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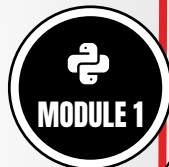


+91 9951666670

# DATA SCIENCE FOR WORKING PROFESSIONALS ► (L2 CURRICULUM) ◀

## L2 COURSE MODULE - 120 HOURS

PYTHON  
PROGRAMMING  
FOR MANAGERS



ADVANCE  
VISUALIZATIONS  
& STORYTELLING  
WITH POWER BI



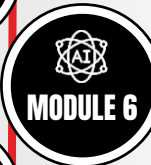
DATABASES AND  
STORAGE  
MANAGEMENT



WORKING WITH  
BIG DATA



AZURE  
CLOUD SERVICES



INTRODUCTION TO  
GENERATIVE AI



PREDICTIVE ANALYTICS  
AND ML MODEL  
ON CLOUD



MANAGEMENT OF  
PROJECTS END-TO-END  
IN DATA SCIENCE

### Kukatpally

#205, 2nd Floor, Fortune Signature,  
Near JNTU Metro Station, Kukatpally,  
Hyderabad, Telangana 500085.



### Gachibowli

2nd Floor, Leeway, BP Raju Marg,  
Opp. Sarath City Capital Mall,  
Laxmi Cyber City, Whitefields, Kondapur,  
Telangana 500081.



## MODULE-1

### Python Programming for Managers

#### Intro to Python for Data Analysis

- Overview Of Python Programming Language
- Data Structures
- Flow Control

#### Functions and Modules

- Introduction To Functions
- Define A Function
- Function Calling
- Local And Global Variables
- Modules

#### Numpy

- Applications Of Numpy
- Proof Of Efficiency
- Creating A Numpy Array
- Slicing And Indexing
- Numpy Maths And Statistics

#### Pandas

- Introduction To Pandas
- Series And Dataframes
- Creating A Series And Dataframes

- Data Accessing Using Indexing
- Dataframe Functionalities
- Working With .csv Files

## Visualising Data with Matplotlib and Seaborn

- Visualizing the data with Matplotlib and Seaborn.
- Univariate
- Bivariate
- Multivariate Analysis
- Data Cleaning
- Handling Missing values and Outliers



**Mini Project** (Exploratory Data Analysis with Python)  
This module will end up with a project.

## MODULE-2

### ADVANCE VISUALIZATIONS WITH POWER BI

## Introduction to PowerBI and Basics of Reporting

- Reporting with PowerBI
- Types of reports
- Understanding the Power BI tools
- Dev and Prod Environment
- Installation and Connecting to Data
- Working with Data Model and Creating Visualization
- Basic report designing
- Get data and memory tables
- Table and Tree Map visuals
- Legend

- Category and Grid
- Visual Interactions
- CSV and PDF Exports
- Power BI EcoSystem and Architecture

## Connect and Transform the Raw Data

- Intro to the Power BI Query Editor
- Types of Power BI Data Connectors
- Basic Table Transformations
- Text
- Number & Date Tools
- Index & Conditional Columns
- Grouping & Aggregating Data
- Pivoting & Unpivoting
- Modifying
- Merging & Appending Queries
- Connecting to Folders
- Defining Hierarchies & Categories
- Query Editing & Power BI Best Practices

## Build a Relational Data Model

- Intro to Database Normalization
- Data Tables vs. Lookup Tables
- Creating Power BI Table Relationships
- Star vs Snowflake Schemas
- Active vs Inactive Relationships
- Relationship Cardinality
- Connecting Multiple Data Tables
- Filtering & Cross-Filtering
- Hiding Fields from the Power BI Report View
- Data Modeling & Power BI best Practices

## Add calculated fields with DAX

- Intro to Data Analysis Expressions (DAX)
- Calculated Columns vs. Measures
- Row Context vs. Filter Context in Power BI
- DAX Syntax & Operators
- Common Power BI Functions
- Basic Date & Time Formulas
- Logical & Conditional Statements
- Text
- Math & Stats Functions
- Joining Data with RELATED
- CALCULATE
- ALL & FILTER Functions
- DAX Iterators (SUMX, AVERAGEX)
- Time Intelligence Formulas
- DAX & Power BI Best Practices



