

The World Needs More Mainframers

MAINFRAME ACADEMY COURSE CATALOGUE

Evolved



Certified

Challenged

ca[®]
technologies

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Mainframe Academy

Mainframe Academy with CA Technologies is a curriculum of core mainframe programming skills designed to accelerate learning and technical achievement via real world scenarios and specialized courses, all within a single class cohort. Mainframe Academy includes over 220 hours of training, 26 mastery tests, and 3 certification exams focused on a targeted spectrum of mainframe processing, programming concepts and applications. The content is delivered with a unique, flexible blend of instructor-led, Web-based, and self-paced learning.



Welcome

I can proudly welcome every mainframe organization to participate in this unique offering from CA Technologies. All over the world, people like you, have been asking for this kind of education program to help address critical mainframe skill gaps. We are pleased to offer an immediate solution: Mainframe Academy with CA Technologies.

I am very excited about Mainframe Academy with CA Technologies because it provides not only the best blended learning approach, but teaches real-world technical skills in an accelerated timeframe. This program was designed hand in hand with our mainframe customers to produce results. Students who complete our program can return to the office with practical skills that they can immediately apply to the business. This vendor-agnostic immersion program focuses on universally recognized, essential mainframe skills.

The mainframe is not going away. CA Technologies continues to invest in this platform and in mainframe skill development. I take pride in the investment that CA Education has made in developing mainframe skills, particularly with Mainframe Academy. With 220+ hours, 26 mastery tests and 3 certification level exams, this is a program that was well planned, tested and examined. We are now ready to share it with you! At CA Technologies, our award winning educational organization is best of breed. Congratulations on your decision to enroll in our program and invest in your future.

Welcome to Mainframe Academy.

Brad Samargya
Chief Learning Officer, CA Technologies



Learn

I Can Learn

I can learn more about the mainframe and am excited about the prospect of growing my career with the mainframe. As a mainframe software developer, Mainframe Academy with CA Technologies helped me look at the mainframe from a system programmer perspective. My core skills are in Assembler and z/OS. I wanted to learn valuable and practical mainframe capabilities so when I write code, I can imagine how it may be used.

It is important not only to have mainframe skills, but to be able to apply those in the real world. I believe the mainframe will grow and evolve and I will be able to evolve with it. This is what Mainframe Academy offers: opportunity, growth and skills. The mainframe is synonymous with powerful computing capability, and I want to be a part of that.

Marlaina Chirdon
Software Engineer



Evolve

I Can Evolve

In a word, Mainframe Academy with CA Technologies is evolutionary. Having the live mainframe system to use throughout the course made Mainframe Academy a true, real-world experience. Taking the time to learn about potential issues and troubleshoot those on a live system will make me better prepared to handle the real production issues, when you do not have the luxury of time or mistakes. By taking this training, I can resolve issues on production systems faster.

The best thing about Mainframe Academy with CA Technologies for me was the access to the dedicated instructor who knew how to quickly resolve technical problems as we progressed through the course. If you did not know an answer, the instructor was very responsive to questions. If the instructor did not know, a thorough and researched answer was later given. Having a dedicated expert made all the difference.

Mainframe Academy has helped me be in a position to join a mainframe team and provide immediate value, straight out of the gate.

Rich Robinson
JP Morgan Chase Systems Analyst

Discover



I Can Discover

I can discover new ways to utilize and leverage the mainframe. As a 26 year veteran of distributed platforms, I had avoided the mainframe. I am now seeing a shift in the way companies use their mainframe technology and an increase in the number of applications moving to z/OS. I recognized I needed to move with them and enhance my skill set, even in the middle of my career.

With Mainframe Academy, I am more self-sufficient and am able to resolve more issues on my own. In the past, I took a lot of courses and could not recall the content a year later. Mainframe Academy with CA Technologies is different. Because of the multi-sensory approach, I was able to fully grasp the material. I was able to gather and retain the skills I need to remain competitive and effective.

Kevin Kubacki
Senior Support Engineer



“Mainframe Academy
can be valuable on
your resume.
The Certification
is important.”

– Sam Thomas,
Support Engineer

“I feel like
I truly now
understand
JCL.”

–Sam Thomas,
Support Engineer

“I wish I had this
kind of training when
I was starting in
mainframe.”

– Mainframe
Academy
student

“The best thing
about Mainframe Academy
is the teamwork. Sitting
down with other students
and collectively working
through a project has made
me learn even more.”

