

# **Unified Modeling Language (UML) and Unified Software Development Process**

## **(Two day Workshop)**

### **About the Course**

This course introduces the major elements of the Unified Modeling Language and the Unified Software Development Process.

Purpose and some of the Basic Principles of the Unified Software Development Process are discussed in brief. A detailed discussion on Use Case, Sequence Diagram, Class Diagram, Interface Based Design is taken up. The course also addresses practical issues like how to layer a system into packages and modelling dynamic behaviour using Collaboration, State chart and Activity Diagrams

The theory presented during the course is supported by a number of practical exercises and case study that demonstrate the concept of UML.

### **Workshop objectives**

- ❖ The participants will develop a clear understanding of the purpose and parts of the Unified Modelling Language (UML)
- ❖ Will be able to drive the Development of a System Using Use Cases
- ❖ Describe how Objects Interact Using a Sequence Diagram
- ❖ Create Class and Object Diagrams, Interface Based Design
- ❖ Layer a System into Packages and model dynamic behaviour using Collaboration, State chart and Activity Diagrams

### **Workshop Contents**

The two day workshop would cover the topics as noted below. There would be exercises at appropriate junction points to elaborate and understand the concepts.

Introduction

Basic principles of Unified Software Development Process

- What is UML
- Goals of UML
- Why UML

Types of UML diagram

## Use Case Modelling

- Use Case diagram##
  - Benefits of Use Case
  - Identification of components of the Use Case diagram

## Logical Modelling

- Class diagram##

## Interaction or Communication Modelling

- Sequence diagram##
- Collaboration diagram##
- State diagram##
- Activity diagram##

## Physical Modelling

- Component diagram
- Deployment diagram

Code generation using any standard tool (Star UML / My Eclipse)

Code example discussion in Java

Review and Conclusion

# Each of these topics will be discussed in the following format:

- When to use
- How to draw
- Tool

Note:

1. Bonus topic - Additional coverage on Introduction to model driven code generation would be provided
2. Hand-on exercise and Case Study would cover salient features discussed in the workshop