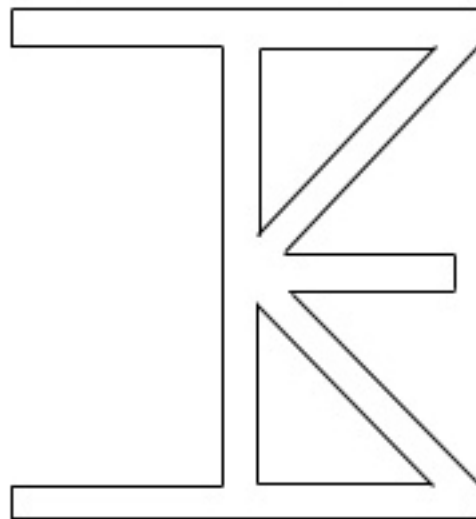


*Absorbing Knowledge*



*Radiating Innovation*

*Imbibe 17*

*Enterprise*

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Imbibe Knowledge Enterprise

Contact: 9896391666

Email: [support@ike.co.in](mailto:support@ike.co.in)

For Course Details, visit: <http://ike.co.in/course/overview.pdf>

# IMBIBE KNOWLEDGE ENTERPRISE

## COURSES

1. Java Platform
  - 1.1. Java (JSE)
  - 1.2. Enterprise Java (JEE)
  - 1.3. Java Micro Edition (JME)
  - 1.4. Java Class Library
  - 1.5. AWT & Swing
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- 9.3. Data Structures
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- 9.6. Computer Networks
- 9.7. Computer Graphics & Multimedia
- 9.8. Artificial Intelligence & Expert Systems
- 9.9. Compiler Construction
- 9.10. System Simulation
- 9.11. System Analysis & Design
- 9.12. Software Engineering
- 9.13. Object Modeling Techniques

10. Request-a-Course

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# 1. Java Platform

## 1.1. Java Standard Edition

Covers everything one needs to know to develop, compile, debug, and run Java applications and applets. Covers complete details on the Java language, its class libraries, and its development environment.

### 1.1.1. Course Contents

- Java Environment
- Java Language
- Java Library (String Handling, I/O, Applets)
- Exception Handling
- AWT (Event Handling, User Interfaces)

### 1.1.2. Course Details

It is a 45-day course, which can be taken both by beginning programmers as a first Programming Language, as well as those migrating from C/C++, .NET or any other programming language or platform.

## 1.2. Java Enterprise Edition

Java technology has evolved from a programming language designed to create machine independent embedded systems into a robust, vendor independent, machine-independent server side technology, enabling the corporate community to realize the full potential of web centric applications. Java Platform, Enterprise Edition (Java EE) builds on the solid foundation of Java Platform, Standard Edition (Java SE) and is the industry standard for implementing enterprise-class service-oriented architecture (SOA) and next-generation web applications.

### 1.2.1. Course Contents

- JEE Basics
- Java Databases
- JEE Foundation (JAXP, JAXM, Servlets, JSP, EJB)
- Java Interconnectivity
- Web Services
- Sun Java Enterprise IDE

### 1.2.2. Course Details

It is a 60-day course, which requires a programming background with previous knowledge of Java language.

### 1.3. Java Micro Edition

Java Platform, Micro Edition (Java ME) provides a robust, flexible environment for applications running on mobile and other embedded devices—mobile phones, personal digital assistants (PDAs), TV set-top boxes, and printers. Java ME includes flexible user interfaces, robust security, built-in network protocols, and support for networked and offline applications that can be downloaded dynamically. Applications based on Java ME are portable across many devices, yet leverage each device's native capabilities.

#### 1.3.1. Course Contents

- JME Overview & Architecture
- JME User Interface
- JME Data Management
- JME Networking & Web Services
- Personal Information Manager Profile

#### 1.3.2. Course Details

It is a 45-day course, which requires a programming background with previous knowledge of Java language.

