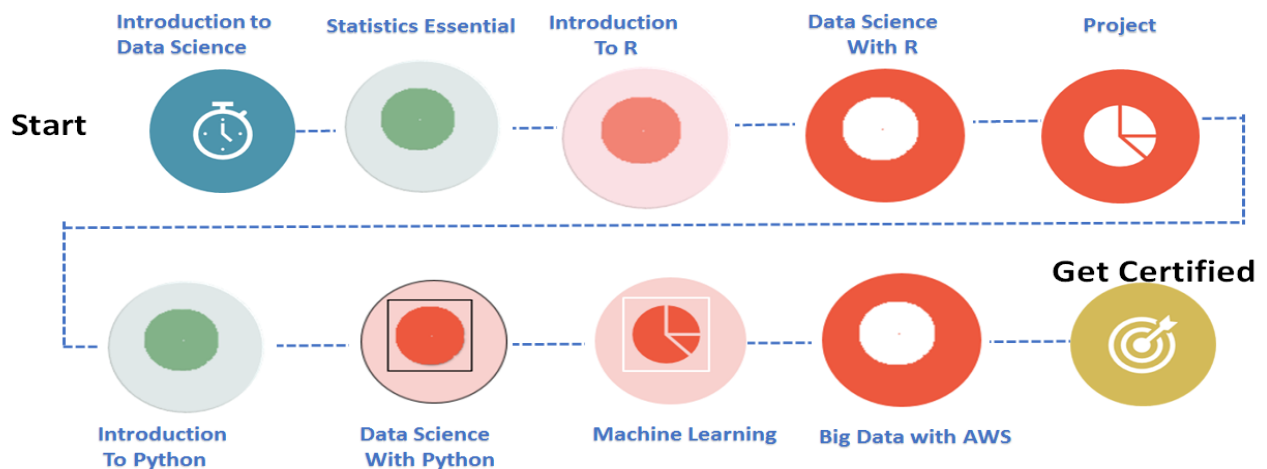# QUOTATION AND COURSE OUTLINE

TECHPLEDGE CERTFIED DATA SCIENCE PROFESSIONAL

DATA SCIENCE COURSE WITH PYTHON PROGRAMMING

TechPledge Certified data Scientist Path

Start — Introduction to Data Science — Statistics Essential — Introduction To R — Data Science With R — Project

Introduction To Python — Data Science With Python — Machine Learning — Big Data with AWS — Get Certified

Course Materials

TechPledge will provide a customized set of Lecture Notes for each class scheduled along with Recoded video . You will be given a PDF file which you may make copies from, email to your participants, or make available via internal website.

Learning Path for Data Science Professional

Today's Data Scientists need to have a diverse set of skills which include working with huge volumes of data, parsing that data and converting them into a format that is easily understandable, using which business insights can be derived. At the TechPledge we provide the training which is always updated inline with the Data Science Skills required by the industry and recommended by Industry. Below is the path for training

Data Science in Business

- *significance of Data Science in today's digitally-driven world*
- *applications of Data Science*
- *lifecycle of Data Science*
 *Big data in Business Decision Making*

Data Science with Python

- *Importing and exporting data to/from external sources*
- *Accessing individual elements of customer churn data*
- *Modifying and extracting the results from the dataset using user-defined functions in Python.*
- *Implementing dplyr to perform various operations for abstracting over how data is manipulated and stored.*

Capstone Project

- *Application oriented capstone project in the field of Business Analytics*
- *Market basket analysis for consumer durables.*
- *Start-up insights through data analysis*
- *Choose and implement an appropriate deployment pattern to smoothly roll out new features to your users*

