

# KAÏNA-COM

## TRAINING CATALOGUE

### Advanced Python

**Leading programming language that enables development of tools and applications various purposes**



**Nos locaux**  
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## KPYT001 – Advanced Python

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**Reference** KPYT001

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**Experience**

- Beginner
- Intermediate
- Advanced

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**Duration** Training Program:

- 4 days

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**Training Method**

- I: i-learning, individual training (web-based training)
- V: v-learning, virtual class
- C: c-learning, classroom training

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77127 Lieusaint - France

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**Price** 2.707,50 € HT

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**Prerequisite** Basic Python

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**Audience** Python programmers.

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## KPYT001 – Advanced Python, Continued

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### Objective

The course will enrich applicable knowledge in programming using Python. The course will include theoretical knowledge and vast hands-on practice in every field that will be acquired.

Participants will gain ability in programming through scripts in the Python programming language. The course will include the following topics.

The unique characteristics of the language including syntax rules, advantages and disadvantages of the programming language in comparison to other programming languages.

Installation of a full working environment and creation of input and output.

The participants will have full capability of use and development within the Python environment including the use of editor and debugger.

Use of variables and casting of variables (int, float, complex, boolean).

Use of 'if' statements – if, else, elif.

Boolean operators and numerical operators.

Use of strings variables; use of string functions including slicing.

Types of loops and related commands such as: break, continue, pass, else.

Use of modules including – module creation and import.

Advanced data types: List, Tuple, Sets, Dictionary – creation, manipulations on variables.

Reading and writing files: creation, open, close, read, write, append, etc.

File types – Random and sequence

Functions – definition, usage, capabilities, return values.

Exception Handling

Python modules – Introduction, creation, import

OS Module – Using operating system functionality

Regular Expressions – definition, rules, write expressions

OOP (Object Oriented Python)

Logging: Logging to files, setting severity and messages formatting

Datetime Module

Python Performance Tips

All hands-on topics that will be learnt throughout the course will be exercised to gain practical expertise. Summary exercises will include programming and developing that requires combined use of the various topics.

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## KPYT001 – Advanced Python, Continued

### Course Contents

Course Contents :

**Table 1: KPYT001 - Course Contents**

Chapter	Description
<b>Day 1</b>	<ul style="list-style-type: none"> <li>• Introduction – Programming languages, uniqueness of Python as a programming language, interpreter</li> <li>• Installing of full working environment, familiarization of working environment</li> <li>• Use of comments</li> <li>• Class practice</li> <li>• Presentation of Python variables: int, float, Complex, String, Boolean Strings: Learning of functions and abilities for string manipulations String multiplications, String slicing, Casting, Class practice</li> <li>• Flow control – conditions               <ul style="list-style-type: none"> <li>– Use of: if, elif, else</li> <li>– Boolean operators</li> <li>– Numeric operators including power and modulo</li> <li>– Class practice</li> </ul> </li> <li>• Presentation of the debugger and practical use               <ul style="list-style-type: none"> <li>– Class practice</li> <li>– writing scripts and use of the debugger for troubleshooting</li> </ul> </li> <li>• Loops – for and while (Syntax and Differences)               <ul style="list-style-type: none"> <li>– Additional commands for control (break, continue, pass, else)</li> <li>– Infinite loops / Class practice</li> </ul> </li> <li>• Advanced data types: List – creation, assignment, access               <ul style="list-style-type: none"> <li>– List functions and operators, Slicing, Sort and reverse sort</li> <li>– Class practice</li> </ul> </li> </ul>

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## KPYT001 – Advanced Python, Continued

### Course Contents, continued

Chapter	Description
<b>Day 2</b>	<ul style="list-style-type: none"><li>• More advanced data types: Tuple, Sets, Dictionary – creation, assignment, access</li><li>• Class practice</li><li>• Reading and writing files:<ul style="list-style-type: none"><li>• Creation, open, close</li><li>• Read, write, append</li></ul></li><li>• File types – Random and Sequence</li><li>• Class practice<ul style="list-style-type: none"><li>– Functions</li><li>– definition, usage, capabilities, return values, documentation</li><li>– Class practice</li></ul></li><li>• Lambda functions<ul style="list-style-type: none"><li>– Definition</li><li>– Rules</li><li>– Class practice</li><li>– Exception Handling</li><li>– Introduction</li><li>– When is exception handling actually required? Examples</li><li>– Class practice</li></ul></li><li>• Summary</li></ul>

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## KPYT001 – Advanced Python, Continued

### Course Contents, continued

Chapter	Description
<b>Day 3</b>	<ul style="list-style-type: none"> <li>• Python modules</li> <li>• Introduction</li> <li>• Using modules, modules creation, import modules</li> <li>• Class practice</li> <li>• OS Module – Using operating system functionality</li> <li>• Class practice</li> <li>• Regular Expressions</li> <li>• definition</li> <li>• rules</li> <li>• write expressions</li> <li>• Class practice</li> <li>• OOP (Object Oriented Python)</li> <li>• Logging to files</li> <li>• IDE Output               <ul style="list-style-type: none"> <li>– Files</li> <li>– Setting severity</li> <li>– Messages formatting</li> <li>– Class practice</li> <li>– Datetime Module</li> <li>– Class practice</li> </ul> </li> </ul>

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## KPYT001 – Advanced Python, Continued

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### Course Contents, continued

Chapter	Description
<b>Day 4</b>	<ul style="list-style-type: none"><li>• Multiprocessing</li><li>• Class practice</li><li>• Multithreading</li><li>• Class practice</li><li>• Python Performance Tips</li><li>• Class practice</li><li>• Mini Project</li></ul>
<b>The End</b>	<ul style="list-style-type: none"><li>• Summary</li><li>• Q&amp;A</li><li>• Evaluation</li></ul>

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