**PYTHON COURSE**

* **Module 1: Pre-Requisites for Developer:**
  + Git Fundamentals & Repo for Batch
  + Working on Git Everyday As a Team
  + Jira Overview
  + Agile Methodology
* **Module 2: Python Fundamentals:**
  + Introduction
  + Setting Up Python Environment
  + Basic Syntax
  + Data Types & Operators
  + Data Structures – Basic
  + Control Flows & Loops
  + Break, Pass & Continue - Keywords
  + Functions
  + Arguments (Keyword, Positional and default ) \*args and \*\*kwargs
  + Range, Lambda function, Map, Filter and Reduce
  + Memory Management
  + Scope
  + List Comprehensions
* **Module 3: Advanced Python Programming**
  + Virtual Environment
  + Exception Handling
  + File handling
  + Object Oriented Programming
  + Working with Important Libraries
    - OS
    - SYSTEM
    - DATETIME
    - Regular Expression
    - Json
    - Third Party Libraries
  + Higher Order functions – Decorators , Generators and Iterators
  + Multi-Threading and Multi Processing (Pool Executor)
  + NumPy and Pandas
  + Context Manager
* **Module 4: Database – Basic Introduction on Postgres:**
  + Introduction to Database
  + DB, Schema and Tables
  + Postgres Installation
  + DDL and DML queries
* **Module 5: Web Development with Python:**
  + Introduction to Web Framework (Django & Flask)
  + Django - introduction
  + Django - MVT Architecture, init, manage.py admin commands explanation, models , views , urls explanation
  + Django - Model
  + Django - Relationship between one on one, one to many and many to one many to many
  + Django View
  + Django Template
  + Django - Queryset
  + Django URL Mapping
  + Django - Admin Interface
  + Django Static files
  + Django Forms and Model Forms Validations
  + File upload and Image upload
  + Middleware
  + Database connectivity
  + Database migrations
  + Request and responses
  + Django filter
  + Build Applications -- Clone Application
  + Introduction to REST API concepts
  + Django Rest Framework – CRUD Operations
* **Module 6: Real-World Projects**
  + Capstone Project: Integrating Skills from All Modules
  + Project Planning and Design
  + Development and Implementation
  + Testing and Deployment

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