

# Certificate Program in

 **python**<sup>TM</sup>

Class Room | Online | Corporate Training

-  **Core Python**
-  **Advanced Python**
-  **Django Frame work**





**5000+ Trainees | 20+ Countries**  
**200+ Batches | 500+ Success Stories**

# What is PYTHON ?

Python is a general-purpose language. It has wide range of applications from Web development (like: Django and Bottle), scientific and mathematical computing (Orange, SymPy, NumPy) to desktop graphical user Interfaces (Pygame, Panda3D).

The syntax of the language is clean and length of the code is relatively short. It's fun to work in Python because it allows you to think about the problem rather than focusing on the syntax.

Python is used in various applications like designing scalable web apps Ex: Instagram ,mozilla.It is also used in Data Science for Machine learning, Data Mining , text mining etc. Demand for Python trained Professionals is very high in the market .

# PYTHON MODULES

- Core Python
- Advanced Python
- Django Frame work

# PYTHON FAQ'S

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## DURATION

Core+Advance+Django - 45 Days (90 Hrs) | Core+Advance - 30 Days (60 Hrs),

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## ELIGIBILITY

Any Graduate

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## CERTIFICATIONS

Digital Nest Certificate

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## LAPTOP CONFIGURATION

OS: Windows X, Ram: 4GB, HDD: 320GB

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## ROLES

S/W Engineer, Research Associate, Web Developer, QA Assurance, Hadoop Dev  
G/S Analyst, Application Engineer, Automation Engineer, Research Associate

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## AVG PACKAGES

2.4-4.5 Lakh p.a. (Fresher) | 4-12 Lakh p.a. (Experienced)

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## PRE REQUISITE

There are no pre-requisites to learn PYTHON

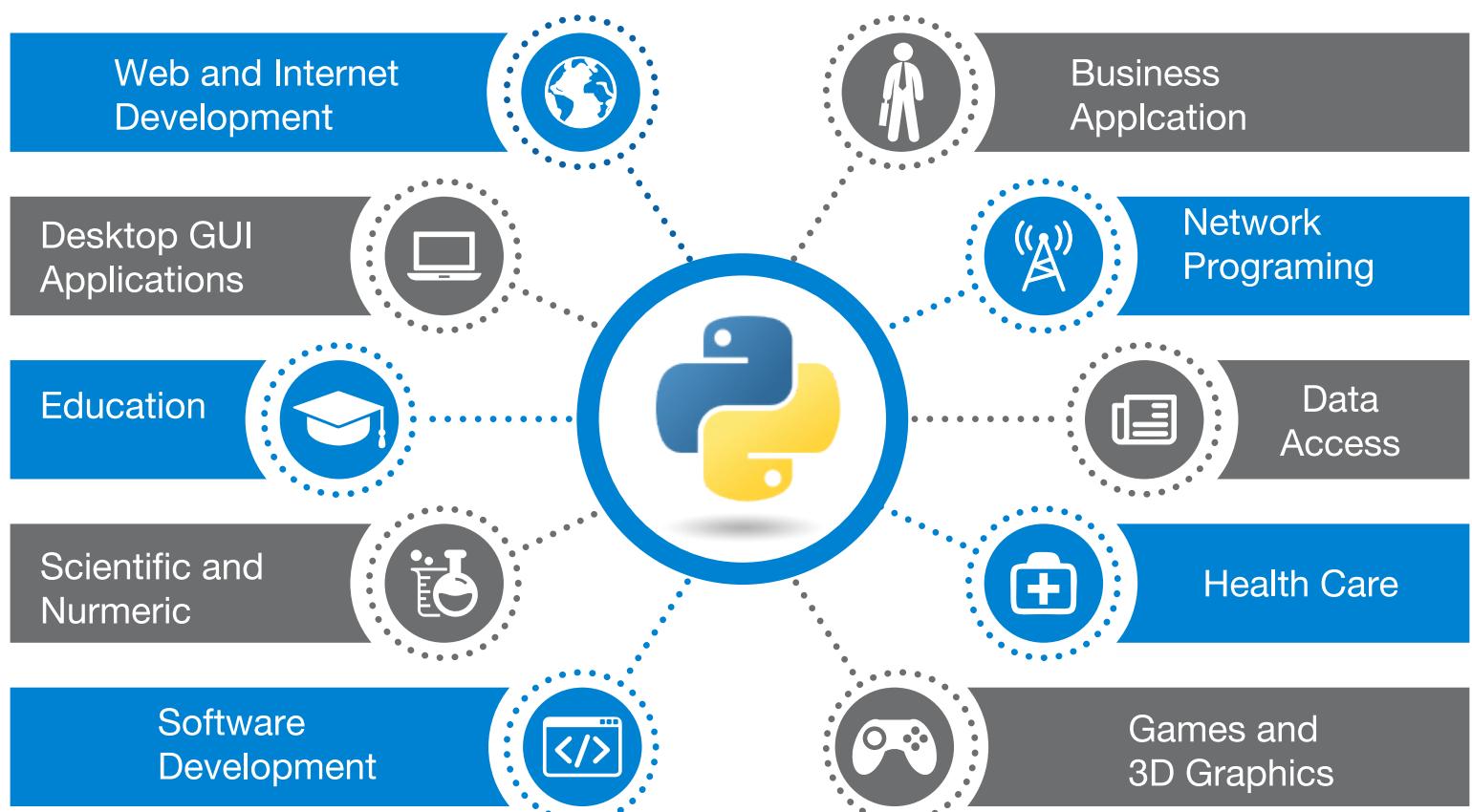
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## WHO CAN LEARN

