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Webservices API Automation using Python

The course content is as follows -

Setup and Installation	Introduction to Python
	Features, Application of Python
	Python 2 VS Python 3
	Python VS Java
	Python Installation in Linux
	Package Management using PIP
	Installing ipython
	Python Installation in Windows
	Installing IDE for Python - Pycharm

Variables and Data Types	Creating and running our first Python script
	Python Variables
	Numbers
	Strings
	Lists
	Tuples
	Dictionaries
	Boolean Data Types
	Python Keywords
	Python Literals

Program Control Flow and Strings	Python Operators
	Python Comments
	Python If-Else
	Python For Loop
	Python While Loop
	Python Break statement
	Python continue statement
	Python Pass statement
	Python Built-in set methods
	Strings
	Strings indexing and splitting
	String Operators
	Formatting operator
	Built-in String functions

Python OOP's Concepts	Understanding OOPs Concepts
	Object
	Class
	Method
	Inheritance
	Polymorphism
	Encapsulation
	Data Abstraction
	Creating classes in python
	Creating an instance of the class
	Constructor
	Parameterized Constructor
	Non-Parameterized Constructor
	In-built class functions
	Built-in class attributes
	Method Overriding
	Data abstraction in python

Advanced Data Types - LISTS & TUPLES	List indexing and splitting
	Updating List values
	Python List Operations
	Iterating a List
	Adding elements to the list
	Removing elements from the list
	Python List Built-in functions
	Tuple indexing and splitting
	Basic Tuple operations
	Python Tuple inbuilt functions
	List VS Tuple
	Nesting List and tuple

Advanced Data Types - SET	Creating a set in different ways
	Adding and Updating items to the set.
	Removing items from the set - clear(), pop(), remove() and discard()
	Difference between discard() and remove()
	Union of two Sets
	Intersection of two sets
	Difference of two sets
	Set comparisons
	Python Built-in set methods

Advanced Data Types - DICTIONARY	Creating the dictionary
	Accessing the dictionary values
	Python If-Else
	Updating dictionary values
	Deleting elements using del keyword
	Python Break statement
	Iterating Dictionary
	Properties of Dictionary keys
	Built-in Dictionary functions

Python Exception Handling	Understanding Exceptions
	Common Exceptions
	Problem without handling exceptions
	Exception handling in python
	Declaring multiple exceptions
	The finally block
	Raising exceptions

Python Reading / Writing Excel File	Understanding Reading / Writing in Excel File
	Reading from an Excel file
	Creating a Workbook
	Reading from the Pandas
	Reading from the openpyxl
	Writing files with pyexcel
	Write excel file using openpyxl module

Webservices	Introduction to Webservices
	Webservice Architecture
	Introduction to Rest API
	Introduction to SOAP API
	Rest API Vs SOAP API

Creating our own API's using Python Django	Creating API using Python DJANGO Rest Framework
	Install and run Django Server
	Create Database Table using Django and Python
	Get Familiar with Django Administration
	Create API Urls using Django and Python
	Add new Data using POST Method in Django
	Modify existing Data using PUT Method in Django
	Delete Data from table usign Django
	Add Authentication in Rest API
	Get Django Rest API using Django Requests
	Create / Modify Rest API using Django Requests

LINUX Curl	Installing Curl in Windows, Linux and Mac
	cURL basic usage
	Downloading files with cURL
	Anatomy of HTTP Request and Response
	Following Redirect with cURL
	Veiw Response Headers with cURL
	View Request Header with cURL
	Setting HTTP Headears for cURL
	Making a POST Request using cURL
	Submitting JSON Data using cURL
	Replicate Browser request using cURL

POSTMAN - 1	Introduction to Postman
	Craete Request
	Importing Request from browser
	Inspecting Responses
	Cookies
	Troubleshooting and Saving Response

POSTMAN - 2 Test Cases	Writing First Test Case
	Testing an API
	Create Additional Request and tests
	Inspecting Responses
	What are Variables
	Global Variables
	Environment
	Session Variable
	Pre-request Scripts
	Making request Dynamic
	Understanding Variable Scope
	Setup different URL's using Environment
	Debugging Tests

	Assertions

POSTMAN - 3 Automatically Running tests	Introduction to Newman
	Installing Newman
	Run a collection using Newman
	Other ways to Access Collection using Newman
	Specifying environment using Newman
	Prerequisites for running newman on jenkins
	Running Collection from jenkins and generating report
	Create HTML Report using jenkins

JSON and REST API Basics	Basic Understanding of JSON
	What is JSON Path
	Calculate JSON Path
	JSON Parsing
	JSON loads() and dumps()
	Different methods used in REST API
	REST API with Parameters

Request Module	Making GET Request
	Valdiate Response
	Fetch Response Headers
	Fetch Response using JSON
	Making a DELETE Request
	Making a POST Request
	Making a PUT Request
	Authentication - Basic and oAuth
	Request Chaining

Pytest	What is PyTest?
	Why use PyTest?
	How to install PyTest
	First Basic PyTest

	Assertions in PyTest
	How pytest identifies the test files and test methods
	Run multiple tests from a specific file and multiple files
	Running tests in parallel
	Pytest fixtures
	Parameterized tests
	Xfail / Skip tests
	Stop Test Suite after N Test Failures
	Install PyTest HTML Plugin
	How to Generate HTML Test Report

Setting up DB	Setting MySQL Database
	Integrating MySQL with Python
	Saving Test Case Details in DB
	Sending an Email to the user with Custom Report

Logging & Reporting	Logging in Python
	Configuring Logging
	Logging with Selenium
	Print VS Logging
	Reporting with Allure

Data Driven Framework	Creating Project Structure
	Create Base Files
	Create and Read data from Excel File
	Create Data Driven Test Case

ROBOT FRAMEWORK will also be covered by the end of the sessions