

Introduction to z/OS (1 Day)

DESCRIPTION: Students who complete this course will be able to describe the characteristics of modern IBM mainframes, including general hardware components and concepts and terminology used in z/OS, the IBM 64-bit mainframe operating system.

PREREQUISITES: Technical background in computers.

AUDIENCE: Technical people with MVS or OS/390 backgrounds who need a quick update on changes introduced by zArchitecture hardware and z/OS software. Or technical people with non-IBM-mainframe backgrounds who need a quick introduction to modern IBM mainframe terminology and capabilities. This includes a brief look at the zEnterprise EC12 (zEC12 for short) series and the zBX BladeCenter Extension.

COURSE OBJECTIVES:

On successful completion of this course, the student should be able to:

1. Describe the concepts underlying IBM zSeries computer systems in general (hardware: processors, memory, tape, disk, devices in general; software: operating systems, application environment, application programs)
2. Correctly use terms related to mainframe computer systems: such as data set / file, fields, records, data set organization
3. Understand terms specifically related to z/OS, such as DDname, data set name, PDS, PDSE, VSAM, label, VTOC, directory, catalog, TSO, ISPF, JCL
4. Describe the role SMS (System Managed Storage) plays in z/OS
5. Describe the roles played in application development of CLIST, REXX, JCL, and TSO/ISPF
6. Describe the role of Unicode in the mainframe world, and the support for Unicode provided in z/OS
7. Describe capabilities of the latest compilers from IBM for COBOL, PL/I, and C as well as the Assembler, the binder, and Language Environment
8. Describe the capabilities of DB2, in broad, general terms, and understand the salient features of the latest version of DB2
9. Compare and contrast the two major transaction processing environments: CICS/TS and IMS, and the role of MQSeries
10. Describe the facilities available under z/OS for running UNIX applications, including hosting a web server and email
11. Send text messages to a cell phone and / or emails to the Internet from a batch job, (providing their system is configured to do so).

Course Outline

z/Architecture - A hardware overview

- zSeries
- CPC - Central Processor Complex
- I/O Channels
- PR/SM, LPARs, and Sysplex
- zBX
- Tapes and Disk

z/OS - A software overview

- Large numbers
- The Road to z/OS

z/OS Workloads

- Capacity utilization
- Workload manager
- z/OS Workloads
- Tuning

z/OS Fundamentals

- Data management terms
- Data organizations
- Sequential data set
- VTOC
- Partitioned Data Set (PDS)
- Catalog
- PDSE
- The UNIX File model: the Hierarchical File System (HFS)
- Batch
- JCL
- TSO/ISPF
- CLIST and REXX
- Dialog manager
- SMS - System Managed Storage

Unicode

- What is Unicode?
- z/OS support for Unicode

DB2 - IBM's Premier relational data base

- The Basics
- Indexes
- DB2 Architecture
- Embedded SQL
- Components
- DB2 UDB

Transaction monitors

- CICS/TS

IMS
The role of MQSeries

Languages

Common threads
Language Environment (LE)
Assembler
Enterprise COBOL
Enterprise PL/I
C/C++
The program binder

z/OS and UNIX System Services

TSO User ID
Profiles
UNIX User ID
z/OS UNIX - The shell interface under OMVS
Things you can do under z/OS UNIX
Standard commands and utilities
Compile / assemble / bind
HTTP sever - host web site
Use sed file to convert flat file to HTML
Use sendmail and ftp
Code / compile / run Java
WebSphere

Sending notes, e-mails, and text messages

Communications possibilities
Sending emails from a batch job
Sending text messages from a batch job to a cell phone
SMTP notes
Communications possibilities conclusion