Training: Python Academy
Design Patterns in Python

TRAINING GOALS:

Frequently, tasks can be solved following some pattern. Design patterns can be used to group tasks and their solutions. Often problems can be solved with existing patterns. Furthermore, patterns offer a common language for developers with well defined terms to communicate about complex tasks.

The training have modular form, it takes half a day and can be combined with other training offerings by Python Academy.

CONSPECT:

- Special features of design patterns in python In python many problems can be solved more easily than in other languages. Therefore, several design patterns are not necessary or they are already implicitly contained in the languages.

  The principles of writing pythonic programs are explained and supported with examples. Topics such as beauty of source code, explicit programming, simplicity, readability, and exception handling are included.

- "It's easier to ask for forgiveness than permission (efap)"

  One pythonic principle is "it's easier to ask for forgiveness than permission (efap)". Opposed to the approach to look before you leap, this principle states that you should first try an action and if it fails react appropriately. Python' strong exception handling supports this principle and helps to develop robust and fault tolerant programs.

- Meta classes

  Meta classes are an advanced topic of python programming. Applying meta calsses complex tasks may be be solved in an elegant manner. The use of meta classes is demonstrated with examples.

- Singelton

  Singeltons are objects of which only one instance is supposed to exist. Python provides several ways to implement singeltons. These possibilities are shown using examples.

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- Null objects

  Null objects can be used instead of the type none to avoid tests for none. Implementation, usage as well as advantages and disadvantages are covered.

- Proxy

  Proxies stand for other objects. Setup and usage of proxies are covered.

- Observer

  The observer pattern allows several objects to have access to the same data. The principles of this pattern are shown with a comprehensive example.

- Constructor

  Parameters of constructors are often assigned to instance variables. This pattern can replace a many lines of manual assignment with only one line of code.

Difficulty level



CERTIFICATE:

The participants will obtain certificates signed by Python Academy.

TRAINER:

Authorized Python Academy Trainer.

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