



Java Beginner - Syntax and Coding

Java Training

About The Course

Starting from simple examples, this 3-day course will build up your Java skills so that in the end you will write code with confidence and clarity. You will learn to create Java classes containing methods (including the main method) and fields which you can put in a package. You will write code that use variables, primitives, 'if' statements, loops and other objects. You will also handle exceptions, arrays (and other collections), strings and dates; as well as writing code that uses generics and lambda expressions and much more. You will also learn to install an integrated development environment, so that you will have all you need to practice your skills after the course.

Duration: 3 days

Class size: 10 students max

Times: 9:00am - 5:00pm

Price: Refer to our website for current course and package pricing

After the course?

Each student will receive:

- Certificate of completion
- Training manual
- 12 months FREE email support
- FREE class re-sit (if necessary)

Who Should Do This Course?

This course is a great starting point for participants who is just starting out on their Java journey and need to learn the syntax of the Java language.

Prerequisites

No prior knowledge of Java programming is required; however participants need to have general mouse and keyboard skills and an understanding of personal computers and the Windows operating system.

Content

Unit 1: Setting Up a Development Environment

- Understanding Integrated Development Environments
- Installing NetBeans
- Taking a Look Around NetBeans
- Creating a Project
- Creating a Package
- Creating a New File
- Saving the File
- Looking Under the Bonnet
- Understanding Java Files
- Understanding Class Files
- Understanding Packages

Unit 2: Creating A Basic Class

- Creating New Class
- Including Comments
- Creating Fields
- Defining Constants
- Creating Methods
- Understanding Naming Conventions

Unit 3: Developing a Main Method

- Understanding the Main Method.
- Using NetBeans to Add a Main Method
- Using Main Method in Your Code
- Generating Output

- Running Code
- Using Fields in Your Methods
- Using the Object in Your Main Method
- Passing Data to The Main Method
- Fixing Syntax Errors
- Understanding Common Syntax Errors

Unit 4: Making a Class Easier to Use

- Calling Methods
- Passing Values to Methods
- Returning Values from Methods
- Defining your own Constructor
- Adding the Constructor to the Object
- Calling the Constructor from Another Object
- Overloading Methods
- Variable Argument Parameters

Unit 5: Creating Variables and Using Primitives

- Understanding Variables
- Creating and Using Variables
- Understanding Defaults
- Using Defaults in Code
- Understanding Scope
- Understanding Datatypes
- Understanding Various Types of Variables
- Using Integer Primitives
- Using Decimal Primitives
- Using Character Primitives
- Using Boolean Primitives
- Using the Ternary Operator in Your Code

Unit 6: Controlling the Flow of Code

- Creating and Using IF Statements
- Creating and Using ELSE Clause
- Creating and Using Nested IF Statements
- Creating and Using Switch Statement
- Creating and Using a Simple FOR Loop
- Creating and Using a WHILE Loop
- Creating and Using a DO-WHILE Loop
- Creating and Using an EXIT Statement
- Creating and Using a Nested Loop
- Exiting a Specific Loop

Unit 7: Handling Exceptions and Errors

- Understanding the Problems when Code Is Run
- Recognising Common Problems
- Difference Between Syntax Errors and Exceptions
- Recognising Different Types of Exceptions
- Dealing with Runtime Exceptions
- Dealing with Errors
- Dealing with Non-Runtime Exceptions

- Writing a Try-Catch Clause
- Understanding the Exception Handling Process
- Dealing with Checked Exceptions
- Including More than One Catch Clause
- Handling More Than One Exception in A Single Clause
- Including A Finally Clause

Unit 8: Dealing with Collections of Objects Using Arrays

- Declaring an Array
- Instantiating an Array
- Populating an Array
- Retrieving from an Array
- Looping Through an Array
- Instantiating Two Dimensional Arrays
- Populating Two Dimensional Arrays
- Retrieving from Two Dimensional Arrays
- Looping Through Two Dimensional Arrays

Unit 9: Working with Strings and String Builder

- Understanding Strings
- Using the Methods and Fields of a String
- Manipulating Strings Using Common String Methods
- Finding out More About Strings
- Splitting Strings
- Tokenizing Strings
- Scanning Strings
- Understanding the Immutability of Strings
- Understanding the Problem with Immutability
- Solving Immutability with StringBuilder
- Using the StringBuilder Methods

Unit 10: Using Dates in Your Code

- Understanding the New Date Class in Java
- Understanding the Old Date Class
- Understanding the Reason for The Change
- Looking at Some of the Important Date Classes
- Using Dates in Java Code
- Understanding The LocalDate Class
- Using Methods of LocalDate Class
- Formatting Dates
- Including Time in Your Code
- Understanding the LocalTime Class
- Using the Methods of the LocalTime Class
- Understanding the LocalDateTime Class
- Creating a LocalDateTime Class
- Combining Existing Dates and Times
- Dealing with Time Zones
- Understanding the ZoneId Class
- Understanding the ZoneDateTime Class

- Creating a ZoneDDatetime Object
- Combining Existing Dates, Times and Time Zones
- Putting it All Together

Unit 11: Making Code More Flexible with Generics

- Coding Without Generics
- Coding with Generics
- Using Generics
- Understanding the Advantages of Generics
- Understanding how Java Uses Generics in The API

Unit 12: Using Other Kinds of Collections

- Understanding Different Kinds of Collections
- Using Lists
- Understanding the ArrayList Class
- Using an ArrayList
- Using an ArrayList Without Generics
- Using an ArrayList with Generics
- Using Sets
- Understanding the TreeSet Class
- Using a TreeSet
- Using Maps
- Understanding the TreeMap Class
- Using a TreeMap
- Ordering Collections
- Understanding the Default Order of Collections
- Understanding the Options Available for Ordering Collections
- Making a Class Comparable
- Using an Independent Arbitrator
- Sorting a Set
- Re-Ordering a List

Unit 13: Using Lambda Expressions

- Writing Code Without Lambdas
- Passing Data Using Primitives
- Passing Data Using Objects
- Understanding the Advantages of Passing Objects
- Understanding the Disadvantages of Passing Objects
- Using an Object to Pass Functionality
- Using a Lambda Expression to Pass Functionality
- Understanding the Parts of a Lambda Expression
- Using the Compiler to Our Advantage

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To view a full list of course dates, please visit our website at www.dynamicwebtraining.com.au

Alternatively please contact our office on **1300 888 724**