### 1.4. Java Class Library

The majority of power for any contemporary language or platform comes from its class library. Java is no exception. The course provides comprehensive coverage of major JAVA API packages.

#### 1.4.1. Course Contents

- Reflection
- Regular Expressions
- lang & util classes
- Collection Framework
- Multithreading
- Serialization
- Networking
- Input/Output (including NIO)
- Distributed Objects & RMI
- AWT & Swing
- Java Beans

#### 1.4.2. Course Details

It is a 45-day course, which requires a programming background with previous knowledge of Java language.

## 1.5. AWT & Swing

User Interface (UI) is an important aspect of any application program. An effective and user-friendly interface helps a great deal in the success and popularity of an application program. To that end, Java provides a powerful set of tools & APIs for designing a UI in the form of AWT & Swing packages. The course provides an in-depth coverage of these packages, an essential part of any developer's toolkit.

### 1.5.1. Course Contents

- Event Handling & Introduction to AWT
- MVC Architecture
- Swing Controls & Layout Management
- Menus & Dialog Boxes
- Advanced AWT
- Advanced Swing

### 1.5.2. Course Details

It is a 45-day course, which requires a programming background with previous knowledge of Java language. Familiarity with any GUI based environment (Windows, Linux etc.) is desirable.

## 2. .NET Platform

### 2.1. C# (pronounced C Sharp)

C# is a new programming language. It has been developed by Microsoft as a part of their .NET strategy to provide web-based services. C# promises to help us ride the next wave of computing, namely 'software as a service'.

#### 2.1.1. Course Contents

- .NET Platform Overview
- C# Language
- .NET Library (String Handling, I/O, Collections)
- Windows Applications with C#
- Visual Studio

#### 2.1.2. Course Details

It is a 45-day course, which can be taken both by beginning programmers as a first Programming Language, as well as those migrating from C/C++, Java or any other programming language or platform.

### 2.2. VB.NET

Classic Visual Basic (often confused with VB.NET) is perhaps the most widely used Visual development language used till date. It was therefore imperative that Microsoft ports the language to work with its ambitious .NET platform.

#### 2.2.1. Course Contents

- .NET Platform Overview
- VB.NET Language
- .NET Library (String Handling, I/O, Collections)
- Windows Applications with VB.NET
- Visual Studio

#### 2.2.2. Course Details

It is a 45-day course, which can be taken both by beginning programmers as a first Programming Language, as well as those migrating from C/C++, Java or any other programming language or platform.

## 2.3. C++/CLI

The C++ programming language has existed since 1983. It is a native programming language, which means that a compiler will typically create a largely platform dependant binary file. C++/CLI is a Microsoft extension to the C++ language, making it managed thus allowing the application to contain mixed mode code. The native and managed parts of your application can call between them. With mixed mode code, the native parts will remain native, and the managed parts will remain managed.

### 2.3.1. Course Contents

- C++/CLI Language
- .NET Framework development in C++/CLI
- Unsafe/Unmanaged C++/CLI
- Interoperability

### 2.3.2. Course Details

It is a 45-day course, which requires a programming background with previous knowledge of .NET platform & C++ (preferably VC++) language.

## 2.4. .NET Base Class Library

The majority of power for any contemporary language or platform comes from its class library. .NET is no exception. The course provides comprehensive coverage of major .NET API namespaces.

### 2.4.1. Course Contents

- Reflection
- Regular Expressions
- System.Data
- .NET Remoting
- .NET Collection API
- Threading
- Serialization
- File & Registry Manipulation
- GDI+
- Assemblies
- .NET Security
- Windows Services

### 2.4.2. Course Details

It is a 45-day course, which requires a programming background with previous knowledge of any .NET language.



## 3. Web Engineering

### 3.1. Beginning Web Development

Web has revolutionized the way we live, work & communicate. Perhaps the major reason for popularity of the web has been the simplicity of HTML. But now, CSS & JavaScript are lending much needed structure & dynamicity to web pages.