Fresh Graduates, Web Designers, Web Developers,  
Data Analyst, BPO / Business Intelligence Professionals,  
IT Professionals, Automation Learners

# PYTHON APPLICATIONS



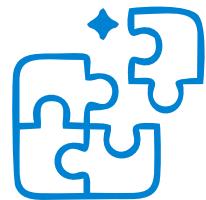
## Reasons why developers love python



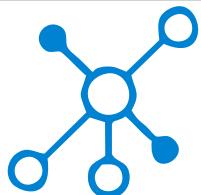
It's simple



It's free



It's compatible



It's object oriented



It's has a lot of libraries

# KEY HIGHLIGHTS



Training by Real Time Experts



Material, Case Studies & Assignments



One-On-One with Industry Mentors



Dedicated Student Manager



100% Assured Placement Assistance



Hands on Training



Doubt Clarification Sessions



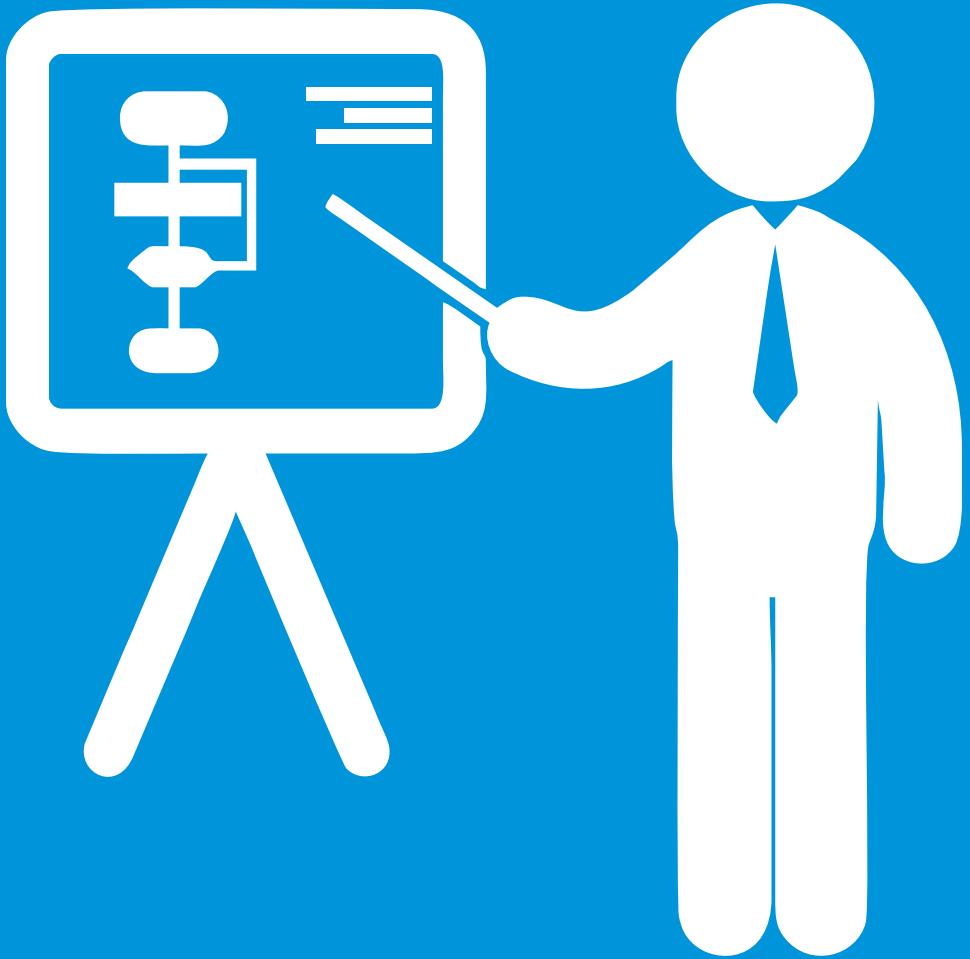
Limited Strength



Resume & Interview Prep Guidance



Course is curated by subject matter experts in PYTHON



# COURSE STRUCTURE

# CORE PYTHON

⌚ 40hrs

## INTRODUCTION

- Understanding the Open source
- Understanding Interpreters
- Introduction to Scripting languages
- Evolution of python
- Installation of python

## Getting started with Python

- Creating the first python program.
- Understanding the .py extension.
- How to run the PYTHON PROGRAM

## Python Scripts execution

- Using the python command line
- Using IDLE
- Using IDEs
- Using a regular command prompt

## Variables

## Various ways of printing

## General data types in python

## Boolean functions

## Operators

- Arithmetic
- Relational
- Logical
- Assignment
- Membership
- Identity
- Unary

## Type casting

## Literals

## Comments

## Strings and its types

- Single line
- Multi line
- Doc strings

## Accepting inputs.

- Raw inputs and normal inputs

## Control Statements:

- Sequence control
- Decision control
  - if(pure if)
  - if-else
  - if-elif
  - nesting
- Loop control
  - for
  - while
  - for-else
  - while-else

