web Services

Thus, it is important to recognize that the IBM z Series with its Parallel Sysplex and Geographical Dispersed Parallel Sysplex (GDPS) capability make it one of the most reliable, accessible and scalable computers in the world. More than 60% of corporate data is housed on Systems z computers.

IBM Mainframe - Logging in and getting started

For users outside the Walton College domain, once you receive your University of Arkansas account, access will be via remote desktop connection. Remote access documentation is at the following link: <u>http://enterprise.waltoncollege.uark.edu/Remote_Desktop_IBM_GW.pdf</u>

We encourage using RDz but will provide a short overview of QWS3270 Secure first. As shown below, you should see a QWS3270 Secure icon on the computer screen (or you may access from the Start menu) that will be used for interactively accessing the mainframe. RDz also has arrows to it remote terminal screen shot. QWS3270 secure is 3270 emulation program—note that there are other excellent 3270 emulation programs. It has a lot of useful features such as allowing you to upload and download files. Click the QWS 3270 Secure icon (or under Start, select All Programs, QWS 3270 Secure, and then click on QWS 3270 Secure) to invoke the program and you should get the following screen.

IBM Rational Developer IBM SPSS Modeler 14.2 Mozilla Firefox	
IBM SPSS Modeler 14.2	
Internet Explorer	David Douglas
Notepad	Documents
32-bit ODBC Administrator	Computer
IBM Rational Developer for System	Network
QW53270 Secure	Control Panel
	Devices and Printers
$\langle \rangle$	Administrative Tools
	Help and Support
	Run
All Programs	Windows Security
Search programs and files	Log off
🎢 Start 🍇 🖉 🚞 📀	

If this if the first time you accesses the remote terminal server, you will need to run the New Session Wizard; the New Session Wizard should automatically start if no sessions have been defined. You can use this wizard to add a session by clicking QWS3270 in the upper left and selecting New Session Wizard. The first screen of the New Session Wizard is informational only and shown below.



Click the Next button and enter the IP address as shown. Then click the Next button.

New Session Wizard	×
The 'host name' is the unique name by which a computer is identify the host on the network. (e.g.: mainframe.computer.	known on a network. It is used to com)
Please enter the host name of the computer you would like to connect to in the space provided:	130.184.26.148
As an alternative, you can use an IP (Internet Protocol) address to identify a host. An IP address is a unique numeric address that is given to computers on a network. (e.g.: 192.168.168.192)	· · ·
< Bac	k Next > Cancel

The next screen allows the user to select a port number—23 is the correct port for our z10.

New Session Wizard	×				
A port number is the method used to identify the specific process to which an Internet or other network connection should be directed when it arrives at a server.					
The default port for TN3270 connections is 23. If you are unsure of the port number, use the default.					
Select a port number:					
< Back Next > Cancel					

Click the Next button which allows the user to select the 3270 screen size—accept the default and click the Next button.

New Session Wiza	rd	×			
The display size refers to the size of your 3270 screen in rows and columns. The display size is only a request to the host system. It may not be the size used by the mainframe applications.					
Choose your preferred display size from one of the 3270 size options:					
🖲 24 x 80	○ 43 x 80				
C 32 x 80	C 27 x 132				
	< Back Next > Cancel				

The final screen in the wizard allows the user to enter a descriptive name for the session—z10 is used in this example. Click the Next button and then the Finish button.

New Session Wizard	X
The session name will be used to identify thi name is unique and easy to remember. A go which you are connecting.	is mainframe connection. It is important that the bod name will reflect information about the host to
Specify a name for your new session:	z1Q
	< Back Next > Cancel

You should be returned to the Connect screen—verify the Host IP address is correct.

Connect ? >	
Session Name: z10	
New Delete Rename Edit Save As	
Session Settings	
Host Name: 130.184.26.148 Port: 23	
Term. Type: IBM-3278-2-E	
LU Name:	
Script File:	
HLLAPI Session ID: None	
Start session in new window Connect Cancel Help	

Click the Edit button and then click the Security entry in Connection tree as shown below. Uncheck the Enable Secure Connection and then click the OK button.