#### 3.1.1. Course Contents

- Introduction to Web & HTTP
- HTML
- CSS1/CSS2
- JavaScript

#### 3.1.2. Course Details

It is a 45-day course, which can be taken by anyone beginning Web development. Familiarity with Internet & some browsing experience is desirable.

### 3.2. CGI Programming with Perl

CGI still is a popular alternative for dynamic server side scripting. The simplicity of CGI combined with the fact that it is a very thin interface makes it easy to understand how web works at a basic level, paving way to move on to more complex technologies like JSP or ASP.NET.

#### 3.2.1. Course Contents

- An Introduction to CGI & Perl
- CGI output
- Forms & CGI
- CGI.pm
- Data Persistence & State Maintenance

#### 3.2.2. Course Details

It is a 30-day course, which can be taken both by anyone comfortable with Web & HTML. However, some programming experience is desirable.

### 3.3. JSP/JSF

JavaServer Pages (JSP) technology provides a simplified, fast way to create dynamic web content. JSP technology enables rapid development of web-based applications that are server and platform-independent.

JavaServer Faces technology simplifies building user interfaces for JavaServer applications. Developers of various skill levels can quickly build web applications by: assembling reusable UI components in a page; connecting these components to an application data source; and wiring client-generated events to server-side event handlers.

### 3.3.1. Course Contents

- Servlet & JSP
- JSP Components
- Integrating JSP with JDBC, JavaBeans & XML
- JSF Overview
- Input Validation & Event Handling
- Creating & Rendering Components

### 3.3.2. Course Details

It is a 45-day course, which requires a programming & web background with previous knowledge of HTML/CSS & Java language.

## 3.4. ASP.NET

The introduction of ASP.NET changed the Web programming model. The primary goal of ASP.NET 2.0 is to enable you to build powerful, secure, and dynamic applications using the least possible amount of code and enhance developer productivity.

### 3.4.1. Course Contents

- Introduction to ASP.NET
- Web Server Controls & Client Side Scripts
- Master Pages
- Data Binding
- Security
- State Management

### 3.4.2. Course Details

It is a 45-day course, which requires a programming & web background with previous knowledge of HTML/CSS & any .NET language.

## 3.5. PHP

Perhaps more than half of the websites built today use PHP for development. PHP is a server-side HTML embedded scripting language. It provides web developers with a full suite of tools for building dynamic websites: native APIs to Apache and other web servers; easy access to MySQL, Sybase, Oracle, and other databases; IMAP; LDAP; HTTP headers and cookies.

### 3.5.1. Course Contents

- Introduction to PHP, Apache & MySQL
- PHP structure & syntax
- Input Validation & Exception Handling
- Integrating with MySQL
- Sending E-Mail

### 3.5.2. Course Details

It is a 45-day course, which requires a programming & web background with previous knowledge of HTML/CSS.

## 3.6. JavaScript & AJAX

JavaScript is a scripting language most often used for client-side web development. JavaScript is used in millions of Web pages to add functionality, validate forms, detect browsers, and much more.

AJAX is not a new programming language, but a new way to use existing standards for creating interactive web applications.

### 3.6.1. Course Contents

- Client Side JavaScript Overview
- JavaScript Syntax
- Document Object Model
- Windows, Frames and Events
- Ajax Principles
- XMLHttpRequests
- Communication Control Patterns

### 3.6.2. Course Details

It is a 45-day course, which requires a sound programming background (any language) with previous knowledge of HTML/CSS and familiarity with Web.

## 3.7. XML

XML is the future of the web. It is a general purpose Content Description Language. It uses markup (like HTML) to describe content.

### 3.7.1. Course Contents

- What is XML
- XML Documents & Syntax
- XML DTDs & Schemas
- XHTML
- XSLT, XPath and XQuery
- DOM

### 3.7.2. Course Details

It is a 45-day course, which requires a sound programming background (any language) with previous knowledge of HTML/CSS and familiarity with Web.

