



PYTHON TRAINING

Python Sql Pyspark App Development Language Course

Master Python, SQL, and PySpark for robust app development. Build powerful applications and gain essential data skills for modern tech roles.

DURATION

2 hours

LEVEL

Intermediate

FORMAT

Instructor-Led

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- Globally Recognized Certification
 - Expert-Led Hands-On Training
 - Flexible Scheduling

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COURSE OVERVIEW

This intermediate-level course provides a comprehensive and accelerated journey into building robust, data-driven applications by seamlessly integrating Python, SQL, and PySpark. Designed for aspiring and existing developers, data engineers, and data scientists, this program equips you with the essential skills to develop scalable applications that interact with relational databases and efficiently process vast datasets using big data technologies. You will learn to leverage Python's versatility for application logic, SQL's power for data management, and PySpark's capabilities for distributed data processing. By mastering these core technologies, you will enhance your ability to design, implement, and optimize solutions for complex data challenges.

Throughout the course, we focus on practical application and the synergy between these powerful tools. You'll move beyond individual concepts to understand how Python acts as the orchestrator, connecting to SQL databases for structured data storage and retrieval, while simultaneously deploying PySpark for high-performance data transformation and analysis. This integrated approach is crucial for modern application development, enabling you to build everything from backend services with sophisticated data persistence to real-time analytics platforms capable of handling enterprise-scale data.

The professional benefits of this course are immense. You will gain a highly sought-after skill set that is critical in today's data-intensive world, making you a valuable asset in any organization dealing with large volumes of data. This certification will significantly boost your marketability, opening doors to advanced roles in data engineering, big data development, and full-stack development focusing on data-driven architectures, ensuring you can contribute to cutting-edge projects and drive innovation.

Duration	2 hours
Level	Intermediate
Vendor	Python

COURSE CURRICULUM

01 Module 1: Core Python for Data Applications & SQL Interaction

- Python Environment Setup and Best Practices
- Essential Python Data Structures and Control Flow (Review)
- Introduction to Database Concepts and SQL Syntax (DML Basics)
- Connecting Python to Relational Databases (e.g., SQLite, PostgreSQL Connector)
- Performing CRUD Operations with Python and SQL

02 Module 2: PySpark Fundamentals for Scalable Data Processing

- Introduction to Apache Spark and PySpark Architecture
- Setting up SparkSession and Understanding DataFrames
- Loading and Writing Data with PySpark (CSV, Parquet)
- Essential PySpark DataFrame Transformations (Select, Filter, GroupBy, Sort)
- Basic PySpark Actions (Show, Collect, Count)

03 Module 3: Building Integrated Python, SQL, and PySpark Applications

- Designing End-to-End Data Flows (Python as Orchestrator)
- Integrating PySpark Processed Data with SQL Databases
- Developing a Simple Data-Driven Application Pipeline

- Conceptualizing Real-World Use Cases for Combined Technologies
- Introduction to Deployment Considerations for Data Applications

CAREER PATHWAYS

Graduates of this program are prepared for the following roles:

- > **Data Engineer (specializing in Python/Spark data pipelines)**
- > **Backend Developer (with advanced SQL and data processing capabilities)**
- > **Big Data Application Developer (building scalable applications using PySpark)**

FREQUENTLY ASKED QUESTIONS

Q: What foundational knowledge should I possess before enrolling in this Python, SQL, and PySpark application development course?

This intermediate course assumes you have a foundational understanding of Python programming, including familiarity with variables, data types, control structures, and basic functions. While essential SQL concepts will be covered, prior exposure to database interaction and basic SQL queries would be beneficial. No prior experience with PySpark or big data concepts is required, as these will be introduced comprehensively.

Q: What specific types of applications or data solutions will I be equipped to build or contribute to after completing this course?

Upon completion, you will be capable of developing robust data-driven applications that utilize Python for core logic, SQL for efficient data storage and retrieval, and PySpark for scalable big data processing. This includes building backend services for web or mobile applications that handle large datasets, creating sophisticated data ingestion and transformation pipelines, and contributing to analytical platforms that require distributed computing for complex data analysis.

Q: How does mastering the combination of Python, SQL, and PySpark specifically enhance my career prospects in the IT industry?

The combined skill set of Python for application development, SQL for relational database management, and PySpark for big data processing is exceptionally valuable and in high demand. It positions you as a versatile professional capable of bridging the gap between traditional application development and modern big data analytics. This expertise is crucial for roles such as Data Engineer, Big Data Developer, or Backend Developer specializing in data-intensive systems, significantly boosting your employability and career advancement opportunities in various sectors.

ABOUT COMPUTER PRIDE



East Africa's Premier IT Training Center

With over 15 years of excellence, Computer Pride delivers globally recognized certification programs from leading

technology vendors. Located on Kenyatta Avenue in Nairobi's CBD, our state-of-the-art facilities and expert instructors have empowered thousands of professionals across East Africa.

15+

Years of Excellence

10,000+

Professionals Trained

50+

Vendor Certifications

READY TO ENROL?

Take the next step in your technology career.

Location

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