



Complete Practical, Real-time Job Oriented Training

Python with AI – ML Training

What is Python?

Python is a programming language used by Data Analysts, Business Analysts, Data Scientists and Programmers for handling ANY type of operations with respect to data in real-world. From Data Storage to Security, Analytics and Forecasts.

What is the role of Python in Data Science?

Using Python, we can perform interactive, useful Data Science Operations including AI, Machine learning, Deep learning, and more ..

What is the role of Python in Python Programming?

Using Python, we can perform Application Design and Programming to implement Business Logic. Python Programming is always in demand that needs good coding skills.

Who can join this course?

Anyone. We start the classes from scratch, right from Basics of Data, Database, Analysis. Then proceed for Scenario based activities and job orientation with Realtime Project.

What about the Lab? What are the System Requirements?

Any OS; 6 GB RAM; Any Processor. We shall guide you for Software Installation, Practice.

Python AI – ML Training Process (Action Plan):

- 👉 📁 **Module 1:** Python Analytics
- 👉 📁 **Module 2:** Python Programming
- 👉 📁 **Module 3:** Python AI & ML

🚀 **Total Duration: 9 Weeks**

🚀 **For course details, pls reach us on +91 9666640801 or www.sqlschool.com**

Module 1: Python Analytics

Ch 1: Python Introduction ✓ Need for Data Analytics ✓ Python in Data Analysis ✓ History of Python ✓ Python Versions ✓ Python Implementations ✓ Python Installations ✓ Python IDE & Usage ✓ Jupyter Notebooks	Ch 2: Python Basics, Architecture ✓ Python Scripting Options ✓ Basic Operations in Python ✓ Python Scripts, Print() ✓ Single, Multiline Statements ✓ Adding Cells, Saving Notebook ✓ Single, Multi Line Comments ✓ Python : Internal Architecture ✓ Compiler Versus Interpreter	Ch 3: Data Types & Variables ✓ Integer / Int Data Types ✓ Float & String Data Types ✓ Boolean, Binary Types ✓ Sequence Types: List, Tuple ✓ Range, Complex & memview ✓ Retrieving Data Type: type() ✓ Multi Assignments & Casting ✓ Unpack Collection, Outputs
Ch 4: Python Operators ✓ Arithmetic, Assignment Ops ✓ Comparison Operators ✓ Logical, Identity Operators ✓ Member, Bitwise Operators ✓ Operator Precedence ✓ If ... Else Statement, Pass ✓ Short Hand If, OR, AND ✓ ELIF and ELSE IF Statements ✓ Expressions, Ternary OPs	Ch 5: Python Loops, Iterations ✓ Python Loop & Realtime Use ✓ Python While Loop Statement ✓ Break and Continue Statement ✓ Using Print with While() ✓ Iterations & Conditions ✓ Exit Conditions & For Loops ✓ Break, Continue & Range ✓ __iter__() and __next__() ✓ iter() and Looping Options	Ch 6: Python Collections ✓ Python Collections (Arrays) ✓ list() Constructor, print() ✓ Python Tuples, Tuple Items ✓ tuple() Constructor, Usage ✓ Python Sets : Syntax Rules ✓ Duplicates, Types, Ordered ✓ Python Dictionaries: Usage ✓ Changeable, Ordered Data ✓ Dictionary Construct, type()
Ch 7: Python Functions ✓ Python Functions & Usage ✓ Function Parameters ✓ Arguments, **kwargs ✓ Default & List Parameters ✓ Python Lambda Functions ✓ Anonymous Functions ✓ Recursive Functions, Usage ✓ Return & Print @ Lambda	Ch 8: Python Classes & Arrays ✓ Python Classes & Objects ✓ __init__() Function ✓ __str__() Function ✓ Self Parameters & Objects ✓ Python Inheritance & Classes ✓ Parent & Child Classes ✓ __init__() & super() Function ✓ Polymorphism in Python	Ch 9: Python Modules ✓ import Python Modules ✓ Variables in Modules ✓ Built In Modules & dir ✓ datetime module in Python ✓ Date Objects Creation ✓ strftime Method & Usage ✓ imports & datetime.now() ✓ Using Python Constructors
Ch 10: Python JSON & RegEx ✓ JSON Concepts, Usage ✓ Dictionary & import json ✓ Python Objects into JSON ✓ Formatting & Ordering ✓ json.dumps, print options ✓ Python Regular Expressions ✓ RegEx Module & Functions ✓ search() & span() , Strings ✓ Using RegEx with JSON	Ch 11: Python User Inputs & TRY ✓ Try Except, Exception Handling ✓ NameError Resolution ✓ Python Finally Block, Usage ✓ Raise an exception method ✓ TypeError, Scripting in Python ✓ Python User Inputs ✓ Python Index Numbers ✓ Named Indexes, Usage ✓ input() & raw_input()	Ch 12: Python File Handling ✓ File Handling, Activities ✓ r, a, w, x modes ✓ t, b Operations ✓ Read Only Parts ✓ Loop, Write, Close Files ✓ Appending, Overwriting ✓ import os, path.exists ✓ f.open, f.write ✓ f.read, f.close

