

Undocumented Matlab

unbelievable features; unbelievable quality; unbelievable cost effectiveness; unbelievable service

ENHANCING MATLAB PROGRAMS USING JAVA

COURSE OUTLINE



1. Introduction to using Java in Matlab

- a. Introductory overview of Java
- b. Using Java in Matlab
- c. Java/Matlab version compatibility
- d. Installing a different Java engine in Matlab
- e. Debugging Java code in Matlab
- f. Static vs. dynamic classpath
- g. JVM meta-files
- h. Using Java collection classes

2. Using Java with Matlab GUI

- a. Matlab and Java Swing
- b. Integrating Java controls
- c. Compatibility aspects and trade-offs
- d. Safe programming with Java in Matlab
- e. Java's Event Dispatch Thread and Matlab
- f. Containers & position – Matlab vs. Java
- g. Monitoring memory & CPU utilization
- h. Setting GUI Look-and-Feel
- i. Customizing uitools: uitable, uitree, uitab
- j. Using built-in Matlab controls/widgets
- k. Using JIDE
- l. Integrating 3rd-party Java GUI components: charts/graphs/widgets/reports

3. Advanced Matlab-Java GUI

- a. Using HTML
- b. Updating existing Matlab uicontrols
- c. Figure menu customization
- d. Figure toolbar customization
- e. Figure-level customization
- f. Handling Java events as Matlab callbacks
- g. Listening to property-change events
- h. Deployment issues

4. Where next? – topics and resources for further learning

Summary

A 1 or 2-day advanced Matlab course.

You will learn how to:

- use Java components and code from within Matlab
- use Java containers for storing data in appropriate data structures
- customize figure toolbar & main menu
- make a figure disabled, blurred, transparent, minimized or maximized
- use HTML for improved GUI control visualization
- integrate third-party Java components in Matlab GUI
- customize standard Matlab GUI with Java
- create a modern-looking professional GUI in Matlab

In the 2-day course, the topics will be expanded and a sample program will be analysed as a classroom exercise project.

Target audience

Matlab users with experience using Matlab graphics and GUI, who wish to improve their program's quality, appearance and usability; Matlab users who wish to sell professional-looking Matlab-based software GUI.

Familiarity with Matlab GUI is assumed. Familiarity with Java is NOT required.