

Classroom Notes

"I think there is a world market for maybe five computers." ~ Sir Thomas J. Watson.

Course Outline and Introduction

Course Title: Db2 12 for z/OS Comprehensive Training

Introduction

Welcome to the Db2 12 for z/OS Comprehensive Training course. This immersive course is designed to provide beginners with a solid foundation in database administration on the z/OS platform, as well as to offer more experienced professionals a deeper understanding of advanced features and functionalities of Db2 12. Through a blend of theoretical knowledge and hands-on exercises, students will learn to efficiently manage, maintain, and optimize Db2 databases to meet the data-intensive needs of modern enterprises.

Course Content

Unit 1: Introduction to the Modern Mainframe Environment

- Explore the evolution and benefits of z/OS in the mainframe ecosystem.
- Understand typical z/OS workloads and the job roles that support this environment.
- Familiarize yourself with z/OS components, services, and management interfaces.

Unit 2: Navigating TSO/E and ISPF

- Learn the basics of Time Sharing Option/Extensions (TSO/E) and Interactive System Productivity Facility (ISPF).
- Gain skills in navigating the ISPF interface, customizing settings, and utilizing key commands.

Unit 3: Mastering Data Sets

- Understand different types of data sets and their applications.
- Learn about data set naming conventions, storage allocation, and management.

Unit 4: JCL and SDSF Insights

- Introduction to Job Control Language (JCL) for batch job management.
- Explore the System Display and Search Facility (SDSF) for job monitoring and output management.

Unit 5: Db2 Relational Database Concepts

- Dive into the core concepts of relational databases and how Db2 leverages these principles.
- Explore the structure and management of databases, tables, indexes, and keys.

Unit 6: Structured Query Language (SQL) and SPUFI

- Develop proficiency in SQL for data manipulation and querying within Db2.
- Utilize SQL Processing Using File Input (SPUFI) for executing SQL statements.

Unit 7: In-depth Db2 Objects

- Learn about advanced Db2 objects including databases, table spaces, tables, indexes, and views.

- Understand how to create, manage, and optimize these objects for efficient data storage and access.

Unit 8: Comprehensive Overview of The Db2 System

- Get acquainted with the Db2 system architecture, including its components and functionalities.
- Learn about system parameters, address spaces, logging, and locking mechanisms.

Unit 9: Db2 Commands and Program Preparation

- Master essential Db2 commands for database administration and maintenance.
- Understand the process of Db2 program preparation, compilation, and execution.

Unit 10: Leveraging Db2 Utilities

- Explore Db2 utilities for data loading, unloading, backup, and recovery.
- Learn how to utilize these utilities for effective database management and optimization.

Unit 11: Db2 Shutdown, Startup, and Recovery Procedures

- Gain insights into the proper procedures for shutting down and starting up Db2 systems.
- Understand the recovery mechanisms in place for ensuring data integrity and availability.

Unit 12: Course Summary and Next Steps

- Recap the key concepts covered throughout the course.
- Discuss the next steps in the journey of becoming a proficient Db2 DBA, including certification paths and further learning resources.

Student Exercises

Each unit includes hands-on exercises designed to reinforce the concepts discussed. These exercises range from basic tasks such as navigating the ISPF interface and creating data sets, to more complex activities like configuring and optimizing a Db2 database environment. Students will also engage in practical scenarios that mimic real-world Db2 administration challenges, providing them with the skills needed to excel in a professional setting.

Info

This course aims to not only impart theoretical knowledge but also to ensure that students gain practical experience through carefully crafted exercises, making them well-prepared to tackle the demands of managing Db2 databases in a z/OS environment.

Thomas J. Watson Sr. - "To be successful, you have to have your heart in your business and your business in your heart."