– Kevin Kubacki,
Sr. Support

Student Portal

The Mainframe Academy student portal is a unique, collaboration experience. Students can easily navigate and access relevant information. They can also track their progress, view current assignments and access course materials instantly.

This rich user interface is an important element for how students experience Mainframe Academy.

“The Mainframe Academy student portal was integral to the class organization and moving ahead. It was the glue that held the class together and kept us on track with our assignments.”

— Kevin Kubacki
Sr. Support Engineer

The screenshot displays the Mainframe Academy student portal. At the top, there is a navigation bar with the CA Technologies logo, the text "Mainframe Academy", a dropdown menu for "All Courses", a search bar, and a "New User Login" link. Below the navigation bar is a secondary bar with links for "Home", "My Resources", "Mainframe Academy With CA Technologies", and "Help & Tutorials". The main content area features a large heading "Mainframe Academy with CA Technologies" accompanied by three stylized human figures. Below this, a paragraph describes the program's focus on real-world scenarios and collaboration. A "Certified Mainframe Professional" badge is shown, along with a section titled "Become a Certified Mainframe Professional" that lists benefits like 200 hours of eLearning, 25 memory tests, and 3 knowledge exams. A "course catalog" section is also visible, along with a "need help? watch the tutorial" button. On the right side, there is a "MY RESOURCES" sidebar with links for "My Training", "Course", "Forums", "Messages", "Blogs", and "My Profile". A "CONTACT US" sidebar includes "TECHNICAL SUPPORT", "COURSE CONTENT and GENERAL SUPPORT", and a "need help? watch the tutorial" button. The footer contains a copyright notice for 2010 CA, all rights reserved, and a disclaimer regarding the accuracy of the information.

Course Overview

Mainframe Academy with CA Technologies

Course Type

Web-based Training
Instructor-led Training
Self-paced Hands-on Projects

Course Code:

06MFOM010B

Mainframe Academy with CA Technologies is organized into two consecutive Cores, building discrete mainframe skill sets. Mainframe Academy with CA Technologies is specifically targeted to computer science graduates and experienced information system programmers with a desire to accelerate or expand their skill repertoire towards becoming a Certified Mainframe Professional by CA Technologies.

Mainframe Academy with CA Technologies delivers the rigorous technical course content over approximately twelve weeks, adjusting for breaks and self-paced learning. The program has firm deadlines for materials due and is a commitment, both on the part of the participant and the sponsoring business. The program is specifically designed to help address mainframe skill gaps in organizations by broadening their in-house skills and helping Information System professionals become effective on the mainframe.

Program Agenda

Core Part 1

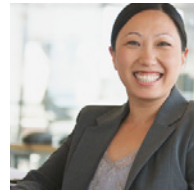
Introduction
to the IBM
Environment
(3 days)

Introduction
to z/OS
(2 days)

TSO/ISPF
for z/OS
Curriculum
(4 days)

JCL
(6 days)

Live Debrief
and Exam
(2 days)



Core Part 2

SDSF
Curriculum
(2 days)

Utilities
Curriculum
(4 days)

REXX Scripting
Skills
(1 day)

JES Curriculum
(5 days)

Live debrief
and exam
(2 days)

Final
Certification
Exam
(1 day)



