Course Name	**Microsoft Power BI Data Analyst**
Course Code	**PL-300T00**
Course Duration	3 Days
Course Structure	Instructor-Led
Course Overview	This course will discuss the various methods and best practices that are in line with business and technical requirements for modeling, visualizing, and analyzing data with Power BI. The course will also show how to access and process data from a range of data sources including both relational and non-relational data. This course will also explore how to implement proper security standards and policies across the Power BI spectrum including datasets and groups. The course will also discuss how to manage and deploy reports and dashboards for sharing and content distribution.
Audience Profile	The audience for this course are data professionals and business intelligence professionals who want to learn how to accurately perform data analysis using Power BI. This course is also targeted toward those individuals who develop reports that visualize data from the data platform technologies that exist on both in the cloud and on-premises.
Course Prerequisites	Before attending this course, students must have: • Successful Data Analysts start this role with experience of working with data in the cloud. • Specifically: • Understanding core data concepts. • Knowledge of working with relational data in the cloud. • Knowledge of working with non-relational data in the cloud. • Knowledge of data analysis and visualization concepts.
Course Outcome	After completing this course, students will be able to: • Ingest, clean, and transform data • Model data for performance and scalability • Design and create reports for data analysis • Apply and perform advanced report analytics

	• Manage and share report assets
Assessment/Evaluation	This course will prepare delegates to take the exam: PL-300T00 Microsoft Power BI Data Analyst Successfully passing this exam will result in the attainment of the Microsoft Power BI Data Analyst Certification and Certificate of Attendance issued by IT-IQ Botswana

Course Details	
Topic	**Topic 1: Get Started with Microsoft Data Analytics** This Topic explores the different roles in the data space, outlines the important roles and responsibilities of a Data Analysts, and then explores the landscape of the Power BI portfolio. **Lessons** • Data Analytics and Microsoft • Getting Started with Power BI After completing this Topic, students will be able to: • Explore the different roles in data • Identify the tasks that are performed by a data analyst • Describe the Power BI landscape of products and services • Use the Power BI service **Topic 2: Getting Data in Power BI** This Topic explores identifying and retrieving data from various data sources. You will also learn the options for connectivity and data storage and understand the difference and performance implications of connecting directly to data vs. importing it. **Lessons** • Data Analytics and Microsoft • Optimize Performance • Resolve Data Errors

	Lab: Preparing Data in Power BI Desktop • Prepare Data After completing this Topic, students will be able to: • Identify and retrieve data from different data sources • Understand the connection methods and their performance implications • Use Microsoft Dataverse • Connect to a data flow **Topic 3: Cleaning, Transforming, and Loading Data in Power BI** This Topic teaches you the process of profiling and understanding the condition of the data. They will learn how to identify anomalies, look at the size and shape of their data, and perform the proper data cleaning and transforming steps to prepare the data for loading into the model. **Lessons** • Shaping the Data • Profiling the Data • Enhance the data structure **Lab: Loading Data in Power BI Desktop** • Loading Data After completing this Topic, students will be able to: • Apply data shape transformations • Enhance the structure of the data • Profile and examine the data **Topic 4: Design a Data Model in Power BI** This Topic teaches the fundamental concepts of designing and developing a data model for proper performance and scalability. This Topic will also help you understand and tackle many of the common data modeling issues, including relationships, security, and performance. **Lessons** • Introduction to data modeling

	• Working with tables • Dimensions and Hierarchies **Lab: Data Modeling in Power BI Desktop** • Create Model Relationships • Configure Tables and Column Properties • Create hierarchies After completing this Topic, students will be able to: • Understand the basics of data modeling • Define relationships and their cardinality • Implement Dimensions and Hierarchies **Topic 5: Create Model Calculations using DAX in Power BI** This Topic introduces you to the world of DAX and its true power for enhancing a model. You will learn about aggregations and the concepts of Measures, calculated columns and tables, and Time Intelligence functions to solve calculation and data analysis problems. **Lessons** • Introduction to DAX • Real-time dashboards • Advanced DAX **Lab: Introduction to DAX in Power BI Desktop** • Create calculated tables • Create calculated columns • Create measures **Lab: Advanced DAX in Power BI Desktop** • Use the CALCULATE() function to manipulate filter context • Use Time Intelligence functions After completing this Topic, students will be able to: • Understand DAX • Use DAX for simple formulas and expressions