Day 1

We Start with Unit 1. Introduction @ 9:00AM

What is an LPAR

Logical Partition - PARTITIONING MY PHYSICAL HARDWARE COMPONENTS AND ALLOWING THEM TO BE SHARED BY OPERATING SYSTEMS INSTALLED ON MULTIPLE LPARS

2 X 8 GB RAM

2 X 4 CORE CPU's

1 X TB DISK

4 X NIC

LPAR1 - LUNIX(REDHAT) DB2 PROD (MINIMUM) 2gb ram, 1 x cpu, 200mb

DISK, SNIC

LPAR2 - AIX ADBAS(DB)

THIS REQUIRE A VIRTUALISATION ELEMENT(HYPERVISORS) LIKE:

POWER/VM, z/VM, LINUX KVM,

LPAR IS SIMILAR TO A VIRTUAL MACHINE(RUNS A INDEPENDANT OS)

VMware ESXi, Hyper-V, Linux KVM,

VM - LINUX

VM - WINDOWS

We start Unit 2. TSO/E and ISPF @ 11:00AM

Ginni Rometty - "Growth and comfort do not coexist."

Day 2

Relational and non-relational databases are two different types of database systems that are used for storing and managing data. Here are some key differences between them:

Relational Databases:

- **Structure:** Relational databases use a structured schema to organize data into tables, rows, and columns. Each table has a unique key identifying each

row.

Let's create an example of a simple relational database table. This example will be for a hypothetical "Users" table that could be part of a larger system, such as a customer management system or a social networking site. Each row in this table represents a unique user, and the columns represent different attributes or pieces of information about each user.

Users Table

UserID (PK)	FirstName	LastName	Email	SignUpDate	LastLoginDate
1	John	Doe	johndoe@example.com	2023-01-10	2023-03-20
2	Jane	Smith	janesmith@example.com	2023-02-05	2023-03-18
3	Emily	Johnson	emilyj@example.com	2023-03-01	2023-03-25

Explanation of Columns:

- **UserID (PK):** This is the primary key of the table, which uniquely identifies each user. PK stands for Primary Key.
- **FirstName:** The first name of the user.
- **LastName:** The last name of the user.
- **Email:** The email address of the user. This field can also be used as a unique identifier in some systems.
- **SignUpDate:** The date when the user signed up or was added to the system.
- **LastLoginDate:** The date when the user last logged into the system.

This table structure allows for the storage and organization of user-related information in a way that is easily accessible and manageable, adhering to the principles of relational databases.

- **ACID Properties:** They follow ACID (Atomicity, Consistency, Isolation, Durability) properties which ensure reliable processing of data.

- **SQL:** They use Structured Query Language (SQL) for defining and manipulating the data.
- **Examples:** MySQL, Oracle, and PostgreSQL.

Non-Relational Databases:

- Example of Non-Relational database:
- **Structure:** Non-relational databases, also known as NoSQL databases, have a flexible schema for unstructured data. They can store data in multiple ways: key-value pairs, wide-column, graph, or document-oriented.
- **Scalability:** They are designed for scalability, making them a good choice for large datasets and real-time applications.
- **CAP Theorem:** They follow the CAP theorem (Consistency, Availability, Partition Tolerance) and usually prioritize availability and partition tolerance over consistency.
- **Examples:** [MongoDB: The Developer Data Platform | MongoDB](#), Cassandra, and Redis.

In summary, the choice between a relational or non-relational database depends on the specific requirements of the project, such as the complexity of the data and the scale of the application. It's important to choose the right type of database to meet your data storage and retrieval needs.

Summary

Types of data sets

Sequential Data Sets: example, file or dir

Partitioned data sets(PDS): also known as a Library

VSAM Data Sets(Virtual Storage Access Method): KSDS, ESDS, RRDS, LDS

Note for Raydo ToDo

find more info that makes this easy to understand and not so blady complicated Data set's z/OS

Attention

DB write performances, to disk, what is this important!!!!
so a disk(Volume or Logical Volume) has something call an extent size that can be customised for DB write operations. ensuring the DB uses a volume with suitable extent size is crucial to the DB write performance!!!

Catalog: Is essentially a dataset containing information about other datasets like the other data sets metadata for example

If you're referring to storing or representing binary data in a relational database, there are a few considerations and approaches. Binary data can include any kind of data that is stored in binary format, such as images, files, or encrypted data. In a relational database, binary data is typically stored in columns specifically designed to hold such data, using types like `BLOB` (Binary Large Object) or `BYTEA` in PostgreSQL, among others.

