

Unit1: Course Contents of Advanced Java

- Programming language Types and Paradigms.
- Computer Programming Hierarchy.
- How Computer Architecture Affects a Language ?
- Why Java ?
- Flavors of Java.
- Java Designing Goal.
- Role of Java Programmer in Industry.
- Features of Java Language.
- Collections Interface
- JVM –The heart of Java
- Java’s Magic Bytecode
- Use and Benefits of Inheritance in OOP
- Types of Inheritance in Java
- Inheriting Data Members and Methods
- The Collection Framework.
- Role of Constructors in inheritance
- Overriding Super Class Methods.
- Use of “super”.
- Polymorphism in inheritance.
- Type Compatibility and Conversion
- Implementing interfaces.

Unit2: Exception Handling

- Internet Addressing
- Multiple Thread Addressing on Single Object
- The Idea behind Exception
- Exceptions & Errors
- Types of Exception
- Control Flow In Exceptions
- JVM reaction to Exceptions
- Use of try, catch, finally, throw, throws in
- Exception Handling.
- In-built and User Defined Exceptions
- Checked and Un-Checked Exceptions

- Multithreaded Programming in java
- Intro to Java API.
- String & String Buffer Class in java.
- Wrapper Class and application
- I/O Basics in java

Unit3: Applets in java

- Applet & Application
- Applet Architecture.
- Parameters to Applet

Unit4: Introduction to Abstract Window Tool Kit (AWT) in java

- Components and Containers
- Basics of Components
- Using Containers
- Layout Managers
- AWT Componets
- Adding a Menu to Window
- Java Utilities (java.util Package)
- Project work and implementation in java.

Unit5: Swings framework in java

- Introduction to Swings framework
- Difference between java Swings frameworks & AWT
- Application of Swing framework components
- Menus and Menu bars in swing framework
- Tabbed pane in swing
- using Dialog boxes in swing
- Tables in swing
- Implementing Progress bar in swing
- Swing container and application
- Databases application in java

Unit6: Introduction to JDBC

- JDBC Drivers & Architecture
- Introduction to JAVA Database
- Connectivity (JDBC) in Java programming.
- Application of Java Database
- Connectivity (JDBC) in java programming.

Unit7: Java Servlet in java development

- Server side technologies in java development
- Servlet Life cycle
- Http & generic servlet
- Using JDBC in servlet
- Java 2 Platform (j2ee)

Unit8: JSP

- Architecture(Directives,Declaration,Scriptlets,Expression)
- Developing dynamic WebPages with jsp
- html in JSP pages and its application
- Mixing html with scriptlets and its application

Unit9: Hibernate framework application

- Introduction Working on Hibernate framework
- Introduction Hibernate framework , its advantage and disadvantage
- Introduction Using Hibernate framework in a live application
- JavaBeans API in java
- Java Beans advantages and its application
- Java Beans API detailed implementation

Unit10: Struts framework (J2EE)(Basic Details)

- Struts framework Architecture and details
- Struts frameworks Components
- Internationalization in struts frameworks
- Validator Framework in struts
- Error Handling in framework
- Database Connectivity in struts framework
- IDE (Integrated Development Environment)
- used with java development
- Edit Plus
- Text Pad

Unit11: MVC Architecture application

- Client & Web Tier Architecture application
- JSP Application deployment
- Basic Design and html
- HTML application
- CSS design
- XML design
- XHTML design
- AJAX design
- JSP application and development
- Transactions Using JSP
- Cookies & Session
- Management with JSP