

Unified Modeling Language (UML)

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Discussion

The Unified Modeling Language (UML) is a general-purpose modeling language developed and maintained by the Object Management Group (OMG). UML provides formally defined constructs and graphical notations for representing the structure and behavior of systems, particularly software-intensive systems.

UML supports the representation of concerns such as:

- Classes and objects
- Components
- Interfaces
- Activities
- Interactions
- State machines
- Use cases
- Deployments
- Packages
- Relationships among model elements

UML defines a modeling language rather than a software development method, an implementation platform, a programming language, or a tool. Development methods and modeling practices may use UML while imposing additional conventions, processes, and constraints.

UML also provides a foundation for profiles that specialize the language for particular domains or purposes. SysML v1 was defined as a UML profile with additional systems-engineering constructs and restrictions. SysML v2 no longer depends on UML in the same manner.

Definition

General-purpose modeling language for representing the structure and behavior of systems.

Source

- Object Management Group, Unified Modeling Language version 2.5.1, <https://www.omg.org/spec/UML/2.5.1/>
- ISO/IEC 19505, Information technology — Object Management Group Unified Modeling Language

Note

A diagram that uses boxes, lines, and arrows does not necessarily constitute a UML model. A UML model uses constructs whose syntax and meaning conform to the UML specification.

UML does not prescribe a specific development process, programming language, runtime platform, or implementation architecture.

Example

A software architect may use a UML component diagram to represent software components and their provided and required interfaces, and use an activity diagram to represent the flow of behavior among those components.

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