	• Create calculated tables and measures • Build simple measures • Work with Time Intelligence and Key Performance Indicators **Topic 6: Optimize Model Performance in Power BI** In this Topic you are introduced to steps, processes, concepts, and data modeling best practices necessary to optimize a data model for enterprise-level performance. **Lessons** • Optimize the data model for performance • Optimize DirectQuery Models After completing this Topic, students will be able to: • Understand the importance of variables • Enhance the data model • Optimize the storage model **Topic 7: Create Reports in Power BI** This Topic introduces you to the fundamental concepts and principles of designing and building a report, including selecting the correct visuals, designing a page layout, and applying basic but critical functionality. The important topic of designing for accessibility is also covered. **Lessons** • Design a report • Enhance the report **Lab: Enhancing reports with interaction and formatting in Power BI Desktop** • Create and configure Sync Slicers • Create a drillthrough page • Apply conditional formatting • Create and use Bookmarks **Lab: Designing a report in Power BI Desktop** • Design a report

	• Configure visual fields and format properties After completing this Topic, students will be able to: • Design a report page layout • Select and add effective visualizations • Add basic report functionality • Add report navigation and interactions **Topic 8: Create Dashboards in Power BI** In this Topic you will learn how to tell a compelling story through the use of dashboards and the different navigation tools available to provide navigation. You will be introduced to features and functionality and how to enhance dashboards for usability and insights. **Lessons** • Create a Dashboard • Real-time Dashboards • Enhance a Dashboard **Lab: Creating a Dashboard in Power BI Service** • Create a Dashboard • Pin visuals to a Dashboard • Use Q&A to create a dashboard tile After completing this Topic, students will be able to: • Create a Dashboard • Understand real-time Dashboards • Enhance Dashboard usability **Topic 9: Identify Patterns and Trends in Power BI** This Topic helps you apply additional features to enhance the report for analytical insights in the data, equipping you with the steps to use the report for actual data analysis. You will also perform advanced analytics using AI visuals on the report for even deeper and meaningful data insights.

	Lessons • Advanced Analytics • Data Insights through AI visuals **Lab: Data Analysis in Power BI Desktop** • Create animated scatter charts • Use the visual to forecast values After completing this Topic, students will be able to: • Use the Analyze feature • Identify outliers in data • Use the AI visuals • Use the Advanced Analytics custom visual **Topic 10: Create and Manage Workspaces in Power BI** This Topic will introduce you to Workspaces, including how to create and manage them. You will also learn how to share content, including reports and dashboards, and then learn how to distribute an App. **Lessons** • Creating Workspaces • Sharing and Managing Assets After completing this Topic, students will be able to: • Create and manage a workspace • Understand workspace collaboration • Monitor workspace usage and performance • Distribute an App **Topic 11: Manage Files and Datasets in Power BI** This Topic will introduce you to parameters and datasets. You will also learn how to manage datasets and parameters, build dynamic reports with parameters, and set dataset refresh options.

	Lessons • Parameters • Datasets After completing this Topic, students will be able to: • Manage datasets and parameters • Build dynamic reports with parameters • Schedule dataset refresh • Troubleshoot gateway service connectivity **Topic 12: Row-level Security in Power BI** This Topic will introduce you to row-level security, both static and dynamic methods, and how to implement. **Lessons** • Security in Power BI **Lab: Enforce Row-Level Security** • Configure many-to-many relationships • Enforce row-level security After completing this Topic, students will be able to: • Implement row-level security using both the Static and Dynamic methods