

Intern

COMP90007 2021 Semester 1
Tutorial 01

1. Provide a definition of a Distributed System

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- A system in which hardware or software components located at networked computers communicate and coordinate their actions only by passing message [Coulouris]
- A collection of independent computers that appears to its users as a single coherent system [Tanenbaum]

2. Briefly explain the difference between a computer network and a distributed system.

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A Computer Network: Is a collection of spatially separated, interconnected computers that exchange messages based on specific protocols. Computers are addressed by IP addresses.

A Distributed System: Multiple computers on the network working together as a system. The spatial separation of computers and communication aspects are hidden from users.

3. List three reasons for using a distributed system.

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- Economy (cost effective)
- Reliability (fault tolerance)
- Availability (high uptime)
- Scalability (extendible)
- Functional Separation (Modularity)

The main motivation to build and use distributed systems is Resource Sharing

- Hardware Resources (Disks, printers, scanners etc.)
- Software Resources (Files, databases etc)
- Other (Processing power, memory, bandwidth)

4. Briefly explain four consequences when using distributed systems, i.e. issues that arise that are not present otherwise.

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- Concurrency
- Heterogeneity
- No Global Clock
- Independent Failures

Java IDE

IDE - Integrated Development Environment

Used to facilitate development, options available:

- Eclipse (supported by this subject)
- IntelliJ
- Netbeans

You can use any IDE of your choice

Quick Eclipse Demo

- Create a new Eclipse project
- Add a JAR file (internal / external)
- Build an executable jar file

Create a new Eclipse Project

http://www.tutorialspoint.com/eclipse/eclipse_create_java_project.htm

Build an executable jarfile

- Export a Jar
- Execute Program using Jar

Add a JAR file (internal / external)

Command Line Arguments