BLACKBIRD FOR TRAINING

Advanced Data Analytics Program (SQL & Tableau)



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Introduction

Organizations today generate unprecedented volumes of structured and unstructured data from enterprise systems, digital platforms, operational processes, and customer interactions. Transforming this data into strategic insights requires far more than basic reporting capabilities. Modern organizations depend on professionals who can design efficient database queries, engineer reliable analytical datasets, develop enterprise-grade dashboards, and deliver actionable intelligence that supports operational excellence and executive decision-making.

The Advanced Data Analytics Program SQL & Tableau provides a comprehensive framework for mastering advanced database querying, data engineering, business intelligence, and interactive data visualization. Rather than focusing on introductory SQL commands or basic dashboard development, the program emphasizes enterprise-level analytical techniques used to manage large datasets, optimize query performance, integrate multiple data sources, and design scalable analytical solutions.

Participants develop advanced SQL capabilities including complex joins, Common Table Expressions CTEs, Window Functions, subqueries, analytical functions, query optimization, indexing strategies, and performance tuning. The program then progresses into advanced Tableau development, covering enterprise dashboard architecture, calculated fields, Level of Detail LOD Expressions, table calculations, dashboard actions, parameter-driven analytics, performance optimization, and executive reporting.

Through practical business scenarios and integrated analytical projects, participants learn how to transform complex business requirements into data-driven solutions that improve operational performance, support strategic planning, strengthen business intelligence capabilities, and enable evidence-based decision-making across the organization.

Course Objectives

By the end of this course, participants will be able to:



- Design advanced SQL solutions for enterprise databases.
- Develop optimized SQL queries for large-scale analytical environments.
- Apply Common Table Expressions CTEs and recursive queries.
- Utilize Window Functions for advanced analytical reporting.
- Optimize database performance through indexing and query tuning.
- Engineer high-quality analytical datasets from multiple data sources.
- Apply advanced data cleansing and transformation methodologies.
- Design enterprise-ready Tableau dashboards.
- Develop advanced calculations using Level of Detail LOD Expressions.
- Create dynamic dashboards using Parameters, Sets, and Dashboard Actions.
- Build executive KPIs and performance scorecards.
- Perform trend analysis, segmentation, and business performance evaluation.
- Apply data governance and business intelligence best practices.
- Present analytical insights that support executive decision-making.

Course Outlines

Day 1: Advanced SQL Architecture and Database Performance

- Enterprise database architecture and analytical environments.
- Advanced SQL query design methodologies.
- Common Table Expressions CTEs and recursive queries.
- Window Functions for analytical reporting.
- Advanced JOIN optimization techniques.
- SQL execution plans and query optimization.
- Indexing strategies for large databases.
- Performance tuning workshop using enterprise datasets.

Day 2: Advanced Data Engineering and SQL Analytics

- Enterprise data engineering concepts.
- Advanced data cleansing and validation techniques.
- Data transformation and normalization strategies.
- Building reusable analytical datasets.
- Integrating multiple enterprise data sources.
- Managing high-volume transactional data.
- Root cause analysis through SQL analytics.
- Enterprise case study using complex business datasets.



Day 3: Enterprise Tableau Development and Interactive Analytics

- Tableau architecture and enterprise deployment.
- Advanced data modeling within Tableau.
- Calculated Fields and advanced calculations.
- Level of Detail LOD Expressions.
- Table Calculations for business analytics.
- Parameters, Sets, and Dynamic Groups.
- Advanced visualization design principles.
- Dashboard performance optimization techniques.

Day 4: Business Intelligence and Executive Dashboard Development

- Designing executive business intelligence frameworks.
- Developing enterprise KPI scorecards.
- Dashboard Actions and interactive navigation.
- Time-series analysis and forecasting techniques.
- Comparative and segmentation analysis.
- Storytelling through business intelligence dashboards.
- Executive reporting methodologies.
- Business intelligence case studies.