**Project** (Data Analysis with Power BI)  
This module will end up with a project.

## ADVANCE VISUALIZATIONS WITH POWER BI

## Design Interactive PowerBI Reports

- Intro to the Power BI Report View
- Adding Basic Charts to Power BI Reports
- Formatting & Filtering Options
- Matrix Visuals
- Slicers & Timelines
- Cards & KPIs
- Power BI Map Visuals (Basic, Fill, ArcGIS)
- Treemaps

- Lines
- Areas & Gauges
- Editing Report interactions
- Adding Drillthrough Filters
- Linking to Report Bookmarks
- Using What-If Parameters
- Managing & Viewing Roles
- PREVIEW:
- Publishing to Power BI Service
- Power BI Data Viz Best Practices

## Power BI Cloud and Report Server

- Power BI Cloud Components
- App Workspaces
- Creating reports in cloud
- Dashboard creation and Usage
- Pining Visuals and Adding media
- Streaming Data
- Dashboard Actions
- Report Actions
- Dataset Actions
- Mobile View
- Featured Dashboards
- Gateways Types
- Cloud Connections
- Data Refresh
- PBIEngw Service
- ODG Logs
- DataFlows
- JSON Files
- Need of Report Servers in PROD
- Web Service URL

- Webportal URL
- Uploading Interactive Reports
- Designing Paginated Reports
- Power BI Report Server to Cloud



**Project** (Data Analysis with Power BI)  
This module will end up with a project.

## MODULE-3

### DATABASES & STORAGE MANAGEMENT

#### Introduction to MySQL

- Introduction to Relational Databases
- DBMS
- Installation of MySQL Workbench
- Execution of statements

#### DML, DDL and DCL

- LIMIT
- OFFSET
- ORDER BY
- DISTINCT
- WHERE
- Logical operators
- COUNT
- MIN
- MAX
- AVG
- SUM
- **DML:** INSERT, UPDATE, DELETE
- **DDL:** CREATE, ALTER, ADD, MODIFY, DROP, TRUNCATE
- **DCL:** GRANT, REVOKE

## Group By, Joins and Subqueries

- GROUP BY
- Ordering of Keywords
- JOINS: Inner, Left, Right & Outer
- Subqueries and Nested
- Inner Queries

## String and DateTime

- String Manipulation
- TRIM
- SUBSTR
- CONCAT
- Converting strings into dates, etc
- Date Time Manipulation
- EXTRACT
- DATE\_ADD()
- DATE\_SUB()
- DATE\_DIFF() ,etc

## Connecting SQL with BI Tools

- Integrating SQL queries with BI tools for enhanced analysis
- Utilizing SQL in Excel and BI platforms



**Project** (DA using MySQL)  
This module will end up with a project.



## MODULE-4

### Working with Big Data

#### Intro to Big Data and Hadoop

- Understanding Big Data
- Distributed Architecture
- Intro to Hadoop and HDFS
- MapReduce
- Master Slave Architecture
- Intro to Spark RDD
- Spark SQL and Data Frames

#### Apache Spark for Big Data Processing

- Overview of Spark's capabilities
- Issues with MapReduce
- Spark Architecture
- Spark Core
- Spark Streaming
- Mllib
- GraphX

#### PySpark

- Pyspark Enviroment Setup
- RDD
- Broadcast and Accumularor
- Sparkconf and Sparkfiles
- Spark MLib and utilities in Spark Mlib

- Map Reduce Use Case - Uber Data Analytics

## Introduction to Cloud

### Cloud Computing

- Introduction to Cloud Computing
- Need for Cloud
- Advantages
- IaaS
- PaaS
- SaaS, etc
- Definition and key characteristics
- Advantages of cloud computing in data science

### Cloud Based Data Analysis Platform

- Overview of Google Analytics
- Google Analytics for Web Analytics
- Extracting insights for data-driven decisions

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#### **Mini Project - (Handson)**

This module will end up with a project.

