Course Name	**IBM CE Project - Enterprise Application Development using Java/ J2EE**
Course Code	PROJSDLOIN
Course Duration	40+ 80 Hours
About the Technology	Lack of project exposure is one of the biggest challenges faced by IT companies while recruiting new hires like you. To bridge this gap, the IBM Career Education Program provides an opportunity in Experiential Learning to work on projects based on real-world problems, rather than industry simulations. Make the right beginning with a project that requires practical knowledge to back-up the theories you have mastered.
About the course	The IBM Career Education – Enterprise Application Project enables the student to roll out through all the phases of application development from Requirements to Deployment. These projects mainly focus on SDLC process and usage various tools for SDLC phases. Students get an opportunity to apply a chosen application development methodology and understand the workflow in each phase of SDLC.

Benefits for participants:

On completion of project students will learn:

- Requirements and its types
- Choosing amongst various process models / methodology that suit the requirements.
- Process of mapping requirements to analysis & design, development, testing
- Creating Analysis and design of an application using UML diagrams like Use Case, Class, Sequence, Activity-etc
- Accommodating non functional requirements while analyzing, designing, developing an application
- Creating Test cases for an application
- Establishing Traceability from Requirements to Test Cases
- Applying Object Oriented Programming concepts like re-usability, encapsulation, polymorphism, inheritance -etc in the development of an application.
- Concepts of Configuration Management like Version, Build – etc
- Manual Testing of an application.
- Best Practices of mentoring Engineering students on Projects

Artifacts from IBM:

- Abstract / Synopsis – giving synopsis of functional, non-functional requirements, tools & technologies to be used, higher level project description
- SRS /Usecase documents – giving scope, assumptions, need and objectives of the application. Higher level requirements of the application in the form of System Context Diagram, system level Use case Diagram, description of use cases. Sample database schema and Test cases are provided which need to be elaborated by students as required for the application under study.

End deliverables from students:

- Object Oriented Analysis & Design using UML.
- UML diagrams like Use Case, Class, Sequence, Activity, Object diagram using Rational RSA 7.5
- Database design

- Reach and user friendly User Interfaces
- Development of application using WAS toolkit
- Manual Testing of Application developed to show that all the specified requirements – Functional & Non Functional are met.
- Generation of various analytical reports as mentioned in the requirements.
- Running Deployable application.

Targeted Audience

Students of
– Engineering (CS, IT) – 4th Year
– MCA –2nd Year
– BSc, BA -3rd Year

Pre-requisites

To benefit from this course, students must:

- And have knowledge of

- Basic problem determination skills
- Software Development Life Cycle and different SDLC process models
- Basic network and operating system security concepts
- UML diagramming techniques like Class diagram, Use Case Diagram, Sequence Diagram, Activity diagram-etc
- Fundamentals of DBMS and database designing
- Basics of testing like types and levels of Testing, writing test cases
- Object Oriented Programming concepts
- Basic web application architecture and deployment
- Hands on experience on any Object Oriented Programming language like C++, Java, .Net -etc

Pre-requisites courses:

- IBM CE – Introduction to Object -Oriented Programming using Java
- IBM CE - Enterprise Applications Development using Rational Application Developer
- IBM CE - Learning SQL and DB Programming with DB2 (LUW)

Contents

IBM Career Education **Major Projects** include
- Bridge course on
  - Best Practices of programming including concepts of RUP
  - Introduction to DB2
  - Object Orient Modeling using RSA
  - Web Application Development & Deployment using RAD WAS 7.5

Key features:

- Choose from a variety of Real World minor projects *based on algorithmic requirements of current day enterprise programming challenges faced by customers, who have addressed the challenges using IBM Technologies*
- Learn & work with tools, methodologies and best practices used by the enterprises today
- Constant monitoring and mentoring by experts
- *Project evaluation, and certification by IBM* for each candidate who completes the

project

These projects mainly focus on building the students' skills on appreciating and understanding the methodology to developing effective algorithmic codes and develop interactive user experience, which is the key aspect for a successful project implementation.

On completion of project students will learn:
- How to design and develop projects
- Develop user experience
- Choosing amongst various process models / methodology that suit the requirements.

Details of the Bridge Course

Best Practices of Programming
- Introduction to SDLC
- Introduction to RUP
- Introduction to Agile

Introduction to DB2
- Module 1 Introduction to DB2 Environment
- Module 2 Simple SQL Queries
- Module 3 Functions - Scalar and Column
- Module 4 Using Subqueries
- Module 5 Maintaining Data
- Module 6 Integrating XML Contents with DB2

Object Orient Modeling using RSA
- Module 1 Principles of Visual Modeling
- Module 2 Concepts of Object Orientation
- Module 3 OOAD Process
- Module 4 Getting Started with RSA
- Module 5 Creating UML Models
- Module 6 Creating Use Case Diagrams
- Module 7 Creating Activity Diagram
- Module 8 Creating Class Diagram
- Module 9 Creating Interaction Diagrams

Web Application Development & Deployment using RAD WAS 7.5
- Module 10 Other UML Diagrams - Component and Deployment
- Module 1 JAVA EE Web Component Introduction
- Module 2 JAVA EE Container Services Overview
- Module 3 Servlets Overview and API
- Module 4 JSP Specification and Syntax
- Module 5 Supporting Perspectives for Developing JAVA EE Applications
- Module 6 Course Registration System Case Study Flow
- Module 7 Page Designer in Application Developer for JSP Development
- Module 8 Web Application Debugging
- Module 9 Servlet API
- Module 10 Web Archive Deployment Descriptor
- Module 11 JDBC API using RAD
- Module 12 Session State Storage Issues
- Module 13 HTTP Session: Management of Application Data
- Module 14 Best Practices for Session Management
- Module 15 Web Application Security

| **Applicable Certification** | - NA - |
| **Follow on courses** | -NA- |