Component Diagram

Component diagrams are different in terms of nature and behaviour. Component diagrams are used to model the physical aspects of a system. Physical aspects are the elements such as executables, libraries, files, documents, etc. which reside in a node.

Component diagrams are used to visualize the organization and relationships among components in a system. These diagrams are also used to make executable systems.

Purpose of Component Diagrams

Component diagram is a special kind of diagram in UML. The purpose is also different from all other diagrams discussed so far. It does not describe the functionality of the system but it describes the components used to make those functionalities.

A single component diagram cannot represent the entire system but a collection of diagrams is used to represent the whole.

The purpose of the component diagram can be summarized as −

- Visualize the components of a system.
- Construct executables by using forward and reverse engineering.
- Describe the organization and relationships of the components.

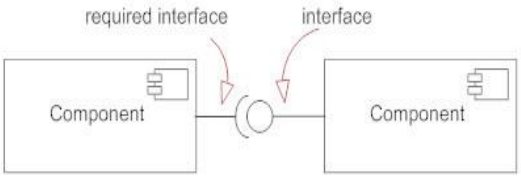
Basic Component Diagram Symbols and Notations

Component

A component is a logical unit block of the system. It is represented as a rectangle with a smaller rectangle in the upper right corner with tabs

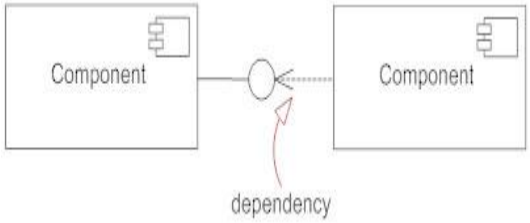
Interface

An interface describes a group of operations used or created by components. A full circle represents an interface created or provided by the component. A semi-circle represents a required interface, like a person's input.



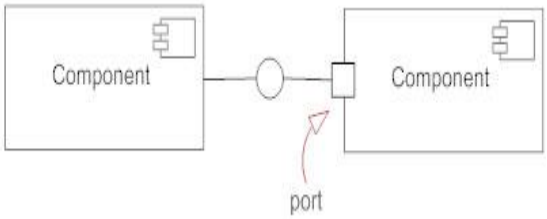
Dependencies

Draw dependencies among components using dashed arrows.



Port

Ports are represented using a square along the edge of the system or a component. A port is often used to help expose required and provided interfaces of a component.



Relationships	Notation
Association: • An association specifies a semantic relationship that can occur between typed instances.	
Composition: • Composite aggregation is a strong form of aggregation that requires a part instance be included in at most one composite at a time.	
Aggregation • A kind of association that has one of its end marked shared as kind of aggregation, meaning that it has a shared aggregation.	
Links: • A generalization is a taxonomic relationship between a more general classifier and a more specific classifier.	