To illustrate, let's modify the previous "Users" table to include a column for storing user profile pictures in binary format:

Users Table with Binary Data

UserID (PK)	FirstName	LastName	Email	SignUpDate	ProfilePicture (BLOB)
1	John	Doe	johndoe@example.com	2023-01-10	[Binary Data]
2	Jane	Smith	janesmith@example.com	2023-02-05	[Binary Data]
3	Emily	Johnson	emilyj@example.com	2023-03-01	[Binary Data]

Explanation of Additional Column:

- **ProfilePicture (BLOB)**: This column is used to store binary data representing the user's profile picture. "BLOB" stands for Binary Large Object, which is a data type in many relational database management systems specifically designed for storing binary data.

When working with **binary data**:

- Be mindful of the **SIZE** of the binary data, as large binary objects can significantly increase the size of the database.
- Consider the **PERFORMANCE** implications, especially if large BLOBS are frequently accessed or transferred.
- In some cases, it might be more efficient to store binary data outside the database (e.g., in a file system) and store only a reference or path to the data in the database table.

Record-Orientated: data set contains rows (called records) in a specific format.

contain info on a entity.

Stream-Orientated: does not have a specific format. program will look at the stream bytes to determine what is being presented or represented.

Lou Gerstner - "Computers are magnificent tools for the realization of our dreams, but no machine can replace the human spark of spirit, compassion, love, and understanding."

Day 3

Finished off Unit 3's theory. (Slightly behind schedule - we taking it nice and slow)

Unit 4 JCL SDSF

To work with IBM Db2 12 for z/OS using JCL and SDSF, you can follow these key points:

- **Db2 Interactive (DB2I)**: Utilize the DB2I set of ISPF panels to interact with various aspects of Db2, including running utilities and issuing SQL statements¹.
- **System Display and Search Facility (SDSF)**: Monitor, control, and view the output of jobs in the system with SDSF. After submitting a job, use SDSF to check for successful completion or to correct JCL errors².
- **TSO/E and ISPF**: Log on to z/OS with TSO/E and use ISPF for a menu-driven interface, providing access to z/OS system functions and Db2 management¹.
- **Reusable JCL Collection**: Employ the collection of reusable JCL for batch processing and interacting with Db2 for z/OS¹.

For more detailed guidance, you can refer to the official IBM documentation on interacting with Db2 for z/OS¹.

Below is a structured table summarizing the key points a Database Administrator (DBA) needs to know about IBM DB2 for z/OS, particularly focusing on Job Control Language (JCL) and System Display and Search Facility (SDSF). This table also includes links to online resources, videos, and documentation for further reference.

Aspect	Key Points	Resources for Reference
DB2 for z/OS	High-performance database system designed for enterprise-level applications and transactions. Version 12 enhances performance, scalability, and reliability.	IBM DB2 for z/OS Overview
JCL Overview	Scripting language used for job control on IBM mainframe systems. In DB2, it's used to execute batch programs, allocate resources, and control job processing.	Introduction to JCL
JCL with DB2	JCL scripts define the execution environment for DB2 batch programs, specifying datasets, DB2 plans, and subsystems.	JCL for DB2 Batch Programs

Aspect	Key Points	Resources for Reference
SDSF	Tool for managing jobs and outputs in z/OS. It helps in monitoring DB2 jobs, managing outputs, and controlling job execution.	Using SDSF
Integration	Effective integration of JCL scripts with DB2 commands and utilities is essential for database maintenance and performance tasks like <code>RUNSTATS</code> and <code>REORG</code> .	DB2 Utilities Guide
Best Practices	Includes proper resource allocation, error handling in scripts, performance monitoring using SDSF, ensuring security, and adherence to organizational standards for JCL/SDSF usage.	DB2 Best Practices
Learning Resources	For in-depth learning, consider IBM's official documentation, tutorials, and redbooks.	IBM Redbooks on DB2 IBM DB2 for z/OS Learning Videos

This table serves as a concise guide covering the essentials that DBAs need to be familiar with when managing DB2 for z/OS environments, particularly through JCL and SDSF. The provided links lead to comprehensive resources, including official IBM documentation, tutorials, and video content, which can deepen your understanding and skills in managing DB2 on z/OS platforms.