## 4. Visual Basic

Classic Visual Basic (often confused with VB.NET) is perhaps the most widely used Visual development language used till date. Majority of Windows programmers have graduated in Visual programming with VB finding the VC/VC++ way too complex & cumbersome.

### 4.1.1. Course Contents

- Visual Basic – The Language
- Forms & ActiveX Controls
- Graphics Programming
- Building ActiveX Components & OLE Automation
- Database Programming

### 4.1.2. Course Details

It is a 45-day course, which requires a programming background and familiarity with the Windows environment.

## 5. VC / VC++

VC/VC++ still (and probably will always) remain the most efficient interface to the Windows Operating system, providing direct access and communication with native Win API.

### 5.1.1. Course Contents

- Windows Programming Model
- Win32 API (GDI, Kernel & User)
- Dynamic Link Libraries (DLLs)
- Microsoft Foundation Classes (MFC)
- MVC Architecture

### 5.1.2. Course Details

It is a 30-day course, when any of VC or VC++ is taken individually and a 45-day course when they are taken together.

Previous programming experience (preferably in C/C++) and familiarity with Windows environment is desirable.

## 6. C / C++

C / C++ are the first programming languages for most beginners and rightly so, because of their simplicity, flexibility as well as power.

### 6.1. Programming in C / Object Oriented Programming with C++

#### 6.1.1. Course Contents

- Introduction to Procedural & Object-Oriented Programming
- Basic C/C++ concepts (Syntax, Control Statements, Data Types)
- Functions / Classes
- Array & String manipulation
- Pointers
- Console & File I/O
- Structures, Classes & Unions
- Interaction with Hardware (CPU & Graphics)

#### 6.1.2. Course Details

It is a 30-day course, when any of C or C++ is taken individually and a 45-day course when they are taken together.

The course can be taken by any beginner looking to plunge into the exciting world of programming.

### 6.2. Hardware Interaction through C

#### 6.2.1. Course Contents

- Introduction to Hardware Programming
- int86() function
- Graphics Programming
- Generating Sound
- Interacting with CPU
- Low-Level I/O
- Introduction to Assembly Programming in C

#### 6.2.2. Course Details

It is a 30-day course, for experienced C Programmers, looking to delve into Hardware Programming with C.

## 7. Data Systems

Perhaps no Software Project today can be undertaken without some kind of front-end or back-end Data Management. And today's contemporary Data Systems provide comprehensive solutions for almost all needs, which combined with Programming Environments like .NET or Java, or with an Application Framework, like DotNetNuke, can be leveraged to fulfill all needs.

### 7.1. Introduction to Data Systems

#### 7.1.1. Course Contents

- Data systems (Databases & DataBase Management Systems)
- 3-tier DBMS Architecture
- Entity-Relationship Model
- Relational Data Model & Relational Design (including Normalization)
- SQL – The Language of Databases
- Transaction Processing Concepts
- Concurrency Control & Recovery Techniques

#### 7.1.2. Course Details

It is a 30-day introductory course to Data systems, covering essential fundamentals to successfully leverage contemporary DBMSs. The course does not have any specific pre-requisites. However, a general awareness of Computer systems is desirable.

### 7.2. Advanced Data Systems

#### 7.2.1. Course Contents

- Extended ER Model
- Object Oriented Data Model & Object Relational Databases
- Database System Architectures
- Distributed Database Concepts
- Security & Performance Tuning
- Introduction to Enhanced Data Models (Active, Spatial Databases etc.)

#### 7.2.2. Course Details

It is a 30-day course, for experienced Database Users & SQL Programmers. Prior knowledge of Database Systems (preferable with some working experience on any DBMS) is required.

