# FULL STACK in Python

## Job-Oriented Courses

POWERED BY 3RI TECHNOLOGIES

**STEP: Software Training Employability Programme**

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# About Us

3RI is an Advanced Technology Education Platform providing advanced and professional training in latest technologies that helps freshers and professionals rise to the advanced skills requirements of the current industry.

Powered by 3RI Technologies, these classroom training sessions are industry oriented courses on Python, Angular, Java, Web Development & Software Testing by top class faculty who has more than 7+ years of experience in the same domain.

The curriculum is designed by industry experts, who has real time scenario based exercise and case studies and projects using database from companies like Walmart, Amazon, Google, etc.

This training is supported with teaching assistance which allows individuals to develop hands.

**Company Highlights**

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# INDEX

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# SUBJECTS & TRACKS

## What Makes 3RI Different ?

3RI Curriculum is based on real time industry approach, they are short and practical oriented to learn the concepts in fast pace with implementation skills.

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# STEP in Python

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✓ **BASIC FOUNDATION**

C,C++, OOPs Concepts, N/W, OS, DBMS, etc.

✓ **UI DEVELOPMENT**

HTML, CSS, JavaScript, Bootstrap, Ajax, JQuery

✓ **BACK END TECHNOLOGY**

Core Python, Adv Python -DJango, Flask, MySQL, Real Time Projects

✓ **SOFT SKILLS / APTITUDE**

Logical Reasoning & Communication Skills Training

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# STEP in Python

## BASIC FOUNDATION

### 1. Programming Basics

- Fundamentals of Computer
- Understanding Applications Using Windows Explorer & File Structure
- Number Systems
- Application Software

### 2. Operating System & Networking

- Need for operating system
- Functions of Operating System
- Process Management
- Memory Management
- File Management
- Device Management
- Types of operating system
- TCP/IP fundamentals

### 3. C Language

- Introduction to C
- Keywords, Constants and Variables
- Data Types in C
- Operator and Expressions
- Control Structure
- Functions
- Pointers
- Arrays
- Structure
- String Handling
- Preprocessor Directives
- File Management in C
- Dynamic Memory Allocation

### 4. Object Oriented Concepts using C++

- Introduction to OOPs
- Beginning with C++
- Class, Objects Basics
- Constructor, Data Members
- Operator Overloading
- Inheritance
- Polymorphism
- Overriding

### 5. Linux Foundations

- Introduction to UNIX and its flavours
- UNIX architecture
- File System
- User and Group Policies
- Unix general commands
- Concept of Files and Directories in Unix
- File Permission and related commands
- Filter Commands and their options
- Vi Editor

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**6.Introduction to Database Management Systems**

- Introduction to Database
- DBMS, RDBMS, ORDBMS
- DDL, DML, DCL, TCL
- Data types
- SELECT Statement
- Restricting and Sorting Data
- Aggregating Data using Group Functions
- Manipulating Data
- Sub queries
- Important Functions
- Joins and different types

**UI DEVELOPMENT**

**1.Front-End Introduction**

- What are website and web application?
- What is the difference between the local server and web server
- Client-server architecture

**2.HTML**

- Introduction and Basic Structure of HTML
- Paragraphs, Headings and Text Formatting Tags
- Html list
- Html links
- Html Images
- Html table
- Html4 & 5 form elements

**3.CSS**

- Introduction of CSS
- Types of CSS
- Basic CSS properties
- CSS Box Model
- Division Structure (Overview of how to create a webpage )
- CSS Position

**4.Javascript**

- Introduction of Javascript
- How to display output in JS
- JS Variables &Datatypes
- JS Operators
- JS Conditional Statements & Looping Statements
- JS Functions

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- Pre-defined Functions
- User-defined functions
- HTML Events
- JS Validations

**5.Bootstrap**
- What is Bootstrap?
- Bootstrap Setup
- Bootstrap grids
- Bootstrap buttons, forms, navigation bars

## BACK END TECHNOLOGIES

**1.An Introduction to Python**
- Python Environment Setup
- Discuss IDE's like IDLE, Pycharm and Enthought Canopy
- Start programming on an interactive shell.
- Python Identifiers, Keywords
- Discussion about installed modules and packages
- Access Command line arguments within programs

**2.Conditional Statement, Loops, and File Handling**
- Python Data Types and Variable
- Condition and Loops in Python
- Decoratorsfor OS operations

- Python Modules & Packages
- Python Files and Directories manipulations
- Use various files and directory functions for OS operations

