

102 - Foundations Level 02 in Data Analytics for Auditors

Wednesday, October 27, 2021 10:20 AM

Syllabus

Overview:

This course, the second in the series' foundational courses, focuses on the practical use of data analytics for both IT and Operational Auditors while expanding on the concepts and tools introduced in the Foundations Level 01 course. The course is hands on and teaches the use of basic Structured Query Language (SQL) and Relational Database Management Systems (RDBMS) to analyze large and complex datasets in order to gain insights and deliver superior audit results. Leveraging the same Free and Open-Source Software (F/OSS) used in the course, participants can easily deploy these platforms within their Enterprise environments in order to leverage what they learned.

The course builds on the participant's knowledge of data analytics techniques while focusing on hands-on examples, using real-world scenarios, to reinforce concepts. Participants will learn to import datasets of various formats, to perform more complex analysis of these datasets through the lens of common and relatable audit tests, and to export the analytics results for use as audit evidence. This course endeavors to demonstrate the power of "telling the story" through data analytics to in gain greater insight and deliver superior audit results.

Prerequisites:

- Completion of the Data Analytics for Auditors Foundations 01 Course or basic knowledge of SQL and the PostgreSQL / PG Admin platforms is required.
- The course requires participants have access to a computer on which they install and configure both PostgreSQL and PG Admin software.
- Attendees will be sent instructions, prior to the course, to install and configure PostgreSQL and PG Admin prior to the start of the course.
- Attendees will be sent data files, prior to the course, for use in course exercises.

Target Audience:

This course targets IT and Operational Auditors but is also applicable to IT, Information Security, and Second Line of Defense Professionals.

Takeaways:

Participants completing this course will be prepared to install and configure the platforms used for data analytics, import many forms of data provided by clients into the analytics environment, analyze imported data using more complex analytic techniques, and export evidence in support of work papers and audit results.

Sample Schedule:

| Day | Time | Topic |
|--------|---------------|--|
| Day 01 | 08:00 - 08:40 | Introduction <ul style="list-style-type: none">• What is Data Analytics? (Lecture)• How does Data Analytics improve Audit? (Lecture) |
| Day 01 | 08:40 - 09:50 | Intermediate Data Import <ul style="list-style-type: none">• Setting up the Data Analytics environment (Lecture & Hands-On)• Importing Complex Data for analysis (Lecture & Hands-On) |
| Day 01 | 10:00 - 10:50 | Introduction to Data Analysis using Inner Join statements <ul style="list-style-type: none">• What are Relationships? (Lecture) |

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| | | <ul style="list-style-type: none"> • What are Join statements? (Lecture) • What are Inner Join statements? (Lecture) • Inner Join Statement Exercises (Lecture & Hands-On) |
| Day 01 | 11:00 - 11:50 | Interactive Guided Simulation <ul style="list-style-type: none"> • Simulation Overview (Lecture) • Data Load (Lecture & Hands-On) • Analytics (Lecture & Hands-On) |
| Day 02 | 08:00 - 08:30 | Recap (Lecture) |
| Day 02 | 08:30 - 09:20 | Introduction to Data Analysis using Left Join Statements <ul style="list-style-type: none"> • What are Left Join statements? (Lecture) • What are Right Join statements? (Lecture) • Left Join Statement Exercises (Lecture & Hands-On) • How do Logical Operators empower Join Statements? (Lecture) • Left Join with Logic Operators Exercises (Lecture & Hands-On) |
| Day 02 | 09:30 - 10:20 | Interactive Guided Simulation <ul style="list-style-type: none"> • Simulation Overview (Lecture) • Environment Setup (Lecture & Hands-On) • Data Load (Lecture & Hands-On) • Analytics (Lecture & Hands-On) |
| Day 02 | 10:30 - 11:30 | Independent Simulation <ul style="list-style-type: none"> • Simulation Overview (Lecture) • Environment Setup (Hands-On) • Data Load (Hands-On) • Analytics (Hands-On) |
| Day 02 | 11:30 - 11:50 | Wrap-Up Discussion |