Calendar



In person



Virtual WBT



Virtual Instructions



Virtual Labs

1	2	3	4	5
<p>9-1: Travel + lunch 1-4:30: Kick Off, Welcome, Introduction and Vision Setting</p>	<p>9-10:30: Orientation to the Portal 10:30-12: Understanding Mainframe Case Studies 1-5: Travel</p>	<p>9-1: Intro to the IBM Environment + Test 1-2: Intro to the IBM 2-5: Intro to z/OS: Application Development Overview + Test</p>	<p>9-10: Intro to z/OS 10-4: Intro to z/OS Systems: Programming Fundamentals 4-5: Intro to z/OS</p>	<p>9-1: TSP/ISPF Phase 1: Customizing the TSO/ISPF Environment + Test 1-3: TSP/ISPF Phase 1 3-5: TSP/ISPF Phase 1 Lab</p>
6	7	8	9	10
<p>9-10:30: TSP/ISPF Phase 1 Lab 10:30-11:30: TSP/ISPF Phase 1 11:30-5: TSP/ISPF Phase 2: Maintaining Data in Files with the ISPF Editor 1.10 + Test</p>	<p>9-11: TSP/ISPF Phase 2 11-12:30: TSP/ISPF Phase 2 Lab 12:30-1:30: TSP/ISPF Phase 2 1:30-5: TSP/ISPF Phase 3: Working with Datasets + Test</p>	<p>9-10:30: TSP/ISPF Phase 3 10:30-12:30: TSP/ISPF Phase 3 12:30-2:30: TSP/ISPF Phase 3 Lab 2:30-3:30: TSP/ISPF Phase 3</p>	<p>9-10: TSP/ISPF Phase 4: Invoking Other Programs 10-10:30: TSP/ISPF Phase 4 Lab 10:30-11: TSP/ISPF Phase 4 11-12: TSP/ISPF Phase 5: Advanced 12-1: TSP/ISPF Phase 5 Lab 1-2: TSP/ISPF Phase 5 2-5: JCL Phase 1: Create the Job + Test</p>	<p>9-12: JCL Phase 1: Create the Job 12-5: JCL Phase 1 Create the Job Lab</p>
11	12	13	14	15
<p>9-10: JCL Phase 1: Create the Job 10-2: JCL Phase 2: Create a Job That Can Run on Demand + Test 2-3:30: JCL Phase 2: Create a Job That Can Run on Demand 3:30-5: JCL Phase 2: Create a Job That Can Run on Demand Lab</p>	<p>9-1: JCL Phase 2: Create a Job That Can Run on Demand Lab 1-3:30: JCL Phase 2 Create a Job That Can Run on Demand and Debrief 2-5: JCL Phase 3: Create System-Generated Daily Backups + Test</p>	<p>9-1: JCL Phase 3: Create System-Generated Daily Backups + Test 1-2: JCL Phase 3: Create System Generated Daily Backups 2-4: JCL Phase 3: Create System Generated Daily Backups Lab 4-5: JCL Phase 3: Create System Generated Daily Backups and Debrief</p>	<p>9-11: JCL Phase 4: Maximize Efficiency by Cancelling Jobs When Errors Are Present 11-12: JCL Phase 4: Maximize Efficiency by Cancelling Jobs 12-3: JCL Phase 4: Maximize Efficiency by Cancelling Jobs When Errors Are Present Lab 3-4: JCL Phase 4: Maximize Efficiency by Cancelling Jobs and Debrief</p>	<p>9-10: JCL Phase 5: Correct JCL Errors 10-11: JCL Phase 5: Correct JCL Errors and Debrief 11-2: JCL Phase 5: Correct JCL Errors Lab 2-3: JCL Phase 5: Correct JCL Errors 3-3:30: Wrap up, Instructions on Debrief</p>

Calendar



In person



Virtual WBT



Virtual
Instructions



Virtual Labs

16	17	18	19	20
9-5: Core 1 Debrief	9-1:30: Core 1 Debrief 1:30-3:30: Core 1: Procter Exam Certification 3:30-4:30: Welcome to CORE: Part 2	9-3: SDSF Phase 1: SDSF Output Management + Test 3-4: SDSF Phase 1	9-11: SDSF Phase 1 Output Management Lab 11-12: SDSF Phase 1 Output 12-1: SDSF Phase 2: SDSF JES2 + Test 1-2: SDSF Phase 2 2-3: SDSF JES2 Phase 2 3-4: SDSF JES 2 Phase 2	9-3: Utilities Phase 1 3-4: Utilities Phase 1 Data Sets 4-5: Utilities Phase 1: Data Sets Lab + Test
21	22	23	24	25
9-10: Utilities Phase 1: Data Set Utilities Overview 10-12: Utilities Phase 1 Data Sets Lab 12-1: Utilities Data Set Review 1-4: Utilities Phase 2 VSAM Utilities + Test	9-11: Utilities Phase 2: VSAM + Test 11-12: Utilities Phase 2 VSAM Utilities 12-2: Utilities Phase 2 VSAM Utility Lab 2-3: Utilities Phase 2 VSAM utilities and Debrief	9-11: Utilities Phase 3: The Sort/Merge Utility + Test 11-12: Utilities Phase 3: The Sort/Merge 12-2: Utilities Phase 3: The Sort/Merge Lab 2-4 Utilities Phase 3: The Sort/Merge and Debrief	9-12: REXX Scripting Skills Introduction Programming + Test 12-1: REXX Scripting Skills Class 1-3: REXX Scripting Skills Lab 3-4: REXX Scripting Skills and Debrief	9-1: JES Phase 1: JES2 Startup and Shutdown, Monitoring Batch Jobs + Test 1-3: JES Phase 1: JES2 Startup and Shutdown 3-5: JES Phase 1: JES2 Startup and Shutdown Lab
26	27	28	29	30
9-11: JES Phase 1: JES2 Startup and Shutdown Labs 11-12: JES Phase 1: JES2 Startup and Debrief 12-5: JES Phase 2 Processing Phases, Resolve Batch Problems + Test	9-10: JES Phase 2: JES2 Processing, Identify and Resolve JES2 Batch Problems 10-11: JES Phase 2: JES2 Processing 11-3: JES Phase 2: JES2 Processing Phases Lab 3-4: JES Phase 2: JES2 Processing and Debrief	9-3: JES Phase 3: Identify and Resolve JES2 System Problems + Test 3-4: JES Phase 3: Identify/ Resolve JES2 System Problem Lab 4-5: JES Phase 3: Identify/ Resolve JES2 System Problems and Debrief	9-11: JES Phase 4: Identify and Resolve JES2 Batch Problems + Test 11-3: JES Phase 4: Identify and Resolve JES2 Batch Problem Lab 3-4: JES Phase 4: Identify and Resolve JES2 Batch Problems and Debrief	9-5: Core Part 2 Debrief
31	32			
9-5: Core Part 2 Debrief	9-5: Core 2 Assessment and Certification, Written and Practical			

