Macrosoft

Vzdelávanie s trvalým efektom

DOCUMENT

Course syllabus

CATEGORY

Java, Python courses

TRAINING FORMAT

In Bratislava or online with a lecturer

PRICE EXCL. VAT

1 016,25 €

PRICE INCL. VAT

1 249,99 €

including 23 % VAT

PDF SYLLABUS

Java Programmer - Comprehensive Skills

Clear overview of course topics, training scope and key information.

The retraining course Java Programmer - Comprehensive Skills is intended for programmers who want to enter the labor market with the aim of increasing their qualification and applying for the position of Java Programmer. Course participants will go step by step through programming in the Java environment and the NetBeans development environment. They will gain knowledge and skills adequate for creating applications in Java and learn to write more complex programs that will implement some network or database mechanisms. It is a package of courses: Java Language Basics I, Java II, Java III - Advanced. The start day of the first course is listed; we will inform you about the other dates.

COURSE CONTENT

01 **Java Language Basics I Course**

02 **Java Language**

characteristics and history of Java JRE, JDK installation of JDK and NetBeans IDE

03 **Lexical Structure of Java**

comments and white space identifiers and literals operators and separators keywords

04 **Data Types and Variables**

primitive types reference types

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05 **Working with Strings**

string initialization basic string operations String and StringBuilder string formatting

06 **Arrays**

array initialization operations with arrays iterating through array elements multidimensional arrays

07 **Operators and Expressions**

types of operators (logical, relational, arithmetic) lambda operator precedence and associativity of operators

08 **Program Flow Control**

conditions and loops

09 **Object-Oriented Programming**

objects and classes data and methods constructors inheritance and interfaces

10 **Packages**

role of packages importing packages packages and directory structure

11 **Working with Exceptions**

checked exceptions unchecked exceptions custom exceptions

12 **Collections**

lists, maps, trees, sets

13 **Java II Training Syllabus**

14 **Sorting and Ordering Data**

Comparing and sorting basic data types Comparing and sorting objects Comparable and Comparator

15 **Generics**

need for generic programming type erasure automatic type inference

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16 **Functional Java**

functional interfaces Function, Predicate, Consumer, Supplier FunctionalInterface lambda expressions

17 **Streams and Lambda Expressions**

characteristics of streams filtering, mapping sorting, reductions

18 **Input-Output Operations**

I/O operations in Java Reader and Writer FileInputStream, InputStreamReader working with CSV files

19 **Working with Date and Time**

LocalDate, LocalTime, LocalDateTime, Instant date arithmetic formatting date and time time zones

20 **Regular Expressions**

use of regular expressions quantifiers, boundaries, anchors practical examples

21 **Kotlin**

introduction to the Kotlin language use of the language simple programs.

22 **Data Structures**

arrays sorting array as a return value comparing arrays

23 **Containers**

types of containers iterators

24 **Generics**

dynamic identification determining type at runtime casting

25 **Exceptions**

classification use importance exception handling

26 **Security in Java**

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27 **Multithreaded Applications**

principles and use synchronization options

28 **Threads**

29 **Inputs and Outputs in Java (Java I/O)**

30 **JDBC Basics**

what JDBC is use of the JDBC driver connecting to a database executing queries reading results

31 **Basics of Working in a Network and Distributed Environment**

Sockets applications using TCP/IP and UDP/IP protocols

32 **Basics of Working in a Distributed Environment**

SOAP and Web Services Remote Method Invocation and Corba IDL programming model discussion conclusion

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This document serves as an informational overview of the course syllabus. Current dates, venue and availability are listed at Macrosoft.sk.

https://www.macrosoft.sk/en/courses/java-programmer-comprehensive-skills