Db2 12 for z/OS - IBM Documentation

Common ways to interact with Db2 for z/OS - IBM Documentation

Invoking an online utility by using the DB2® Utilities panel in DB2I - IBM Documentation

“All the problems of the world could be settled easily if men were only willing to think. The trouble is that men very often resort to all sorts of devices in order not to think because thinking is such hard work.” ~ Sir Thomas J Watson

Let me know when you back in session

Now: Complete Exercises 3-6 in your student lab exercises manual

12:00h - 13:00h: Lunch break

Fred Brooks (Famous for his work on the IBM System/360 and for authoring "The Mythical Man-Month") - "The hardest single part of building a software system is deciding precisely what to build."

Day 4:

go and find a simplified practical real world example of using correlation names

Definition of cartesian products:

In the context of databases, a Cartesian product is the result of joining every row in one table with every row in another table¹²³. This operation is typically performed using the `CROSS JOIN` operator¹.

For example, if you have two tables, one with 3 rows and the other with 4 rows, the Cartesian product of these two tables will result in a new table with $3 \times 4 = 12$ rows¹. Each row from the first table is paired with each row from the second table¹³.

However, it's important to note that Cartesian products can involve a large number of computational operations and can result in large tables, especially if the original tables have many rows¹. Therefore, it's often recommended to use qualifier operators to restrict the rows that are included in the result¹.

In practice, the Cartesian product of tables isn't common¹. But sometimes, Cartesian products occur due to an error in the query text⁴. The primary method of joining tables is an inner or natural join operation⁴.

Please note that while a Cartesian product can technically be performed on any two tables, it's usually only meaningful when there is some logical relationship

between the tables¹⁴³. Without such a relationship, the result might not make sense in the context of the data¹⁴³.

Example of a cartesian product:

The diagram illustrates the Cartesian product of two tables. On the left, there are two tables: 'Color' and 'Size'. The 'Color' table has three rows: Red, Blue, and Green. The 'Size' table has five rows: Small, Medium, Large, Extra Large, and XXL. A large blue arrow points from these two tables to the right, indicating the result of their Cartesian product. On the right, the 'Query Result' table shows all possible combinations of color and size. It has 15 rows, starting with Red, Small and ending with Green, XXL.

Tables	
Color	
Red	
Blue	
Size	
Small	
Medium	
Large	
Extra Large	

Query Result	
Color	Size
Red	Small
Blue	Small
Red	Medium
Blue	Medium
Red	Large
Blue	Large
Red	Extra Large
Blue	Extra Large

SPUFI

SQL Processor Using File Input is a database facility invented by IBM for interfacing with their Db2 system. It is accessed from within TSO ISPF from the DB2I Primary Option menu. SPUFI allows direct input of SQL commands in the TSO environment, rather than having them embedded within a program.

Certainly! Here's a concise **SQL Basics Cheat Sheet** to help you with common SQL commands and queries:

SQL Basics Cheat Sheet

Sample Data

- Fetch all columns from the `country` table:

```
SELECT * FROM country;
```

- Retrieve the `id` and `name` columns from the `city` table:

```
SELECT id, name FROM city;
```

Aliases

- Use aliases to rename columns:

```
SELECT name AS city_name FROM city;
```

- Join tables and retrieve data:

```
SELECT co.name, ci.name  
FROM city AS ci  
JOIN country AS co ON ci.country_id = co.id;
```

Filtering the Output

- Use comparison operators to filter results:

- Fetch names of cities with a rating above 3:

```
SELECT name FROM city WHERE rating > 3;
```

- Retrieve names of cities that are neither Berlin nor Madrid:

```
SELECT name FROM city WHERE name ≠ 'Berlin' AND name ≠  
'Madrid';
```

- Text operators for pattern matching:

- Fetch names of cities starting with 'P' or ending with 's':

```
SELECT name FROM city WHERE name LIKE 'P%' OR name LIKE  
'%s';
```

- Retrieve names of cities with a pattern like 'ublin':

```
SELECT name FROM city WHERE name LIKE '_ublin';
```

- Other operators:
 - Fetch names of cities with a population between 500K and 5M:

```
SELECT name FROM city WHERE population BETWEEN 500000 AND 5000000;
```

- Retrieve names of cities without missing a rating value:

```
SELECT name FROM city WHERE rating IS NOT NULL;
```

- Fetch names of cities in countries with IDs 1, 4, 7, or 8:

```
SELECT name FROM city WHERE country_id IN (1, 4, 7, 8);
```

Remember, SQL is a powerful language for managing and manipulating relational databases. Feel free to explore more complex queries and dive deeper into SQL!