Introduction to the IBM enterprise environment

COURSE TYPE & DURATION

Web-based Training

Instructor-led Training

Duration: 1 day

Course overview

This course will teach you the basic concepts behind the IBM environment and set the stage for more detailed training on individual topics and skills. You will learn about the history of the mainframe and get an introduction to its main functions. The course is Web-based, followed by a facilitator-led question and answer session.

You will learn how to

- Identify the characteristics of a mainframe
- Define IT roles in the context of the mainframe environment
- Identify the types of processing that organizations use a mainframe to perform
- Identify the different types of mainframe operating systems, and their benefits
- Identify the different hardware, software and networking components of the mainframe
- Identify the different methods of storing and accessing mainframe data

- Describe the security components used to protect data from unauthorized access
- List the products that can be used to gain access to the mainframe
- Identify how JCL is used to process data
- Identify how jobs are submitted to the system and processed by JES
- Recognize the functions of SDSF panels that are used to monitor batch job activity

Introduction to the IBM enterprise environment

Web-based training

- Introduction to the IBM Enterprise Environment
- Today's mainframe
 - Mainframe configurations
 - Mainframe security and access data
 - Data processing

Instructor-led training

- Instructor-led debrief

Introduction to the z/OS environment

COURSE TYPE & DURATION

Web-based Training

Instructor-led Training

Duration: 2 days

Course overview

This course will teach you the basic concepts behind the z/OS environment and set the stage for more detailed training on individual topics and skills. The course is Web-based, with a follow-up facilitator-led question and answer session.

You will learn how to

- Identify how an IBM Enterprise System allocates and uses disk storage
- Recognize the different types of data sets
- Identify how source and code is stored and organized
- Define the main data storage systems and databases on an IBM enterprise system
- Define IBM IMS TM, CICS, IBM WebSphereMQ and IBM WebSphere Application Server
- Recognize highlights in the timeline of programming language development
- Identify commonly used programming languages in the IBM enterprise environment
- Recognize Fourth-Generation (4GL) languages
- Define the Integrated Language Environment

- Identify stored procedures and Enterprise JavaBeans
- Identify the function of Job Entry Subsystem (JES)
- Identify how Job Control Language (JCL) controls the running of a program
- Define System Display and Search Facility (SDSF)
- Describe the characteristics of virtual storage
- Explain how address spaces are utilized
- Identify the names and functions of the most commonly referenced system data sets
- Define how the SMP/E process is used to install new load modules
- Recognize the components of the LOAD parameter
- Recognize key parameters in the LOADxxmember
- Identify the System Parameter Lists that will be used during System Initialization
- Identify the types of information that must exist before the system initialization process begins
- Describe the functions of SNA and TCP/IP components associated with the z/OS Communication Server
- Define the characteristics of JES2 spool data sets. List the commonly used VTAM and TCP/IP commands

Introduction to z/OS

Web-based training

z/OS Application Development Overview

- Data management systems
- Transaction processing systems
- Programming Capabilities
- Batch Systems

z/OS Systems Programming Fundamentals

- Virtual storage and address space concepts
- Working with system data sets
- Working with system parameter lists
- Initializing the z/OS system
- Configuring JES2
- Issuing VTAM and TCP/IP commands