## break, continue and pass keywords

## Indexing and slicing

## Special data types

## • Lists

- What are lists?
- Mutable lists.
- In operator.
- Traversing a list.
- List operations.
- Converting a list to string.
- Aliasing in lists.
- Functions in lists.
- Range function

## Sets

- Properties
- Various operations
- Casting
- Mathematical operations

## Tuples

- What is tuples?
- Indexing in tuples.
- Slicing in tuples.
- Immutable tuples.
- Lists and tuples.
- Functions in tuples.

## Dictionaries

- Keys and values.
- In operator.
- Looping in dictionaries.
- Lookups in dictionaries.
- Dictionaries and tuples.
- Functions in dictionaries.
- Single key with multiple values
- Dictionaries vs. sets.

## Functions

- Without arguments
- With normal arguments
- With positional arguments
- With named or keyword arguments
- With default arguments
- With variable length arguments
- With dictionary arguments
- Functions returning single and multiple values
- Pass by reference
- Pass by value
- Anonymous functions
- Understanding the doc strings
- Lambda, map, filters
- Understanding the return keyword
- Global scope.
- Local scope.

## Modules

- What are modules?
- Understanding the name spaces
- Various ways of importing.
- Various ways of accessing
- Aliasing
- dir () function.
- Installation of a module.
- Properties of a module
- Understanding the virtualenv.

## Packages

- Packaging a module
- Understanding init file
- Establishing the relation between the modules and Packages
- Sub packages

## Files

- Reading and writing files
- Methods of File Objects
- Modes
  - Reading
  - Writing
  - Modify
- Executing database queries using python scripts
- File creation in the default and specific locations
- `read(), readline() and readlines()`  
Merging
- Files similar schema
- Files different Schema
- Flip Kart Example
- Buffering in files.

