

Object-Oriented Programming with MATLAB

OEM: MathWorks • Duration: 2 Days (16 hrs) • Code: MW-OBJECT-ORIENTED-PROGRAMMING-WITH-MATL

COURSE MODULES & TOPICS

Day 1 of 2

Creating Custom Data Types

- Grouping data and functionality into a single class definition file
- Documenting classes
- Using classes to create workspace variables known as objects

Designing a Robust and User-Friendly Class

- Ensuring data is accessed in a safe manner by using property attributes
- Improving user friendliness by providing data access methods
- Customizing standard operators for the class

Hiding Implementation Details

- Preventing data inconsistencies by restricting property and method access
- Improving class maintenance by separating the visible interface of the class from its implementation

Day 2 of 2

Building Class Hierarchies

- Creating a common superclass for two similar classes
- Extending the superclass through a subclass and implementing specialized behavior
- Using abstract properties and methods when data and functions cannot be fully defined on the superclass level

Facilitating Multiple References

- Creating a class that exhibits reference behavior
- Embedding a data class into a viewer class responsible for data visualization
- Choosing between pass-by-reference and the usual pass-by-value behavior

Writing Unit Tests

- Writing a unit test
- Creating a test environment using setup and teardown methods
- Parameterizing tests

- Aggregating and running suites of tests
- Creating test coverage reports

Synchronizing Objects

- Use events to specify data changes that need to be monitored
- Define listeners which trigger reactions to events
- Implement callbacks specifying code to be executed as a reaction