Instructor-led training

- Instructor-led debrief

TSO/ISPF for z/OS

COURSE TYPE & DURATION

Web-based Training

Instructor-led Training

Self-paced Hands-on Projects

Duration: 4 days

Course overview

Learning to use TSO/ISPF is a fundamental skill required for anyone working in the mainframe environment. TSO/ISPF provides an online environment for access to editing facilities and utilities. This course will teach you how to use the z/OS online tools to access services, edit data, and manage data sets/files. The course is structured entirely around challenging project work, in which you will use TSO/ISPF to solve real-world problems.

You will learn how to

- Access, add, and edit system data sets (files)
- Use utilities facilities to manage data sets and exploit the tools for manipulating data
- Interact with other ISPF applications like SDSF to review job output
- Execute TSO scripts (CLIST and REXX) that allow you to execute predefined programs

Phase 1: Customize the TSO/ISPF environment

Web-based training

TSO Concepts and Commands

- Identify and log on to TSO
- Recognize a basic set of TSO commands
- Allocate and create data sets using TSO commands and transmit data sets to other systems

Introduction to TSO/ISPF

- Introduce concepts of the IBM Interactive System
- Productivity Facility (ISPF)
- Show methods used to navigate and utilize the common ISPFs

Using ISPF

- Locate and define the basic setting used to tailor the ISPF environment
- Use and control the ISPF split facility
- Define and use program function keys

Instructor-led training

- Introduction to ISPF and its capabilities
- Introduction to TSO
- ISPF menu navigation
- Using PF keys
- ISPF help system

Self-paced project work

- Introduction to ISPF and its capabilities
- Introduction to TSO
- ISPF menu navigation
- Using PF keys
- ISPF help system

Phase 2: Edit data sets with the TSO/ISPF editor

Web-based training

ISPF View and Edit Facilities

- View data sets using the ISPF View Facility
- Enter the Edit Facility in ISPF and navigate through a data set
- Use Edit Program function keys to assist in navigating an edited data set

ISPF Edit Line Commands

- Insert and delete lines within a data set
- Copy, move, and repeat lines in a data set
- Shift data within a line

ISPF Edit Primary Commands for Locating and Changing Data

- Use simple find and change commands and string patterns

Instructor-led training

- Manipulating contents of data sets
- View and edit options
- Scroll commands
- Locating and changing data
- Basic editing commands

Self-paced project work

- Edit the provided data set and make changes requested by the customer.

Phase 3: Working with datasets

Web-based training

Managing Data Sets Using the ISPF Data Set Utility

- Identify partitioned and sequential data sets
- Access the data set utility and view data set information
- Allocate, rename, and delete data sets

Managing Partitioned Data Sets Using the ISPF Library Utility

- Print, copy, rename, and delete partition

The ISPF Copy, Search, and Statistics Utilities

- Copy or move data sets or members of data sets
- Reset and delete ISPF statistics
- Search a data set or members of a data set for text entries

Managing Data Sets Using the DSLIST Utility

- Access the DSLIST utility and used data set patterns to display lists of data sets
- Identify and use the common DSLIST and TSO commands in a data set list
- Display the VTOC of specific volumes

Instructor-led training

- About data sets
- Creating a data set
- Data Set Utility 3.2
- Allocation panel
- Library Utility 3.1
- Move Copy Utility 3.3
- Data Set List Utility

Self-paced project work

- Copy data between data sets and manage utilities against the PDS and members.

Phase 4: Invoking other programs

Web-based training

- None for this phase

Instructor-led training

- TSO commands
- TSO Ready prompt
- Invoking a TSO Command and CLIST
- TSO command from ISPF

Self-paced project work

- Execute the necessary REXX scripts to perform the required functions.

Phase 5: Advanced concepts: Split screen; SUBMIT, and other products

Web-based training

- None for this phase

Instructor-led training

- Split screens
- Split screen mode
- SUBMIT command
- Invoking SDSF to review output

Self-paced project work

- Run a set of jobs, submit them, and check the resultant output.

Job Control Language (JCL)

COURSE TYPE & DURATION

Web-based Training
Instructor-led Training
Self-paced Hands-on Projects
Duration: 6 days

Course overview

JCL is used to run every unit of work in the system whether it be a batch job, started task, or TSO user. This course will build your skills by teaching you how to use JCL to set up your job streams, create JCL procedures for common tasks, and correct JCL errors.