You can also download this [cheat sheet]([SQL Basics Cheat Sheet | LearnSQL.com](#)) in for easy reference.

SYSVIEW, REAL CASE SCENARIO why is it important for you as the DBA, how does it make your life easier and

implicit object creation

get a visual that breaks it down better and s good example of how and when it will b used

SQL Courses & Tutorials | [Codecademy](#)

SELECT SALARY FROM EMPLOYIES WHERE SALARY >= AND GENDER

Irving Wladawsky-Berger - "Change is inevitable, and the disruption it causes often brings both inconvenience and opportunity."

Day 5

Rodney Brooks (Former director of the MIT Computer Science and Artificial Intelligence Laboratory, co-founder of iRobot, and later an IBM researcher) - "We have to stop optimizing for programmers and start optimizing for users."

Hands-on Lab Exercises

Each day of the course includes practical lab exercises that allow students to apply the concepts learned in a real-world z/OS environment. These exercises are designed to reinforce understanding and provide practical experience with Db2 for z/OS.

Day 1 Exercises:

- **Exercise 1.1:** Setting up your first LPAR environment.
- **Exercise 1.2:** Basic navigation and operations in TSO/E and ISPF.

Day 2 Exercises:

- **Exercise 2.1:** Creating and manipulating relational database tables in Db2.
- **Exercise 2.2:** Exploring data set types and operations.

Day 3 Exercises:

- **Exercise 3.1:** Advanced data management with JCL and SDSF.
- **Exercise 3.2:** Implementing and querying Cartesian products and correlation names in SQL.

Day 4 Exercises:

- **Exercise 4.1:** Utilizing Db2 commands for database administration.
- **Exercise 4.2:** Working with Db2 utilities for data maintenance and optimization.

Day 5 Exercises:

- **Exercise 5.1:** Db2 system shutdown and startup procedures.
 - **Exercise 5.2:** Implementing backup and recovery strategies using Db2 utilities.
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Course Review and Feedback

At the end of the course, students will have the opportunity to review the material covered, discuss any topics that need further clarification, and provide feedback on their learning experience. This feedback is invaluable for improving future iterations of the course.

Certification and Next Steps

For those looking to formalize their expertise, the **IBM Certified DBA - Db2 12 for z/OS Fundamentals** certification is a great next step. This certification validates your skills and knowledge in Db2 for z/OS database administration.

Preparation Resources:

- IBM Db2 12 for z/OS documentation and redbooks.
 - Practice exams and study groups.
 - Online tutorials and courses for Db2 certification preparation.
-

Continuing Your Learning Journey

The end of this course is just the beginning of your journey with Db2 for z/OS. Here are some resources to help you continue learning and growing as a Db2 professional:

- **IBM Z Xplore Learning Platform:** Offers a wide range of courses and learning paths for various roles and skill levels in the IBM Z ecosystem.
- **Db2 Community Forums and Blogs:** Engage with other Db2 professionals, ask questions, and share your knowledge.
- **IBM Training and Certifications:** Explore advanced courses and certifications to deepen your expertise in Db2 and other IBM technologies.

Remember, the field of database administration is always evolving. Stay curious, keep learning, and don't hesitate to experiment with new features and best practices in Db2 for z/OS.

Closing Remarks

Congratulations on completing the **Db2 12 for z/OS Basics for DBA Beginners** course! We hope you found the course informative and empowering. Your journey with Db2 for z/OS doesn't end here. With the foundation you've built, you're well-prepared to tackle more advanced topics and challenges in the world of mainframe database administration.

Remember, the key to success in technology is continuous learning and adaptation. Keep exploring, practicing, and sharing your knowledge with the community. Best of luck in your future endeavors with Db2 for z/OS!

This comprehensive section aims to wrap up the course content with a focus on practical application through lab exercises, encourage feedback and review, guide students towards certification and further learning opportunities, and provide motivational closing remarks to inspire continued growth and exploration in the field of Db2 for z/OS.

Ken Thompson (co-creator of UNIX, worked at Bell Labs, and later at IBM) -
"When in doubt, use brute force."

