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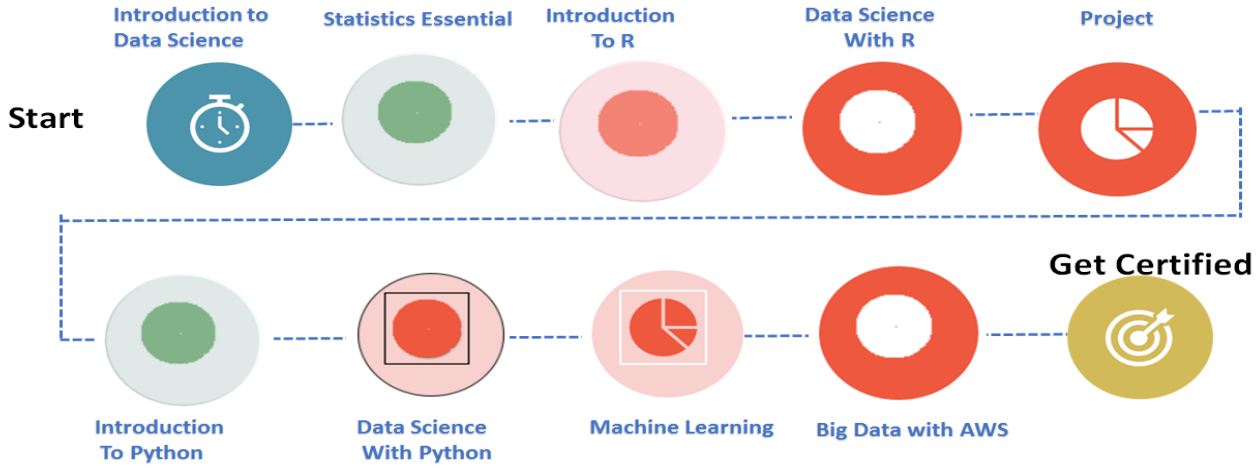
QUOTATION AND COURSE OUTLINE

TECHPLEDGE CERTFIED DATA SCIENCE PROFESSIONAL

DATA SCIENCE COURSE WITH R PROGRAMMING

TechPledge Certified data Scientist Path



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.

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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 patch 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

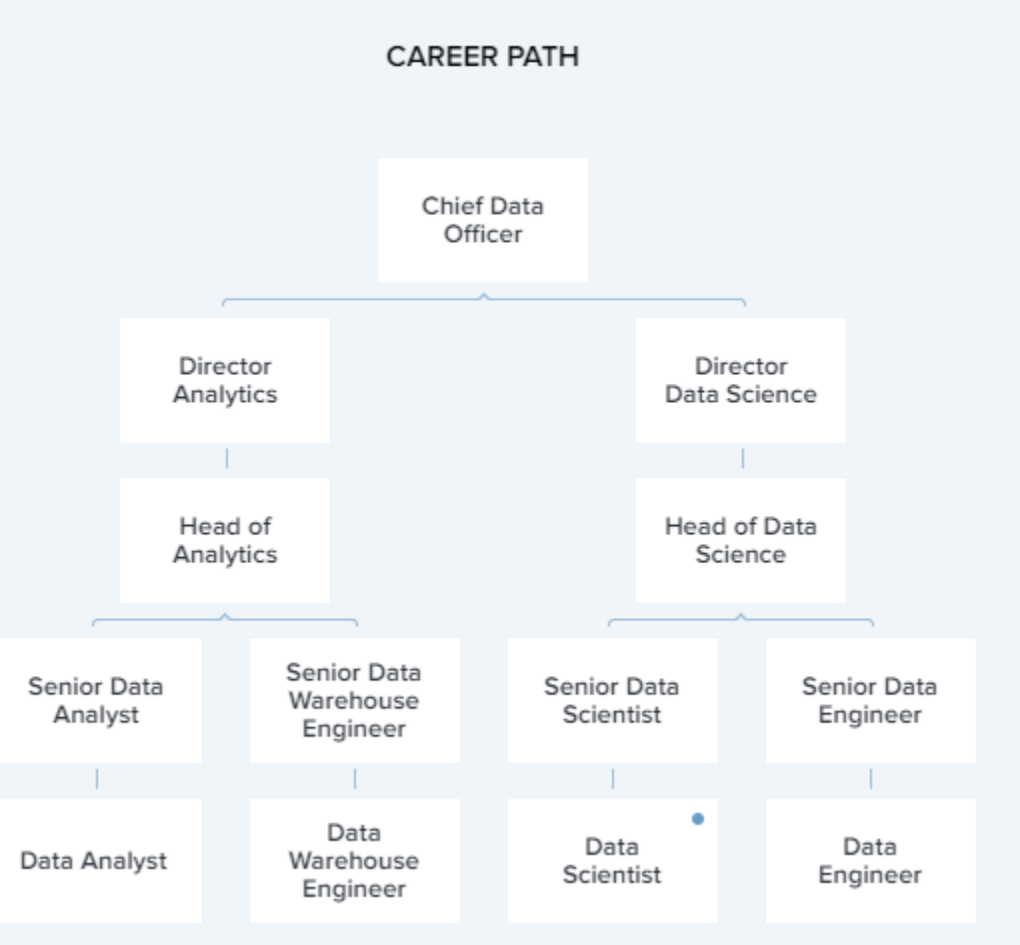
Data Science with R

- *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 r.*
- *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