You will learn how to

- Create JCL to run utilities or user written programs
- Identify and correct JCL errors in a job stream
- Set up multi-step JCL procedures and job streams
- Use Generation Data Sets to make backup copies

Phase 1: Create the job to generate the list of states

Web-based training

Introduction to z/OS JCL

- Introduction to z/OS JCL
- Working with the JOB statement
- Working with the EXEC statement
- Working with the DD statement

Instructor-led training

- Units of Work in z/OS
- JCL syntax review
- JCL coding requirements
- Coding key JCL statements
- JOB statement parameters
- EXEC statement parameters
- Special input DD statements
- The DISP parameter
- The UNIT and VOL=SER parameters
- The SPACE parameter
- Data set organization
- Logical record length
- Block size
- Coding the DCB parameter

Self-paced project work

- Copy data between data sets
- Read and print data sets
- Add data to a data set
- Sort data in a data set

Phase 2: Create a job that can run on demand

Web-based training

Coding Procedures and JES2 Control Statements

- Working with procedures
- Working with JCL symbols in procedures

Instructor-led training

- Executing a PROC
- Data set name considerations
- Review of JCL examples
- Overriding JCL statements
- Using symbolic variables

Self-paced project work

- Combine jobs
- Use temporary data sets
- Convert into JCL PROC

Phase 4: Maximize efficiency by cancelling the job when errors are present

Web-based training

Identifying and Resolving Batch Problems in JCL

- Using conditional JCL
- Using advanced conditional JCL Logic

Instructor-led training

- Condition codes vs abend codes
- Condition code testing
- Condition code examples
- Advanced conditional logic

Self-paced project work

- Use the COND parameter

Phase 3: Create sSystem-generated daily backups

Web-based training

Using Special Datasets in Batch Jobs

- Working with generation data groups
- Concatenating data sets and using dummy data sets
- Working with tapes
- Using temporary data sets
- Passing parameters and using backward references
- Using additional DD statement parameters

Instructor-led training

- Dataset naming syntax
- Systems catalog
- Catalog entry
- Creating generation data groups
- Relative generation number
- Retrieving generation data sets
- Concatenating data sets

Self-paced project work

- Create a generation data group
- Combine jobs

Phase 5: Correct JCL errors

Web-based training

Identifying and Resolving Batch Problems in JCL

- Handling JCL errors and abends

Instructor-led training

- Allocation processing
- JCL jobstream
- Interpreting JCL listings
- Types of errors
- Identifying abend conditions
- Restarting a job step

Self-paced project work

- Correct errors

Utilities

COURSE TYPE & DURATION

Web-based Training
Instructor-led Training
Self-paced Hands-on Projects
Duration: 4 days

Course overview

Utility programs are tools that help make routine tasks easier by avoiding the need to write specific programs to perform them. This course will teach you how to use the z/OS Utilities to manage data sets, copy, sort, and print files and manage data sets using z/OS facilities.

You will learn how to

- Copy data set contents between files
- Manage VSAM files and cataloged data sets
- Sort records and merge files

Phase 1: Data set utilities

Web-based training

Introduction to the REXX Programming Language

- Built-in Functions
- Keyword Functions
- REXX with z/OS and TSO/E

Instructor-led training

- Overview of Utilities
- IEFBR14 Processing
- JCL Examples using Utilities
- Utility Control Statement Syntax
- IEBGENER
- IEBGENER JCL Requirements and Control Statements
- IEBGENER Examples
- IEB Copy Requirements and DD Statements
- IEB Copy Examples
- IEBPTPCH
- IEBPTPCH JCL Requirements and Control Statements
- IEBUPDTE
- IEHLIST JCL Requirements and Control Statements
- IEH PROG M JCL Requirements and Control Statements

Self-paced project work

- Create required data sets and populate with original dataAdd data to a data set

Phase 2: Virtual storage access method (VSAM) utilities

Web-based training

VSAM Utilities

- Introduction to VSAM
- Defining VSAM Files with IDCAMS
- Defining VSAM using JCL Keywords
- The IDCAMS ALTER Command
- The IDCAMS LISTCAT Command
- The IDCAMS DELETE Command
- The IDCAMS PRINT Command
- The IDCAMS REPRO Command

Instructor-led training

- Access Methods
- VSAM Files and Terminology
- IDCAMS
- IDCAMS JCL Requirements and Control Statements
- Systems Catalog
- Non-VSAM Files
- VSAM File Definitions
- VSAM Print Command

Self-paced project work

- Print and verify the contents of your data sets

SDSF

COURSE TYPE & DURATION

Web-based Training

Instructor-led Training

Self-paced Hands-on Projects

Duration: 2 days

Course overview

SDSF is a simple ISPF interface to the JES2 output queues as well as to a range of JES2 commands. SDSF provides access to other JES2 facilities without the need to use commands directly. This course will build your skills by teaching you how to use SDSF to interface with JES2 and manage and examine printed output.

