

Visual Modeling with UML 2

Overview

This one-day course is a focused and pragmatic introduction and survey of visual modeling practice using the Unified Modeling Language (UML) version 2. It can be a first step toward formal training in object-oriented analysis and design, or it can fulfill a need for a broad understanding of UML without a need for detail that the student may not need or is not prepared to absorb.

This course provides a concise overview of object-orientation, clearly defining the distinctive properties of classes versus objects and how to think qualitatively about object-orientation while remaining independent of any specific implementation or programming language. The course discusses and offers examples of all 13 diagrams in UML version 2, but focuses on the five “core” diagrams needed most frequently for business analysis and software projects.

Note: No computers or software modeling tools are used in this course.

Audience

Anyone desiring a clear understanding of the diagrams in UML 2, the benefits of each, plus when to use and how to construct each diagram.

Prerequisites

None

Objectives

At the end of the course, the student will be able to:

- Identify the 13 diagrams in UML version 2
- Identify the partitioning of these diagrams into the structural and behavioral categories of UML
- Articulate the intent and syntax of the five “core” UML diagrams used most frequently
- Understand and apply the class diagram relationships of association, aggregation, composition, and inheritance (generalization)
- Identify when to use each diagram on a software project

Outline

Introduction to Classes and Objects

UML Overview

- The 13 Diagrams
- The Five “Core” UML Diagrams

UML Use Case Diagram

- Diagram Example
- Student Exercise

UML Class Diagram

UML Class Diagram Relationships

- Association
- Aggregation
- Composition
- Diagram Example
- Student Exercise
- Inheritance
- Diagram Example
- Student Exercise

The UML Behavioral Diagrams

UML Sequence Diagram

- Diagram Example
- Student Exercise

UML State Machine Diagram

- Diagram Example
- Student Exercise

UML Activity Diagram

- Diagram Example
- Student Exercise

Wrap Up

References

UML 2 Notation Reference