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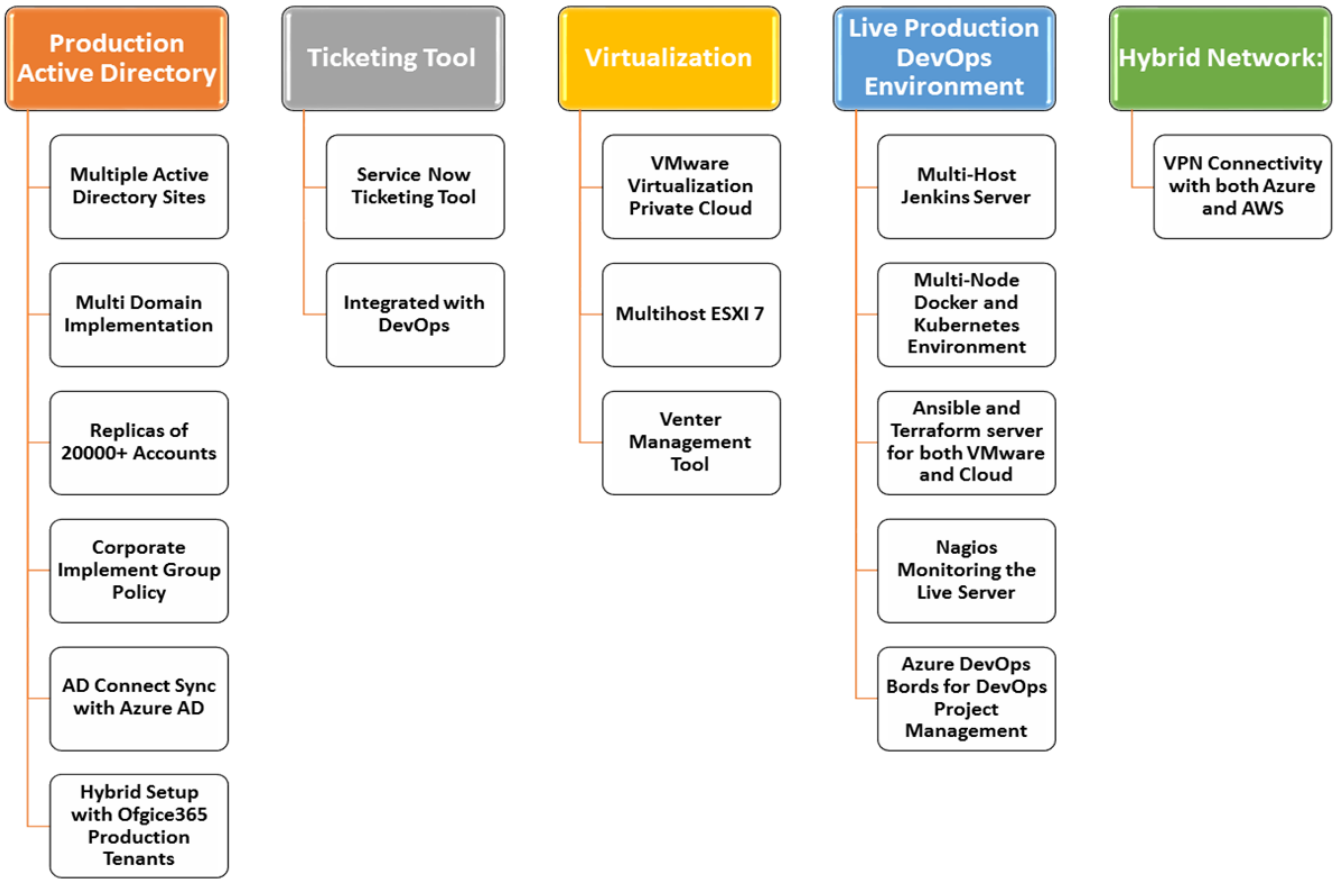
Customer Immersion – Live Production Walkthrough

6 Hours Live walkthrough the complete DataScinece 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 Data Factory with R Programming and Python** with **PowerBI.**

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



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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.

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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. Data Scince with R Programing

- What is R?
- Why R?
- Install R, R-studio, and workspace setup
- R environment
- How to get help in R
- R Studio Overview

3. Data Science R Basics

- Introduction to R Programming
- Use hypothesis testing method to drive business decisions
- Environment setup
- Data Types
- Variables Vectors
- Lists
- Matrix
- Array
- Factors
- Data Frames
- Loops

- Packages
- Functions
- In-Built Data sets

4. R Packages

- DMwR
- Dplyr/plyr
- Caret
- Lubridate
- E1071
- Cluster/fpc
- Data.table
- Stats/utils
- Ggplot/ggplot2
- Glmnet

5. 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

6. Manipulating Data

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

7. 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

8. Error Metrics Duration

- Classification
- Confusion Matrix
- Precision

- Recall
- Specificity
- F1 Score

9. **Regression**
    - MSE
    - RMSE
    - MAPE
10. **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

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