Ch 13: Data Analytics - Pandas ✓ Python Modules & Pandas ✓ Pandas Codebase & Usage ✓ Installation of Pandas ✓ import pandas.DataFrame ✓ Checking Pandas Version ✓ Pandas Series, arrays ✓ Labels : Creation, Use ✓ series(), print()	Ch 14: Data Analytics - DataFrames ✓ Indexes & Named Options ✓ Locate Row and Load Rows ✓ Row Index & Index Lists ✓ Load Files Into a DataFrame ✓ pd.read_csv() Function ✓ pd.options.display.max_rows ✓ df.to_string() Function ✓ tail() & null() Function	Ch 15: Pandas Transformations ✓ Pandas - Cleaning Data ✓ Replace, Transform Columns ✓ Data Discovery & Column Fill ✓ Identify & Remove Duplicates ✓ dropna(), fillna() Functions ✓ Pandas - Data Correlations ✓ Good & Bad Correlation ✓ Data Plotting & matplotlib Lib
Ch 16: SQL DB & Python - 1 ✓ SQL & Databases ✓ Azure Data Studio Tool ✓ sp_execute_external_script ✓ Input Data & Result Sets ✓ DDL & DML with Python ✓ SQL_out, SQL_in ✓ Variables & Parameters ✓ Versions, Package List ✓ WITH RESULT SETS Options	Ch 17: SQL & Python - 2 ✓ pandas.Series with SQL DBs ✓ Indexing Methods in Realtime ✓ Convert series to data frame ✓ Output values into data.frame ✓ pymssql package in SQL Server ✓ pip list & Package Manager ✓ Python runtime, Py Package ✓ pymssql.connect & Usage ✓ Cursor Variables & Usage	Ch 18: Realtime Case Study

Module 2: Python Programming

Ch 19: Python Dictionary ✓ Dictionary Creation, Use ✓ Hashing, Copy, Update ✓ Deletion, Sorting ✓ Len(), Inbuilt Functions ✓ Variable Types - python List ✓ Cmp() List Method ✓ Python Dictionary Str(dict) ✓ Programming Concepts ✓ Loops and Sets ✓ Realtime Usage	Ch 20: Python Packages ✓ Package in Python ✓ Creating a package ✓ Package Imports, Modules ✓ Sub Packages Creation ✓ Sub Package Imports ✓ Popular Packages in Python ✓ NumPy & SciPy ✓ Libraries in Python ✓ Python Seaborn ✓ Python framework	Ch 21: Exception Handling ✓ Shell Script Commands ✓ OS operations in Python ✓ File System Shell Methods ✓ os - math - cmd - csv - random ✓ Numpy (numerical python) ✓ Pandas - sys - Matplotlib; ✓ Common RunTime Errors ✓ Python Custom Exception; ✓ Exception Handling ✓ Try...Except...else, Try...finally
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Ch 22: Python Class & Objects ✓ Class variables, Instances ✓ Built in Class Attributes ✓ Objects - Constructors ✓ Modifiers - Self Variable ✓ Python Garbage Collections ✓ Hierarchical Inheritance ✓ Multilevel, Multiple, Hybrid ✓ Overloading & OverRiding ✓ Polymorphism - Abstraction	Ch 23: Regular Expressions ✓ Regular Expression ✓ Regular Expression Patterns ✓ Literals - Repetition Cases ✓ Groups and Grouping ✓ w+ and ^, \s Expressions ✓ re.split function ✓ Regular expression methods ✓ re.match() in Regular Expr ✓ re.search(), re.findall for Text	Ch 24: Multi-Threading ✓ Python Multi-Threading ✓ Thread Synchronization ✓ Multiprocessing ✓ Python Gil & Programming ✓ Thread Control Block (TCB) ✓ Stack Pointers & App Usage ✓ Program Counters in Realtime ✓ Thread State Concept ✓ Python Exception Handling
Ch 25: Python Tkinter ✓ Tkinter GUI Program ✓ Components & Events ✓ Adding Controls in Tkinter ✓ Entry, Text Widgets ✓ Radio & Check Buttons ✓ Tkinter Forms in Realtime ✓ List Boxes, Menu, ComboBox ✓ Mainloop () & Functions	Ch 26: Python Web & IoT Intro ✓ Python Web Frameworks ✓ Django : Advantages ✓ Web Framework ✓ MVC and MVT - Django ✓ Web Pages using python ✓ HTML5, CSS3 usage ✓ PYTHON Bottle & Pyramid ✓ Falcon ; smart_open in python	Ch 27: Real-time Project