## MODULE-5

### Azure Cloud Services

#### Introduction to Microsoft Azure

- Azure as a cloud service provider
- Setting Up Azure for Data Science Workflows
- Understanding Azure subscriptions
- Organizing resources with resource groups
- Creating and configuring VMs for data science
- Choosing appropriate VM sizes and types

#### Azure Storage

- Overview of Azure Storage Services
- Azure Blob Storage for data storage
- Setting up and managing SQL databases on Azure
- Integrating SQL databases with data science workflows

#### Introduction to Azure Data Lake

- Non Relational Data Stores
- Document
- Key Value
- Graph
- Time Series and Object Data Stores
- NoSQL
- Azure Data Lake Storage
- Azure Cosmos DB
- Azure Blob Storage
- Data Partitioning



#### Mini Project - (Handson)

This module will end up with a project.

## Azure Cloud Services

### Relational Data Stores and Azure SQL

- Introduction to Relational Data Stores
- Azure SQL Database
- Elastic Pool
- Azure Database for MySQL
- PostgreSQL
- MariaDB
- Azure Synapse Analytics
- Azure SQL Security

### Azure Data Factory and Data Bricks

- Working of Azure Batch
- Batch Capabilities
- Flow process of Data Factory
- Integrating Runtime in Azure Data Factory
- Azure Databricks
- Spark based Analytics Platform
- Apache Spark in Azure Databricks

### Realtime Analytics with Azure Stream Analytics

- Working of Stream Analytics
- Key benefits
- Windowing Functions



**Mini Project - (Handson)**  
This module will end up with a project.

## MODULE-6

### Building Apps with Generative AI

#### LLMs

- Getting Started with LLMs
- Working with Google's Gemini
- Meta LLAMA
- Building GenAI Apps

#### LangChain

- Intro to LangChain
- Building RAG based applications with LangChain



#### **Mini Project - (Handson)**

This module will end up with a project.

## MODULE-7

### ML MODELS ON CLOUD

#### Azure ML Studio

- Intro and Deep Dive into Azure ML Studio
- Prepare the dataset
- Overview of AML and its features
- Creating and managing AML workspaces
- Building and training machine learning models
- Deploying models with Azure Container Instances (ACI) and Azure Kubernetes Service (AKS)

#### Azure AutoML

- Exploring Azure AutoML
- Understanding AutoML capabilities in Azure
- Leveraging AutoML for model selection and tuning



**Project -** (Training and Deploying ML Models)  
This module will end up with a project.

## Integrating Azure with Python

#### Azure SDK for Python

- Configuring and using Azure services with Python
- Python libraries for Azure integration

#### Security and Compliance in Azure Cloud

- Azure Security Features
- Identity and access management in Azure
- Ensuring regulatory compliance in Azure
- Data governance and privacy in the cloud

## MODULE-8

### Project Management

#### Introduction to Project Management

- Agile Delivery
- Project Management
- Communication with various workstreams
- Risk Management
- Project Charter
- Status Tracking



##### Mini Project

This module will end up with a project.

#### Project Management Approaches

- Managing Technical Solutions
- Project Management Tool
- Project Management Tips



##### Mini Project

This module will end up with a project.

#### JIRA Process

- What is Jira
- Delivery Process Enabling
- Getting access and requesting a new project on JIRA
- Adding team members
- Navigating Jira
- Jira Reports



##### Mini Project

This module will end up with a project.

## Agile and Scrum

- Agile Delivery and Scrum
- Lifecycle of a scrum based project
- Sprint Lifecycle
- Scrum Artefacts



### Mini Project

This module will end up with a project.



**350+**  
Batches



**10,000+**  
Career Transformations



**500+**  
Industry Experts



**LEARNING MODE**  
Online & Offline



**500+**  
Hiring Partners

**WE DON'T JUST TRAIN  
WE TRANSFORM CAREERS**

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