**3.Python Core Objects and Functions**
- Built-in modules (Library Functions)
- Numeric and Math's Module
- String/List/Dictionaries/Tuple
- Complex Data structures in Python
- Arbitrary data types and their Data Structure
- Python built-in function
- Python user-defined functions
- Python packages and functions
- The anonymous Functions - Lambda Functions

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## DATABASE HANDLING WITH PYTHON

### 1.Database Handling with MySQL

- Python MySQL Database Access
- Create Database Connection
- DML and DDL Operations with Databases
- Performing Transactions
- Handling Database Errors
- Disconnecting Database

### 2.Database Handling with MongoDB

- SQL vs NoSQL
- MongoDB
- PyMongo
- Establishing a Connection
- Accessing Database
- DML and DDL Operations
- Web-Baed Python Frameworks

## WEB-BAED PYTHON FRAMEWORKS

### 1.Django Framework

- Introduction to Django
- How to create Django App
- Url Mapping
- Templates
- Introduction to static file
- Django Model Overview
- Creating model
- Model template view creation
- Django forms and validation
- Relative Url with Template

### 2.Interacting with a Database: Models

- Overview of Models,
- Creating Models
- Configuring the Database
- Your First App

- Using Django with MySQL.
- Population Scripts
- Models-Templates-Views Paradigm
- Inserting and Updating Data
- Selecting Objects
- Deleting Objects

### 3.The Django Administration Site

- Activating the Admin Interface
- Using the Admin Interface
- Users, Groups, and Permissions

### 4.Database Handling with NoSQL DB

- SQL vs NoSQL
- MongoDB
- PyMongo
  - o  Establishing a Connection
  - o  Accessing Database
  - o  DML and DDL Operations

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### 5.Views and Templates
- URL Template Inheritance
- Template Inheritance Coding Example
- Quick Note on Custom Template Filters
- Template Filters and Custom Filters
- Template Filters Coding Examples
- Django Passwords
- Deploying Django Framework

### 6.Form Processing
- Django Forms
- Form Validation
- Model Forms
- Relative URLs with Templates
- Relative URLs Coding Examples

### 7.Flask Framework&TkInter GUI Framework
- Overview of Flask Framework
- Installation of  Flask and Demo Application
- Overview of TkInter Framework
- TkInter Widgets

- **Daily Assignments and hands-on Topics covered.**
- **Interview Questions, Resume Formation and Interview Tips.**

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### SOFT SKILLS

**1.Self Analysis**
- Know yourself
- Personality types
- Areas of interest

**2.Self Discovery**
- SWOT Analysis – strength, weakness, opportunities, threats

**3.Goal Setting**
- Short-term plan
- Long-term plan
- Effective Time-management

**4.Effective Self Presentation**
- Personal grooming, Dressing, Hygiene

**5.Effective Communication**
- Verbal – Language
- Voice modulation - Tone, Pitch
- Clarity of Speech
- Listening skills – Active Listening, Selective Listening
- Written communication – general business correspondence

**6.Email Etiquette**

**7.Body Language**
- Understanding non-verbal communication
- Postures, Gestures, Eye contact

**8.Tips to prepare impressive Resume**
**9.Tips for Group Discussion**
**10.Handling Telephonic interview**
**11.Mock – Technical interview**
**12.Mock – Personal Interview (PI)**
**13.Office Etiquettes and Mannerisms**

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## APTITUDE

### 1.Quantitative Aptitude
- Number Systems
- LCM and HCF
- Percentages
- Profit, Loss, and Discount
- Interest (Simple and Compound)
- Speed, Time and Distance
- Ratio and Proportion
- Probability
- Permutation & Combination
- Time and Work
- Heights and Distances

### 2.Logical Reasoning
- Number and Letter Series
- Calendars
- Clocks
- Logical Sequence
- Blood Relations
- 3.Algebra
- Linear Equations
- Quadratic Equations
- Higher Degree Equations

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# Placement Support

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Placement at Our Client's Location

Interview Preparartion

Resume Workshop by Experts

Real World Application Integration in Resume

Exclusive Sessions from Experts

Don't Forget!

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# FAQ's

- **Do I need to purchase any Software ?**

  No, we provide necessary installation guides of the software required.

- **What are the specific System Requirements ?**

  8GB RAM, 500GB Hard disk (i3 Processor).

- **What are Projects ?**

  Projects are real world datasets from companies like Nike, Yelp, Amazon, Netflix etc. that are provided to our students.

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# Contact Us

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**Have any questions or suggestions?**

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