

MOBILE APPLICATION LANGUAGES AND FRAMEWORK— XML, Java, JME, Python and DotNet

Lesson 02

Java Platform, Enterprise Edition

**[Java 2 Enterprise Edition (J2EE) now
Jakarta EE]**

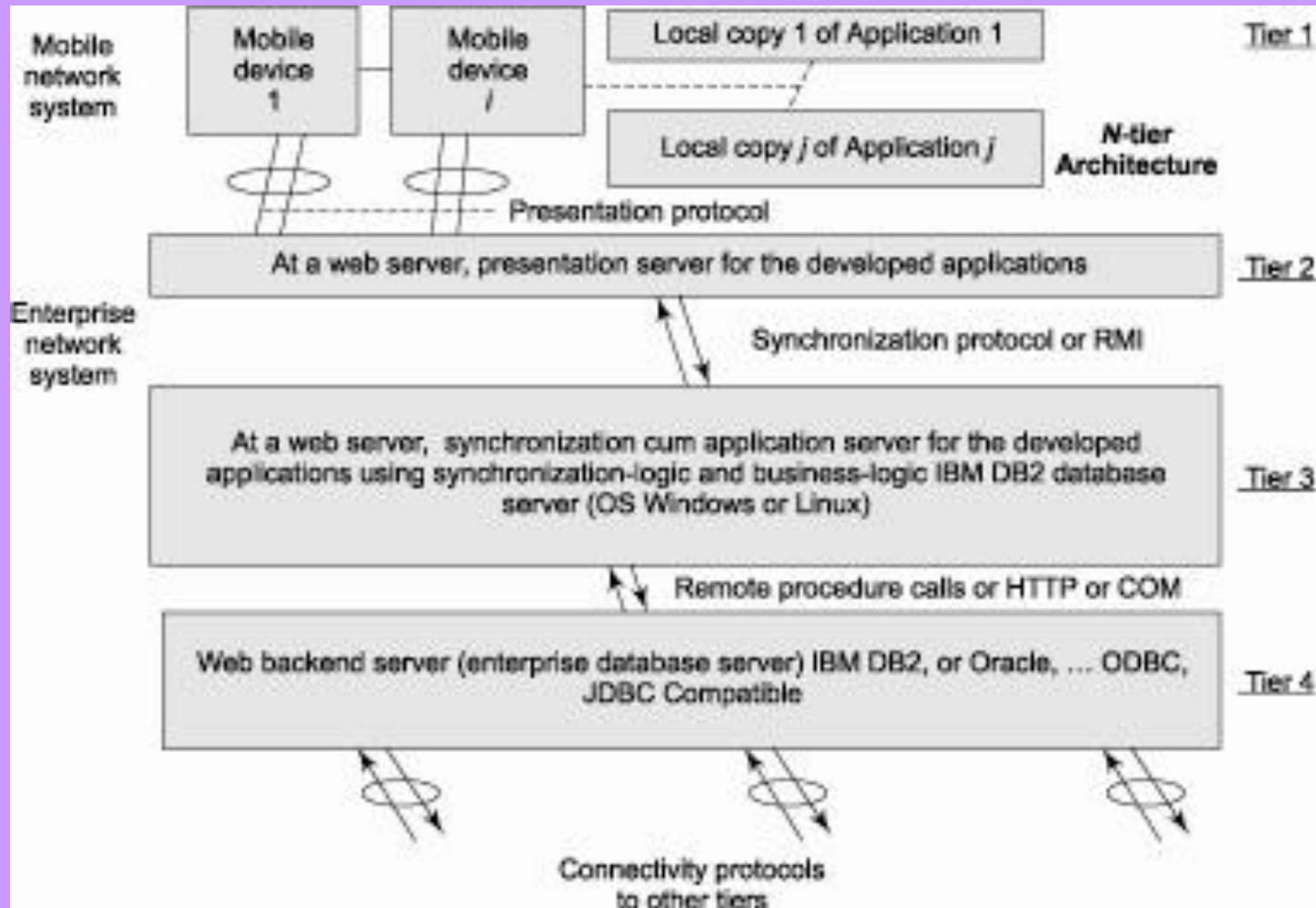
JAVA ENTERPRISE EDITION (JEE)

- JEE 8 latest version (August 2017) now called Jakarta EE and is owned by Eclipse Foundation
- Used for web-, web-service and enterprise-server-based programming of the applications; JEE *application* distribution across the multiple computing tiers

JEE SPECIFICATIONS

1. Web specifications
2. Web service specifications
3. Enterprise specifications
4. Other specifications

N-TIER ARCHITECTURE IN WHICH A CLIENT-DEVICE CONNECTS TO THE ENTERPRISE DATABASES



ENTERPRISE JAVA BEAN (EJB)

- A component at a server in an enterprise application
- It is managed such that it leads to a modular design
- Each EJB encapsulates a business logic of the application

ENTERPRISE JAVA BEAN (EJB)

- EJBs are configurable components. EJBs enable persistency of the application components
- An application *server* manages the security, scalability, transactions, and concurrent execution of the applications deploying the EJBs

JEE SUPPORT TO THE APIs

- XML
- Web services
- Email
- RMI (remote method invocation) by using the package `java.rmi`

JEE SUPPORT TO THE APIS

- JMS (Java messaging service) [A middleware API for interchanging messages between two or more clients]
- JDBC (Java database connectivity)
- JTA (Java transaction API)

JEE SUPPORT TO THE APIs

- Servlets (to dynamically render the response to the client request), Java server pages (JSPs) (to create dynamic contents), and Java Portlet
- JNDI (Java Naming and Directory Interface) to provide lookup services to enterprise directory

JEE CONTAINER

- Has EJBs as Session Beans and Entity Beans
- