Object-Orientated Systems Analysis & Design using UML

4 Days

TARGET AUDIENCE

Analysts and designers new to O-O and UML, or anyone carrying out those roles. It is also applicable for team leaders and project managers.

COURSE CONTENT

Introduction
Overview of OO development
Evolution of OO and OO methods
Introduction to the Unified Modelling Language

Object Technology Principles
Abstraction
Encapsulation
Inheritance and polymorphism
Classes
Objects
Attributes
Associations
Operations

Starting Analysis
Importance of a clearly defined system scope
Building a Use Case model
Actors
Activity diagrams

Specifying Detailed Requirements
Exploring Use Cases
Scenarios and sequence diagrams
Message passing

The Class Diagram
Modelling classes
Operations and attributes
Association and aggregation
Multiplicity and roles
Generalisation and specialisation
Inheritance
Examining Object Behaviour
Collecting object behaviour from sequence diagrams
Behaviour of objects over time
States
Events and transitions
Object actions
Advanced state diagramming techniques

Analysis Deliverables
Analysis completeness and consistency
Transitioning to design
Design overview

The Unified Process
The four phases
Inception
Elaboration
Construction
Transition
The iterative and incremental lifecycle

Detailed Design
Revisiting the model with a software perspective
Producing a software view
Investigating object collaboration
Adding design detail: sequencing, iterations, collections.

Class and Association Design
Determining well-formed classes
Coupling and cohesion
Specifying association navigation
Specifying association implementation
Looking at aggregation: by-value and by-reference

Interface Design
Defining interfaces
Inheritance of interface and inheritance of implementation