### 7.3. Data Mining & Warehousing

Databases have moved very quickly from transactional processing tasks to central, integrated repository of data, holding valuable, implicit information about the organization. While traditional DBMSs focused on executing clerical tasks through Databases, Warehousing & Mining aim to uncover intelligent, previously hidden or unknown information from data that can be used for making informed decisions by Higher Level Management personnel.

#### 7.3.1. Course Contents

- Introduction to Warehousing
- Principles of data Warehousing (Architecture & Design)
- OLAP & Data Mining
- Mining Primitives
- Mining Rules & Associations
- Classification & Prediction

#### 7.3.2. Course Details

It is a 30-day course, for experienced Database Users & SQL Programmers. Prior knowledge of Database Systems (preferable with some working experience on any DBMS) is required.

### 7.4. Oracle – Programming & Administration

#### 7.4.1. Course Contents

- Introduction to Oracle Server
- The Physical & Logical database
- Oracle Schema Objects
- PL/SQL
- Oracle Administration

#### 7.4.2. Course Details

It is a 30-day course. Although no previous working experience with any DBMS is assumed, but familiarity with Databases & Relational Database Concepts (Tables, Indexes, Views etc.) is required.

## 7.5. SQL Server – Programming & Administration

### 7.5.1. Course Contents

- Introduction to SQL Server
- T - SQL
- Introduction to .NET Framework inside SQL Server
- SQL - Server Security
- SQL Server Administration

### 7.5.2. Course Details

It is a 30-day course. Although no previous working experience with any DBMS is assumed, but familiarity with Databases & Relational Database Concepts (Tables, Indexes, Views etc.) is required.

## 7.6. MySQL – Programming & Administration

### 7.6.1. Course Contents

- Introduction to MySQL DBMS
- MySQL Tables & Storage Engines
- Working with Schema Objects
- My -- SQL
- MySQL Administration

### 7.6.2. Course Details

It is a 30-day course. Although no previous working experience with any DBMS is assumed, but familiarity with Databases & Relational Database Concepts (Tables, Indexes, Views etc.) is required.



## 8. Application Frameworks

Developer Productivity is the mantra of day. The demand for Software is far outpacing the developer's capability to produce it. The availability of well-designed, comprehensive frameworks greatly enhances the capability to produce quality software within the stipulated time periods.

### 8.1. Microsoft Foundation Classes (MFC)

#### 8.1.1. Course Contents

- Introduction to MFC
- Model-View-Controller Design Pattern
- Working with MFC classes

#### 8.1.2. Course Details

It is a 45-day course. Previous programming experience (preferably in C/C++) and familiarity with Windows environment is required.

### 8.2. DotNetNuke

DotNetNuke is unarguably one of the best, and most comprehensive Web Application Framework ever produced. Based on Microsoft's ASP.NET platform, DotNetNuke provided infinite customization and extensibility options.

#### 8.2.1. Course Contents

- Introduction to DotNetNuke
- Portal & Host Administration
- DotNetNuke Architecture
- Modules
- Skinning DotNetNuke
- Distribution

#### 8.2.2. Course Details

It is a 45-day course, for experienced Web developers. Familiarity with Microsoft's .NET platform and ASP.NET programming is required.

## 9. Theoretical Courses

Theoretical courses supplement the programming courses by introducing students to concepts (like Data Structures, Operating Systems) that are absolutely essential for programmers.

They can be taken by anyone with a general awareness about digital computers having some experience working on them. They can also be taken by Under-Graduate and Graduate students having them as part of their course syllabi.

## 10. Request-a-Course

One can request a course related to Developer Technologies, or their specific APIs or other IT-related topics (including theoretical courses). These would be mostly short-term courses (one to four weeks). For example, you can request a course specifically on say, Enterprise JavaBeans, or Digital Signatures, or Routing Protocols or Distributed Programming, etc.

These courses would provide an in-depth coverage of the requested material, and could be beneficial to practicing professionals, or research students etc. looking for a comprehensive coverage of their desired subject in a short duration.

One can also request the contents of any course to be customized according to specific needs.