Enhanced Guide for Exam C1000-122: Db2 12 for z/OS DBA Fundamentals

Exam name: IBM Associate Certified DBA - Db2 12 for z/OS Fundamentals

Exam Code: Exam C1000-122: Db2 12 for z/OS DBA Fundamentals

Number of questions: 63

Number of questions to pass: 44

Time allowed: 90 minutes

Status: Live

Badges: Db2 12 for z/OS Basic Database Administration - Code: CV844G -
IBM Training - Global

Embarking on the path to becoming an IBM Associate Certified Database Administrator for Db2 12 for z/OS is a commendable milestone in your IT career. The C1000-122 certification exam is designed to validate your foundational knowledge and skills in managing Db2 12 databases on the z/OS platform. Here's an enhanced overview to help you prepare thoroughly:

Certification Overview

Certification Name: IBM Associate Certified DBA - Db2 12 for z/OS Fundamentals

Certification Details: [IBM Certification Page](#)

This certification is a testament to your understanding of the core concepts, tasks, and functionalities associated with Db2 12 for z/OS database administration. Achieving this certification positions you as a proficient entry-level DBA, equipped to handle essential database management tasks within the z/OS environment.

Exam Specifications

- **Number of Questions:** 63 multiple-choice questions that cover a broad range of topics from database concepts to practical administration tasks.
- **Passing Score:** A minimum of 44 correct answers is required to pass the exam.
- **Duration:** You have 90 minutes to complete the exam, so time management is crucial.
- **Delivery Method:** The exam is available through Pearson VUE test centers worldwide, ensuring accessibility for candidates globally.
- **Current Status:** This certification exam is live and updated to reflect the latest features and best practices in Db2 12 for z/OS.

Recommended Training Course

Db2 12 for z/OS Basic Database Administration (Course Code: CV844G)

Course Overview: [Db2 12 for z/OS Basic Database Administration](#)

This official IBM course is highly recommended for exam preparation. It offers an in-depth exploration of database administration tasks, security, data management, and more. The course is structured to provide both theoretical knowledge and practical lab experiences, making it an invaluable resource for aspiring DBAs.

Preparation Tips

1. **Review the Exam Objectives:** Familiarize yourself with the exam topics listed on the IBM certification page. Understanding the exam's focus areas can help you tailor your study plan effectively.
2. **Hands-On Practice:** Utilize the lab exercises in the recommended course to gain practical experience. Real-world practice is invaluable for understanding complex concepts and tasks.
3. **Utilize Official Documentation:** Explore the [Db2 12 for z/OS Documentation](#) for detailed explanations of features, commands, and best practices.

4. **Engage with the Community:** Join forums and discussion groups, such as the [Db2 Community on IBM Support Forums](#), to share insights and seek advice from experienced professionals.
5. **Mock Exams:** Practice with sample questions and mock exams to familiarize yourself with the format and time constraints of the actual exam.

On the Day of the Exam

- Ensure you arrive at the test center early, allowing ample time for check-in procedures.
- Bring the required identification documents as specified by the test center.
- Read each question carefully and manage your time efficiently to attempt all questions.

After the Exam

- Upon passing, you'll receive an official certificate and digital badge from IBM, acknowledging your achievement.
- Consider sharing your success on professional networks like LinkedIn to enhance your professional profile.

Continuing Your Learning Journey

Achieving the IBM Associate Certified DBA - Db2 12 for z/OS Fundamentals certification is just the beginning. Continue exploring advanced topics, consider specializing in performance tuning, security, or advanced database management, and stay updated with the latest Db2 releases and features.

Nicholas Donofrio - "Innovation distinguishes between a leader and a follower."