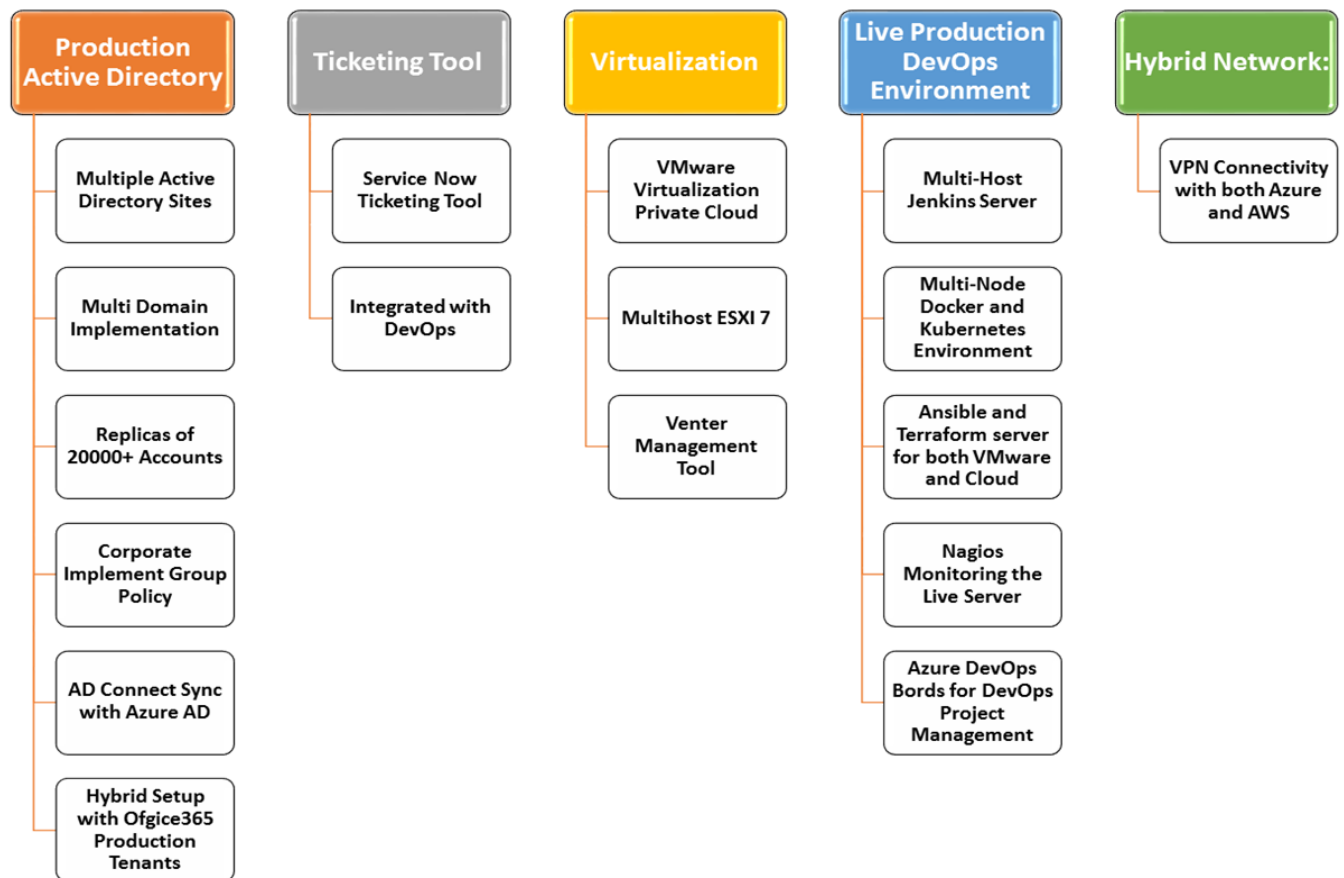# Career Path for Data Scientist

CAREER PATH
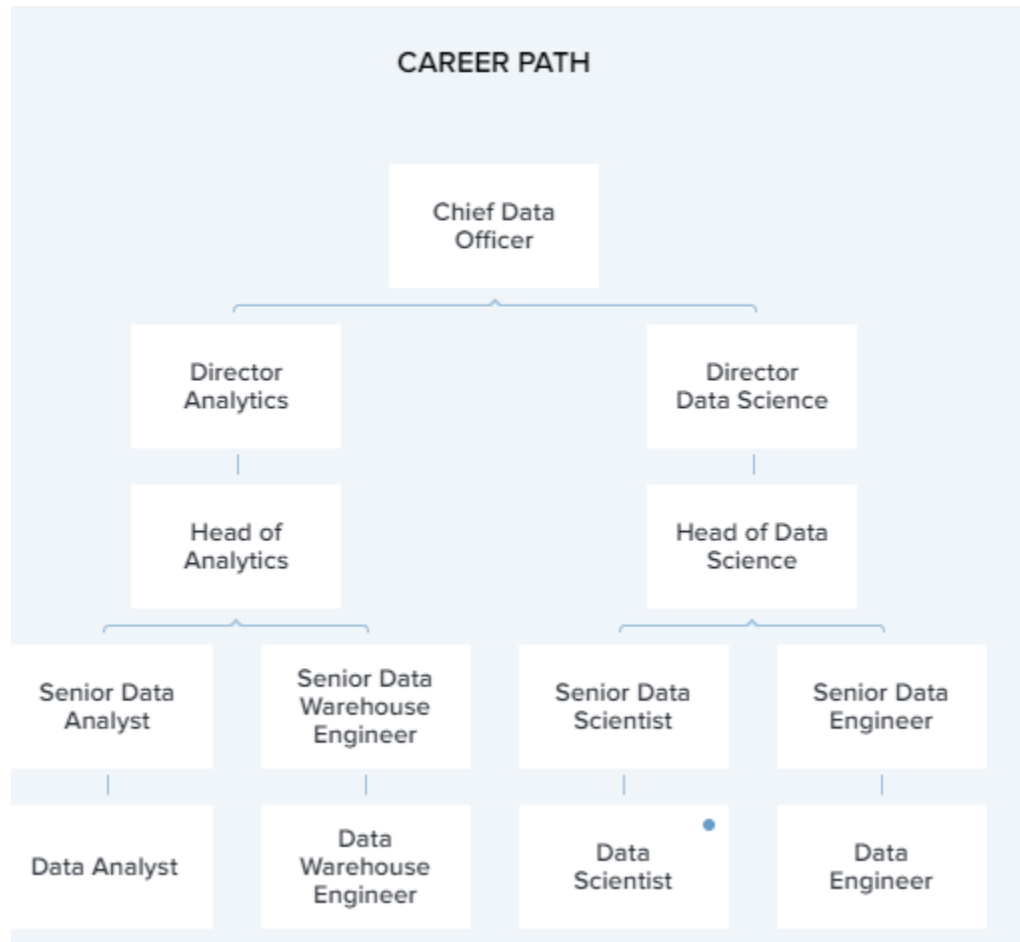
Customer Immersion – Live Production Walkthrough

6 Hours Live walkthrough the complete Data Science Process in production environment with full setup of Infrastructure Like **AD,** DevOps Tool Like **Jenkins, Ansible, Docker, AWS Code Deploy, AWS Code Pipeline, Azure Pipeline** and **Azure ARM** and Development Environment with **R Studio**, **Python** , **SQL Database** , Maven, Visual Studio and AI Tools . **We have production replica of SQL Data Factory with R Programming and Python** with **PowerBI.**

The Complete Setups is using **100** of **PowerShell** & **Linux Script** with **237 CI/CD scripts** (**J**ason, **Yamal**).

Below is the High-Level Setup Outline of our Customer Immersion Production Replicas. Student will get the access of this setup at end of the course for 6 hours with AD ID and Organization Email.

Production Active Directory
- Multiple Active Directory Sites
- Multi Domain Implementation
- Replicas of 20000+ Accounts
- Corporate Implement Group Policy
- AD Connect Sync with Azure AD
- Hybrid Setup with Ofgice365 Production Tenants

Ticketing Tool
- Service Now Ticketing Tool
- Integrated with DevOps

Virtualization
- VMware Virtualization Private Cloud
- Multihost ESXI 7
- Venter Management Tool

Live Production DevOps Environment
- Multi-Host Jenkins Server
- Multi-Node Docker and Kubernetes Environment
- Ansible and Terraform server for both VMware and Cloud
- Nagios Monitoring the Live Server
- Azure DevOps Bords for DevOps Project Management

Hybrid Network:
- VPN Connectivity with both Azure and AWS

Learn while doing with our Sandbox Environment

Azure Sandbox

- Connect with Azure Portal through the TechPledge Provide sandbox environment and play with it will all labs which you want to try.
- Create, destroy, and build Practical, scenario-based applications with ease. Our pre-configured, auto-provisioned servers allow you to try new skills, risk-free.