You will learn how to

- Navigate the primary SDSF panels
- Utilize common commands
- Utilize the main displays and menus

Phase 1: JES2 startup and shutdown

Web-based training

SDSF Concepts and Operation

- The Log Command
- The DA Command
- Input and Output Commands
- Printer Control Command
- Initiator Control Command

Instructor-led training

- SDSF Primary Panel
- SDSF Job Status Commands
- SDSF Action Commands
- Display Active Commands
- Input Queue Commands and Displays
- Held Output Queue Commands
- Using SDSF JCLEEDIT
- SDSF Edit
- Listing SYSOUT Data

Self-paced project work

- Review output created by submitted jobs and take necessary rerun actions from within SDSF

Phase 2: SDSF JES2 resource commands

Web-based training

SDSF Advanced

- The Held Output Display
- The Status Display
- Miscellaneous SDSF Functions, Part 1
- Miscellaneous SDSF Functions, Part 2

Instructor-led training

- SDSF Initiators (INIT)
- SDSF Spool Offload (SO)
- SDSF Job Class (JC)
- SDSF NJE Nodes (NODE)
- SDSF RJE Lines (LINES)
- Display Menu
- Filter Menu
- View Menu
- Print Menu
- SDSF Print Function and Commands
- Options Menu

Self-paced project work

- Confirm the proper classes for execution and save the output to a data set for transmission to another system

REXX scripting skills

COURSE TYPE & DURATION

Web-based Training
Instructor-led Training
Self-paced Hands-on Projects
Duration: 1 day

Course overview

REXX is a pervasive language and is portable to many platforms. This course will teach you to use basic REXX scripting skills to create programs, read and write data files and display data.

The course utilizes a blended approach, including Web-based training, instructor-led sessions and hands-on lab exercises.

You will learn how to

- Read and write records to and from a data set
- Manage a table of data in REXX
- Interact with the user in a query mode

Phase 1: Creating a REXX Program

Web-based training

Introduction to the REXX Programming Language

- Built-in Functions
- Keyword Functions
- REXX with z/OS and TSO/E

Instructor-led training

- Standard REXX
- REXX Clauses
- Literal Strings
- Simple Variables
- Compound Variables
- Operators
- External Data Queue
- Parsing Data
- Parsing Techniques
- Different Types of Loops
- Subroutines and Functions
- Passing and Returning Information
- Built-in Functions
- Host Environments

Self-paced project work

- Develop a REXX routine to read the data into memory and provide a mechanism so that the routine can be invoked for particular data

JES

COURSE TYPE & DURATION

Web-based Training
Instructor-led Training
Self-paced Hands-on Projects
Duration: 5 days

Course overview

JES is the software interface used to submit work to the z/OS system and to get printed output. Without JES no task can be started, including user logons.

As a Computer Operator, this course will further your career by teaching you how to use JES commands to display job status, manage output devices and interpret JES messages.

As a Systems Programmer, this course will enable you to use JES commands to manage the JES configuration, start and stop JES during normal operations, and assess and manage JES resource usage.

You will learn how to

- Apply JES operation skills gained to manage the flow of work through a system
- Use JES commands to initiate actions and control operational definitions
- Interpret JES messages to determine the status of job processing

Phase 1: JES2 startup and shutdown

Web-based training

JES2 System Initialization & Shutdown 1.10

- Introduction to Spooling and JES2
- JES2 Concepts and Facilities
- JES2 data set requirements

Identify and Resolve JES2 System Problems 1.10

- Common JES2 initialization problems

Instructor-led training

- The Evolution of Spooling
- Basic JES2 Configuration
- Subsystem Interface
- JES2 Workflow and Documentation
- JES2 Startup Options
- JES2 PROC
- Adding PROCLIBS Dynamically
- JES2 Shutdown

