Deployment

Software deployment

- Software deployment is all of the activities that make a software system available for use.

- The general deployment process consists of several interrelated activities with possible transitions between them.

- These activities can occur at the producer site or at the consumer site or both.

Software deployment

- Because every software is unique, the precise processes or procedures within each activity can hardly be defined.

- Therefore, "deployment" should be interpreted as a general process that has to be customized according to specific requirements or characteristics.

Common Tasks Within Software Deployment

- Release
- Install
- Activate
- Deactivate
- Update
- Adapt
- Deinstall
- Retire

Release

- The release activity is the interface of the deployment process with the development process.

- It includes all the operations to prepare a system for assembly and transfer to the customer site.

- Therefore, it must determine the resources required to operate at the customer site and collect information for carrying out subsequent activities of deployment process.

Install

- The installation is the initial insertion of software into a customer site.
- Currently, this activity is best supported by specialized tools.
- The two sub-activities are transfer and configure.
  - The former one is to transfer the product from the producer site to the customer site,
  - while the latter one refers to all the configuration operations that make the system ready for customer uses.

Activate

- Activation is the activity of starting up the executable component of software.

- For simple system, it involves establishing some form of command for execution.

- For complex system, it should make all the supporting systems ready to use.

Deactivate

- Deactivation is the inverse of activation.
- It is to shut down every executing component for an installed system.

Update

- Updating is a process of installing a new version of a system / software.

- It can be considered as a less complex installation process since many of the needed resource have already been inserted during the installation.

- So, same to installation, it includes 2 sub-activities of transfer and configure.

Adapt

- The adaptation activity is also a process to modify a software system that has been previously installed.

- It differs from updating in that adaptations are initialed by local events such as changing the environment of customer site, while updating is mostly started from remote software producer.
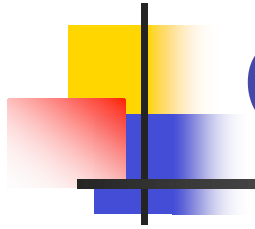
Deinstall

- Deinstallation is the inverse of installation.

- It is a remove of a system that is no longer required.

- It also involves some reconfiguration of other software systems in order to remove the deinstalled system' files and dependencies.
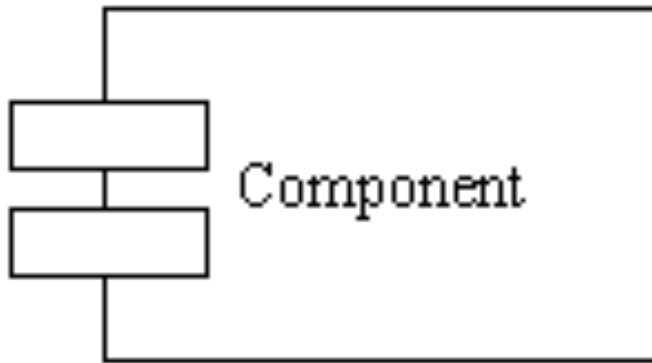
Retire

- Ultimately, a software system is marked as obsolete and support by the producers is withdrawn.

- It is the end of the life cycle of a software product.
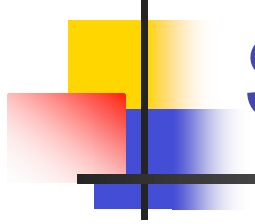
Components

- A component is a code module.

- Component diagrams are physical analogs of class diagram.

- A component diagram describes the organization of the physical components in a system.

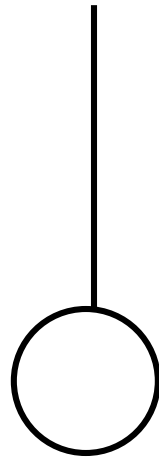# Basic Component Diagram Symbols and Notations

Component

- A component is a physical building block of the system. It is represented as a rectangle with tabs.

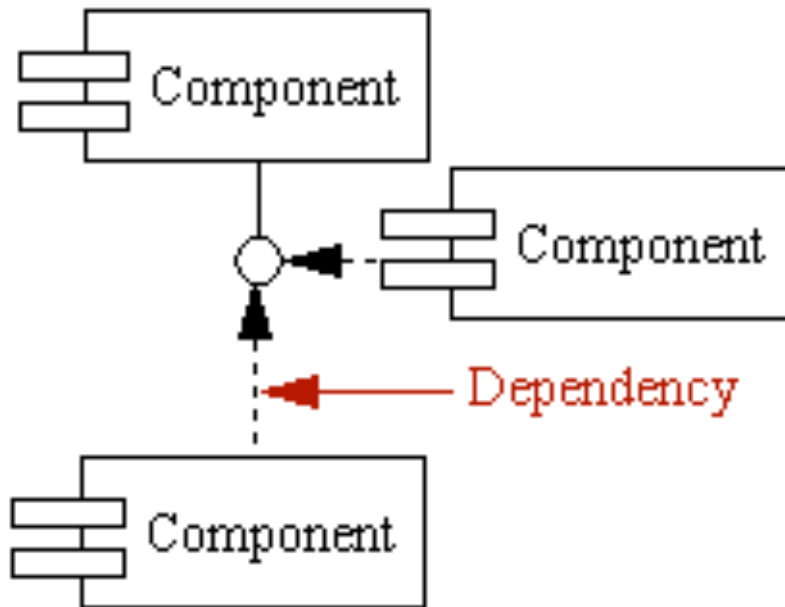# Basic Component Diagram Symbols and Notations

