Training: Python Academy
Numerical Calculations with NumPy

TRAINING GOALS:

The library **NumPy** is the de facto standard for the work with arrays and linear algebra. It provides array processing capabilities comparable with MATLAB and offers a high-level tool for efficient and convenient work with numerical data.

CONSPECT:

- Standard arrays and linear algebra library
- Array-constructions and array-properties in examples
- Speed comparison between dynamically determined Python data types with explicitly specified NumPy arrays
- Correspondence between NumPy and C data types
- Slicing and Broadcasting
  - Reading and writing to arbitrary parts of arrays
  - Applying broadcasting for arrays with different shapes
- Universal Functions
  - Applying many operations on whole arrays independent from their dimensions
  - Examples of use
- Numerical algebra.
- Working with missing values - masked and NA-masked arrays to handle arrays with missing or not valid values.
- Customizing error handling - NumPy offers a fine-grained approach to handle errors without impacting the performance.
- Testing support - NumPy includes helpers to write to test code - course introduces to testing basics with it.

REQUIREMENTS:

- Basic knowledge of **Python** language.

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Difficulty level



CERTIFICATE:

The participants will obtain certificates signed by Python Academy.

TRAINER:

Authorized Python Academy Trainer.

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