Links Reference Key

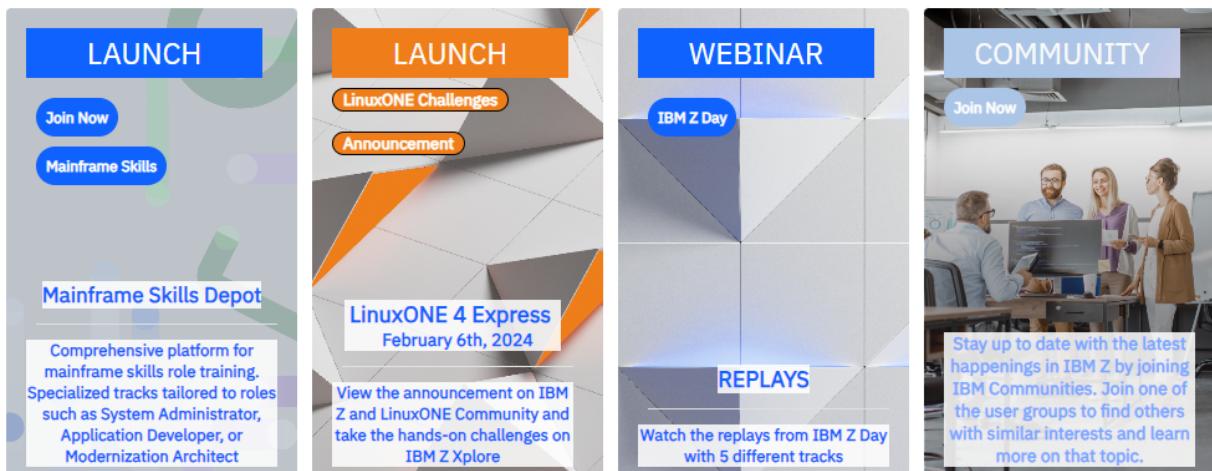
Official Documentation & Resources

- [IBM Db2 12 for z/OS Documentation](#) - Comprehensive resource for understanding Db2 for z/OS functionalities, features, and best practices.
- [IBM Redbooks](#) - In-depth material on Db2 for z/OS, covering various topics from basics to advanced techniques.
- [IBM Z Xplore Learning Platform](#) - Offers a wide range of courses and learning paths for IBM Z ecosystem.

Recommended For You



Events & Resources



- [IBM Training and Certifications](#) - Explore advanced courses and certifications in Db2 and other IBM technologies.
- [IBM Support Forums](#) - A platform to engage with Db2 professionals, ask questions, and share knowledge.
- [Db2 for z/OS Best Practices](#) - IBM's collection of best practices for optimizing Db2 for z/OS performance and efficiency.

Learning & Development

- [Codecademy SQL Courses](#) - Offers interactive SQL courses for beginners to advanced learners.



- [Cognitive Class AI](#) - Provides free online courses in data science, AI, cloud computing, and more, including Db2.
- [Kickresume Resume Builder](#) - An online tool to create professional resumes for IT job roles.
- [Learning Paths and Collections \(ibm.com\)](#) - Let us guide you on this page to find the right training, or [click here](#) to search, filter and explore all learning paths and collections.
- [Explore the IBM Z Mainframe Skills Depot:](#) - The one-stop-shop platform for access to mainframe skills training across IBM.

Video Tutorials & Webinars

- [IBM DB2 for z/OS Learning Videos](#) - A playlist of educational videos covering various aspects of Db2 for z/OS.
- [Db2 Introduction - YouTube](#) - A beginner-friendly video explaining the basics of Db2.
- [Db2 Database Administration - YouTube](#) - Video covering essential database administration tasks in Db2.

Community & Forums

- [Db2 Community on Stack Overflow](#) - A place to find solutions, ask questions, and share Db2 knowledge.

- [Db2 Reddit Community](#) - A community for discussing all things related to Db2, including z/OS.
- [IBM Developer Db2 Community](#) - Connects you with Db2 experts, articles, tutorials, and more.

Tools & Utilities

- [IBM Data Studio](#) - An integrated development environment for database administration and application development.
- [DbVisualizer](#) - A universal database tool for developers, analysts, and DBAs.

Research & Articles

- [ACM Digital Library](#) - A collection of publications and research papers, including topics on database management systems like Db2.
- [IEEE Xplore Digital Library](#) - Offers technical literature in engineering and technology, including research articles on Db2.

Technotes & Tutorials

- [IBM Db2 Technotes](#) - Technical notes offering solutions to specific Db2 issues.
- [Db2 Tutorials for Beginners](#) - Provides a collection of tutorials for getting started with Db2.

Abigail, use these resources to deepen your: Understanding of Db2 for z/OS, Solve specific technical challenges, Stay updated with the latest best practices, and grow in your IT career. Whether it's through formal training and certification, community engagement, or self-paced learning, these links offer a wealth of knowledge and support to help you succeed.

~ Raydo Matthee