Module 3: Python with AI - ML

Ch 28: Machine Learning Basics ✓ Machine Learning Funda ✓ Python ML in Realtime ✓ Pandas Extension in ML ✓ Machine Learning Ops ✓ Business to Data Conversions ✓ ML Algorithms in Realtime	Ch 29: Python ML Concepts ✓ Machine Learning (ML) Intro ✓ Supervised, Unsupervised ✓ Scikit-Learn Library ✓ Python Libraries for ML ✓ sklearn : Advantages & Uses ✓ sklearn : Functions, Use	Ch 30: Python Data Handling ✓ Data structures ✓ Lists, Tuples, Sets ✓ Dictionaries, ✓ Pandas Data Operations ✓ Data Visualizations ✓ Matplotlib & Seaborn
Ch 31: AI With Python Intro ✓ Artificial Intelligence ✓ Applications of AI ✓ AI Applicative Uses ✓ AI Usage with Python ✓ AI - Python Environment ✓ Python Libraries ✓ AI with Python in Realtime	Ch 32: Supervised Learning ✓ Linear & Logistic Regression ✓ Decision Trees ✓ Random Forests ✓ Support Vector Machines ✓ Neural Networks Basics ✓ Linear Regression Steps ✓ Linear Regression in AI-ML	Ch 33: Unsupervised Learning - 1 ✓ Clustering & K-means ✓ DBSCAN & Realtime Usage ✓ Dimensionality Reduction ✓ K clustering hierarchical ✓ DBScan : Realtime Uses ✓ KMeans clustering Vs DBSCAN? ✓ PCA Vs t-SNE
Ch 34: Unsupervised Learning 2 ✓ Unsupervised Learning	Ch 35: Generalized Models ✓ GLM Concept in Python	Ch 36: Python Tree Models ✓ Decision Tree Models

✓ Concepts and Scope ✓ Realtime Usage ✓ Dimensionality Reduction ✓ Component Analysis (PCA) ✓ PCA: Concept & Usage	✓ GLM in Regression ✓ Considerations for GLM ✓ Problem Solving Skills ✓ Python Libraries ✓ Python Extensions: GLM	✓ Decision Tree Working ✓ Model Works, Algorithms ✓ Random Forest Concept ✓ Random Forest Tree ✓ Random Forest Vs Knn
Ch 37: Big Data and ML ✓ Spark and Big Data ✓ Big Data with Python ✓ Spark with Python ✓ Spark with Big Data ✓ Spark Algorithms ✓ AI ML Libraries	Ch 38: Natural Lang” Processing ✓ NLP : Purpose, Usage ✓ NLP Applicative Uses ✓ NLP Vs Machine Learning ✓ NLP in Machine Learning ✓ Using NLP in AI - ML ✓ NLP code in Python?	Ch 39: AI in Real-World ✓ AI in Chatbots ✓ AI in Virtual Assistants ✓ AI Ethical Considerations ✓ AI Deployments (Flask) ✓ AI with FastAPI ✓ AI with Streamlit
Ch 40: Python AI – ML Realtime Project with Resume, Job Assistance		

All sessions are practical, step by step. Kindly ensure on-time practice for best results.



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Trending Job Roles

- Data Analyst
- Data Engineer
- Data Architect
- Data Scientist
- Developer, more .. !

Training Highlights

- ✓ Step by Step
- ✓ LIVE Project(s)
- ✓ Job Assistance
- ✓ Resume Guidance
- ✓ Concept wise FAQs

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