“  
Overall it was a great course... The instructor was exceptionally good at explaining things and answering questions

Rahul

Application Engineer | Uber

# ADVANCED PYTHON

⌚ 40hrs

## OOPS

- OOPS Paradigm
- Differences between Procedural and Object Oriented Programming
- OOPS Approaches
- OOPS Principles

## CLASSES AND OBJECTS

- Understanding the classes in python.
- Employee class
- Using the class statement
- Creating the objects for classes
- Methods in classes.
- Differences between the methods inside the class and outside the class
- self keyword

## Encapsulation

## Inheritance

### Types

- Single
- Multilevel
- Hierarchical
- Multiple
- Hybrid
- Problems with multiple inheritances
- Understanding the super method

## Interfaces

- Interface and its properties
- Differences between an abstract class and an interface

## Abstraction

- Abstract methods
- Abstract classes
- Decorative
- ABC module

## Installing predefined modules

## Working with excel files

## OS Commands

## Constructors

- Parameter less
- Parameterized
- Differences between the methods and constructors
- Advantages

## Destructors

## Garbage collectors

## Exceptions

- What are exceptions?
- Various types of exceptions.
- Exception handling - try, except,else,finally
- Displaying predefined and user defined messages
- Trapping errors.
- Raising exceptions.
- Customized exceptions.

## Lambda, Map and Filter functions

## Command line arguments

## DATABASE CONNECTIVITY:

- What is database and its purpose?
  - Types of databases
  - What is a query?
  - Working with oracle/MySQL databases.
  - How to install MySQL-server and oracle
  - How to know what modules to install
- Operations
- Creation of tables
  - Insertion
  - Data retrieval
  - Updation
  - Alterations
  - Deletions
  - Other operations

## Python and MySQL

- Connecting the python application with the database
- Cursors
- Running the queries
- Fetching the required amount of data and the complete data
- Loading the data from the database tables into excel file and text file.

## MULTI THREADING

- Concurrent programming
- Creating and starting a thread
- Thread module
- Improving the performance using threading
- join() function
- Ways to implement threads

- Creating threads using our own classes.
- Creating Thread by creating a child to "Thread" class.
- Creating a thread directly without classes
- Several methods of thread class
- Thread Synchronization
- Locking mechanism

“  
After finished my college i had no hope on working in a software company. That time i reach Digital Nest and I got to be an expert in Python. Now i am working. Thanks to my trainer and Digital Nest

**Manohar**

B.Tech Student

”

# DJANGO FRAMEWORK

⌚ 40hrs

## Django framework for web development

- Several methods of thread class
- Thread Synchronization
- Locking mechanism

## Introduction to web frame work

- What is a server, HTTP Request and HTTP Response?
- What is a web frame work and web application?
- Challenges in developing web application
- Django overview and installation
- Starting a Django powered project
- **Django project architecture**
- Understanding `manage.py`,
- Understanding `settings.py`,
- Understanding `__init__.py` and `wsgi.py`,
- Understanding `urls.py` and python regular expression
- Starting your first web application
- Django project architecture
- Understanding `admin.py`, Understanding `models.py`, Understanding `views.py`,
- Running Django development server
- Working with java script & CSS files
- Templates
- Developing standard web template
- Template tags
- Filters in Templates
- Template API

## Django Admin

- Activating the Admin interface
- Creating super user for Admin site
- Using the Admin site
- How to use the Admin site
- The `django.contrib` package

## • Models

- The MVC Development Pattern
- Defining Models using Python classes

## • Defining Model data fields Initializing model using make-migrations

- Running model initialization using `migrate`

- Registering models in `settings.py`
- Registering models with Admin site Views and URLconfs

- Understanding the view layer

- Requesting a web page via URL
- Rendering web page via view function

- Render HTTP Response to templates

- Understanding context data and python dictionary type

## Forms

- Form basics
- GET and Post methods
- Form validation
- Rendering forms
- ModelForm

## Working with static File

- Creating static repository
- Loading static files
- Adding Image file to Template
- Advance Models, Views,  
Forms and Admin

## Understanding model fields in depth, Database function, Model managers

- Django ORM
- Class based views
- File submission

## Project

I have done my Python course in Digital Nest. My trainer is absolutely perfect in teaching and explaining doubts. He even helps me after the completion of my course also. Thank You so much Trainer and Digital Nest My knowledge on Python was nonexistent before the class. But after the class, Python is one of my primary programming languages.

**Madhumitha**

Process Associate | Cognizant

 High performance. Delivered.					
					
					
					

# Our Trainees Hail from

# Ready to get incubated in **PYTHON** **Lets Start**

Reach Us:

📍 1st Floor, SNR Towers,  
Beside BVRIT  
City Center bus stop,  
**PANJAGUTTA**, Hyderabad.

📍 2nd Floor,  
Above Karnataka Bank,  
Silicon Valley Road,  
**HITECH-CITY**, Hyderabad.

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