Session Options for 'z10'	Security
Entry As to Display	SSL/TLS Protocol Version SSLv3 O TLSv1 O SSLv2 O Auto Select
Colours Coursor Hotspots Hotspots Copy/Paste Miscellaneous Copy/Paste Custom Toolbar Printer Environment	Cipher Options
	Server Certificate Options: Image: Accept Expired Certificate Image: Accept Certificate Not Yet Valid Image: Accept Certificate Not Yet Valid
	Use Client Certificate Client Certificate Select
	OK Cancel Apply

Clicking the OK button above should return you to the Connect screen.

Connect ? 🗙
Session Name: 210
New Delete Rename Edit Save As
Session Settings
Host Name: 130.184.26.148 Port: 23
Term, Type: IBM-3278-2-E
LU Name:
Script File:
HLLAPI Session ID: None
Start session in new window
Connect Cancel Help

You are now ready to connect; thus, click the Connect button and you will be taken to a z/OS logon screen as shown below.



Note the possibilities—you can logon to TSO by entering L TSO and pressing the Enter key. You can also logon to CICS version 4.1 by entering L CICSTS41—note that this version has replaced CICS version 3.2. Enter L TSO and press the Enter key to see the following screen.



This is where you enter your user Userid provided to you by the University of Arkansas. Enter your Userid and then press enter. You should then see the following screen.

Note a couple of entries on the screen. First, in the upper right, you see RACF logon parameters. RACF (Resource Allocation Control Facility) is considered by many to be the most secure system in the world. To date, there has never been a confirmed virus on an IBM mainframe.

Note that passwords are limited to *8 characters*. The first time you logon, you will be asked to enter a new password. This takes two steps—enter the password and press the Enter key. A message will appear at the top on the screen asking you to re-enter the password. After reentering, press the Enter key.

<mark>P</mark> z10	
QW53270 Edit View Options Tools Help	
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TSO/E LOGO	N
Enter LOGON parameters below:	RACF LOGON parameters:
Userid ===> UOAS360	
Password ===> _	New Password ===>
Procedure ===> DBSPROC9	Group Ident ===>
Acct Nmbr ===> ACCT#	
Size ===> 32768	
Perform ===>	
Command ===>	
Enter an 'S' before each option desired -Nomail -Nonotice	below: -Reconnect -OIDcard
PF1/PF13 ==> Help PF3/PF15 ==> Logoff You may request specific help information 1	PA1 ==> Attention PA2 ==> Reshow by entering a '?' in any entry field
Connected to 130.184.26.148 port 23 8/20) NUM x Prot 08:36:44 IBM-3278-2-E - TCP00076 //

After entering your password and pressing the enter key, the following window opens.

🧧 z10				
QWS3270 Edit View Options Tools Help				
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* WALTON COLL	EGE OF BUS	INESS		*
* ENTERPRISE	SYSTEMS PP	OGRAM		*
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*	AL * * * * * * * * * *	CD.2112.	CLIST(ISP.	FCL) *
READY				
Connected to 120, 194, 26, 149, part 22	10/1	bil 264	00.43	24 IPM 2278 2 E TCD00076
A Connected to 150,184,26,148 port 23	19/1	NOM	08:42	36 JIDM-3270-2-E - TCPUUU76

Enter ISPF and press the Enter key.

B z10				
QWS3270 Edit View Options Tools Help				
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ICH70001I UOAS360 LAST ACCESS AT 14 IKJ56455I UOAS360 LOGON IN PROGRESS IKJ56951I NO BROADCAST MESSAGES	1:26:44 ON AT 08:48:5	TUESDAY, 51 ON DECE	DECEMBE MBER 28	ER 27, 2011 3, 2011
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* ENTERPRISE SYST	TEMS PROGRA	A.M.		*
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*	ancn :	7112 CL.TST	TSPRCI	
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READY				
ISPF				
Connected to 130.184.26.148 port 23	19/5	NUM	08:43:15	IBM-3278-2-E - TCP00076 //

At this stage you can continue using ISPF (<u>http://enterprise.waltoncollege.uark.edu/ISPF.pdf</u>) or you can press the F3 key until you return to a Ready prompt and Enter Log Off and use RDz (<u>http://enterprise.waltoncollege.uark.edu/Intro To Rdz.pdf</u>) by clicking on the RDz icon on the IBM terminal server.