AWS Sandbox

- Connect with AWS Console through the TechPledge Provide sandbox environment and play with it will all labs which you want to try.
- Create, destroy, and build Practical, scenario-based applications with ease. Our pre-configured, auto-provisioned servers allow you to try new skills, risk-free.

Course Outline

1. **Introduction to Data Science**

   - What is Data Science?
   - What Does a Data Science Professional Do?
   - Use Cases for Data Science
   - What is Machine Learning?
   - What is Deep Learning?
   - What is AI?
   - Data Analytics & it's types

2. **Introduction to Python**

   - What is Python?
   - Why Python?
   - Installing Python
   - Introduction Spyder
   - Setting working Directory
   - Creating and saving a script file
   - File execution, clearing console, removing variables from environment, clearing environment
   - Commenting script files
   - Variable creation
   - Arithmetic and logical operators
   - Data types and associated operation

3. **Python Basics**

   - Python Basic Data types
   - Lists
   - Slicing
   - Tuples

- Functions
- Array
- Selection by position & Labels

4. **Control structures**
- if-else family
- for loop
- for loop with if break
- while loop

5. **Python Packages**
- Pandas
- Numpy
- Sci-kit Learn
- Mat-plot library

6. **· Pandas data frame and data frame related operations**
- Reading files
- Exploratory data analysis
- Data preparation and pre-processing

7. **Importing data**
- Reading CSV files
- Saving in Python data
- Loading Python data objects
- Writing data to CSV file

8. **Manipulating Data**
- Selecting rows/observations
- Rounding Number
- Selecting columns/fields
- Merging data
- Data aggregation
- Data munging techniques

9. **Data visualization using matplotlib and seaborn libraries**

- Scatter plot
- Line plot
- Bar plot
- Histogram
- Box plot
- Pair plot

10. **Importing data**

- Reading CSV files
- Data handling, Importing CSV and Tabular Data files
- Importing data files from other applications
- Loading R data objects
- Writing data to CSV file

11. **Manipulating Data**

- Data Structures
- Selecting rows/observations
- Rounding Number
- Selecting columns/fields
- Merging data
- Data aggregation
- Data munging techniques

12. **Statistical Methods for Decision Making**

- fundamentals of statistics
- The Fundamentals of Descriptive Statistics
- Work with different types of data
- How to plot different types of data
- Hypothesis Testing: Introduction
- Calculate the measures of central tendency, asymmetry, and variability
- Make data-driven decisions
- Central Tendency

- Probability Basics
  - Introduction to Probability
  - What does it mean by probability?
  - Types of Probability
  - Probability Distributions
- Standard Deviation
  - Data deviation & distribution
  - Variance
- Bias variance Tradeoff
- Distance metrics
- Outlier analysis
- Missing Value treatments
  - What is an NA?
  - Central Imputation
  - KNN imputation
  - Dummification
  - Correlation
  - Pearson correlation
  - Positive & Negative correlation

13. Error Metrics Duration

- Classification
- Confusion Matrix
- Precision
- Recall
- Specificity
- F1 Score

14. Regression

- MSE
- RMSE
- MAPE

15. Machine Learning Using R

- Linear Regression
- Logistic Regression
- K-Means
- K-Means++
- Hierarchical Clustering – Agglomerative
- CART
- Random forest
- Naïve Bayes

Data Science Project - *Capstone Project*.

Project :

Data Science and Machine Learning Capstone Project. Create a project that you can use to showcase your Data Science skills to prospective employers. Apply various data science and machine learning techniques to analyze and visualize a data set involving a real life business scenario and build a predictive model.

Course Fee

Call for Pricing