Self-paced project work

- Bring up alternate JES2 and test startup options (WARM, REQ, COLD, NOREQ)

Phase 2: JES2 processing phases

Web-based training

JES2 System Initialization & Shutdown 1.10

- JES2 Device Status and Job Processing Phases
- JES2 Classes and Job Queue Characteristics

Monitoring Batch Jobs with JES2 1.10

- JES2 Command Format
- Overview and Syntax of JES2 Commands
- JES2 Printer and Initiator Display Commands
- Monitoring Batch Jobs with JES2 Commands

Using JES2 in Scheduling Batch Jobs 1.10

- JES2 Commands to Control Batch Jobs
- JES2 Commands to Control Initiators
- JES2 Commands to Control Printers

Instructor-led training

- JES2 Input Processing
- JOB Arrival Mechanisms
- Internal Reader Facility
- Internal Reader Information
- User PROCLIBs
- Initiator Work Selection
- JOB/Initiator Management
- Initiator Control Commands
- Workload Management
- Output Phase and Groups
- Display Job Output Characteristics
- JES2 System Data Sets
- Work Selection Criteria
- JESNEWS
- Output Routing
- External Writers

Self-paced project work

- Bring up alternate JES2 and examine the internal reader definitions, as well as the PROCLIB allocations. Confirm that the initiator definitions can be changed dynamically (by command).

Phase 3: Spool volumes

Web-based training

JES2 System Initialization & Shutdown 1.10

- Introduction to Spooling and JES2

Identify and Resolve JES2 Batch Problems 1.10

- Spool Space Recovery

Instructor-led training

- Spool Definition and Allocation
- Track Groups
- Spool Commands (START)
- Spool Commands (STOP)
- Displaying SPOOL Status
- Spool Offload

Self-paced project work

- Bring up alternate JES2 and examine the spool volume definitions and compare with the primary JES2 subsystem
- Confirm what the highest allocated spool user is on the primary and alternate JES2 subsystem

Phase 5: JES2 monitor

Web-based training

Identify and Resolve JES2 System Problems 1.10

- Common JES2 Initialization Problems
- Shutdown Problem

Instructor-led training

- JES2 Monitor Address Space and Commands
- JES2 Resource Displays

Self-paced project work

- Bring up alternate JES2 and confirm JES2 monitor operation. Explore of the values for the current JES2 configuration to see whether any may be in short supply.

Phase 4: JES2 checkpoint and remote processing

Web-based training

Using JES2 in Scheduling Batch Jobs 1.10

- NJE Connectivity

Identify and Resolve JES2 Batch Problems 1.10

- NJE Errors and Recovery
- JES2 Checkpoint Concepts and Definition
- JES2 Checkpoint Reconfiguration
- JES2 Checkpoint and SysPlex

Instructor-led training

- JES2 Checkpoint Configuration
- Checkpoint Processing
- Checkpoint Reconfiguration
- BASIC NJE Definitions

Self-paced project work

- Bring up alternate JES2 and confirm the checkpoint definition. Once it is confirmed, exercise the checkpoint reconfiguration dialogue to ensure that everything operates properly.

Certified

Certified Mainframe Professional

by CA Technologies

Mainframe Academy is a certification program. It is proctored by a third party and establishes authoritative credentials at defensible costs for the investment. CA Technologies wanted Mainframe Academy to be certifiable, undisputable and ensure the highest standards are met. This program is vendor agnostic and as such, we needed rigorous testing. That is why when you earn the distinction of Certified Mainframe Professional by CA Technologies, it will be recognizable. Being a Certified Mainframe Professional will be meaningful for CA Technologies, for you, for businesses and for the technical community.

At the conclusion of this program, some examples of what participants should be able to do include:

- Perform basic programming and application development in z/OS
- Issue job-level commands for z/OS job output.
- Partition z/OS in a real and virtual environment
- Perform basic troubleshooting
- Issue JES commands for batch jobs, monitor those jobs, and analyze problems
- Create, copy, delete and change data sets
- Use TSO/ISPF to allocate and delete data sets
- Navigate the ISPF menu structure
- Use Job Control Language statement syntax and format
- Create and use JCL procedures
- Issue SDSF system-level commands
- Use basic REXX keyword commands
- Identify REXX functions and their usage

Grow and Connect

We want you to be able to grow and connect before, during and after your enrollment in Mainframe Academy with CA Technologies and with our company. Here are some ways you can do that.

Email: mainframeacademy@ca.com

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