Day 5: Enterprise Analytics Integration and Strategic Decision Support

- End-to-end enterprise analytics lifecycle.
- Data governance and analytics governance frameworks.
- Tableau Server and Cloud publishing strategies.
- Dashboard security and user access management.
- Performance monitoring and dashboard maintenance.
- Solving enterprise business challenges using SQL and Tableau.
- Integrated capstone project combining SQL and Tableau.
- Final analytical presentation and technical assessment.

Why Attend This Course: Wins & Losses!

- Master enterprise-level SQL development techniques.
- Strengthen advanced business intelligence capabilities.
- Design scalable analytical data models.
- Build executive dashboards for strategic reporting.
- Improve SQL performance and database efficiency.
- Develop sophisticated Tableau visualizations and analytics.
- Apply data governance principles to analytical projects.
- Deliver high-impact business insights through advanced analytics.
- Enhance decision-making using enterprise business intelligence.
- Gain practical experience through complex real-world analytical scenarios.



Conclusion

The Advanced Data Analytics Program SQL & Tableau provides an enterprise-focused approach to developing advanced analytical capabilities that extend beyond traditional reporting and dashboard development. As organizations continue to rely on data-driven strategies to improve operational performance and achieve competitive advantage, professionals must possess the technical expertise required to manage complex datasets, optimize analytical processes, and transform business data into meaningful strategic insights.

The program begins by strengthening participants' expertise in advanced SQL development, database architecture, query optimization, and analytical data engineering. It then expands into advanced Tableau capabilities, enabling participants to design enterprise dashboards, develop sophisticated analytical models, create dynamic visualizations, and deliver executive-level reporting that supports informed business decisions.

Throughout the program, participants apply advanced analytical methodologies to real business scenarios involving performance measurement, trend analysis, forecasting, segmentation, and business intelligence. Emphasis is placed on integrating SQL and Tableau within a unified analytical framework that supports scalability, governance, performance optimization, and organizational reporting standards.

The final stage focuses on enterprise analytics strategy, dashboard deployment, governance, and integrated business intelligence solutions. By combining advanced SQL techniques, enterprise data engineering practices, and professional Tableau development, participants leave the program with the capability to design robust analytical solutions that improve decision-making, enhance operational performance, strengthen organizational intelligence, and support long-term business success.

FAQ

What is SQL, and why is it important for data analytics?

SQL Structured Query Language is the standard language used to manage, query, and analyze relational databases. This course explains the SQL definition, answers what is SQL used for, and covers the fundamentals of SQL needed to retrieve, transform, and analyze data for business intelligence and informed decision-making.

What topics are covered in the Advanced Data Analytics SQL & Tableau course?

The course combines basic SQL programming with advanced database techniques, including complex queries, Common Table Expressions CTEs, Window Functions, query optimization, and data integration. Participants also learn SQL data analysis, SQL Server Analysis Services, Tableau dashboard development, interactive reporting, KPI design, and enterprise business intelligence best practices.



Will I learn Microsoft SQL Server and Tableau together?

Yes. This program provides hands-on experience with Microsoft SQL Server Management Studio, enterprise database management, and advanced Tableau visualization. Participants learn how SQL and Tableau work together to transform raw data into interactive dashboards, executive reports, and meaningful business insights that support strategic decision-making.

Who should attend this SQL and Tableau training course?

This course is ideal for data analysts, business intelligence professionals, database developers, reporting specialists, IT professionals, and anyone looking to strengthen their analytical capabilities. It is also suitable for individuals preparing for a Microsoft SQL Server certification, SQL certification, or seeking practical experience in enterprise data analytics.

How will this course benefit my career in data analytics?

By completing this SQL and Tableau course, participants will gain practical skills in database querying, data engineering, dashboard development, and business intelligence. These competencies help improve analytical performance, support data-driven decision-making, and prepare professionals for advanced roles in data analytics, business intelligence, and enterprise reporting.