- Interface
  - An interface describes a group of operations used or created by components.
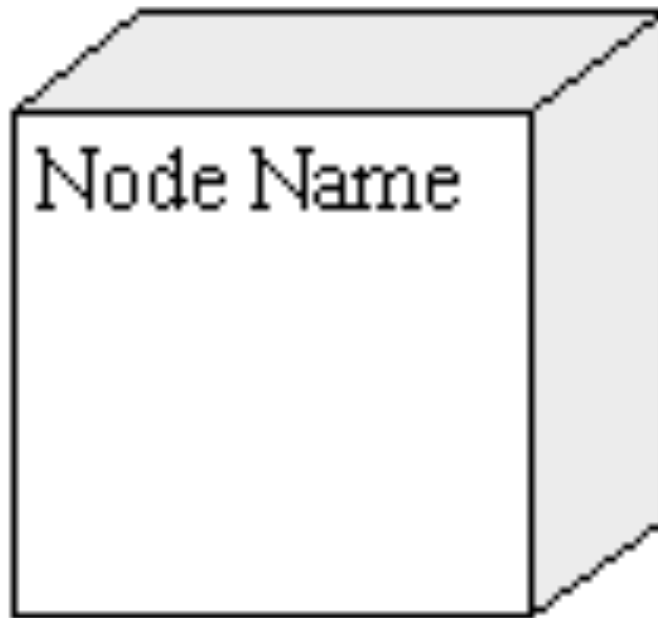
Basic Component Diagram Symbols and Notations

- Dependencies
  - Draw dependencies among components using dashed arrows.
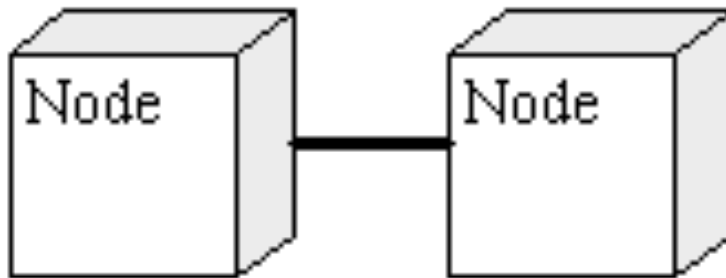
Deployment diagrams

- Deployment diagrams show the physical configurations of software and hardware.

- They depict the physical resources in a system including nodes, components, and connections.

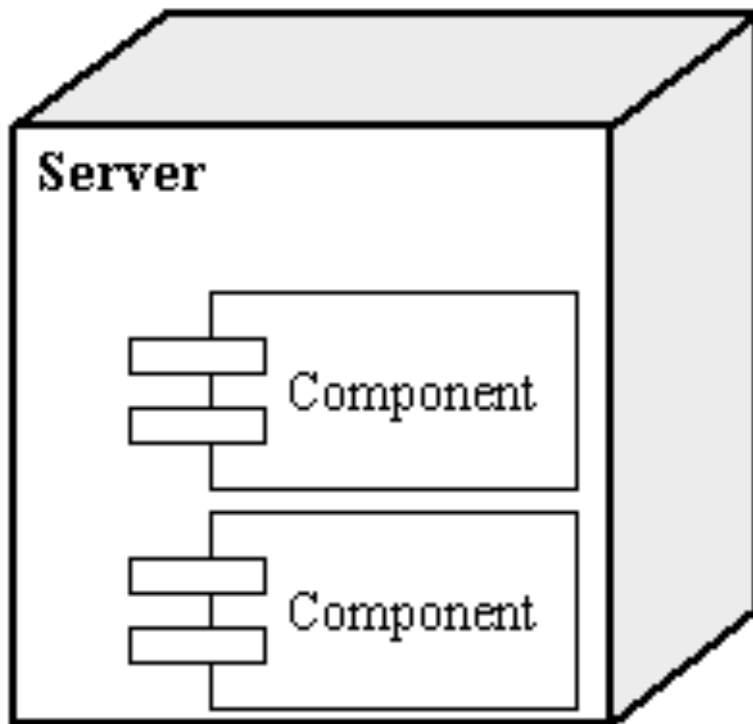# Basic Deployment Diagram Symbols and Notations

Node Name

- Node
  - A node is a physical resource that executes code components.

Basic Deployment Diagram Symbols and Notations

- Association
  - Association refers to a physical connection between nodes, such as Ethernet.

Basic Deployment Diagram Symbols and Notations

- Components and Nodes
    - Place components inside the node that deploys them.
- The following deployment diagram shows the relationships among software and hardware components involved in real estate transactions.

Deployment Diagram of Real Estate Transactions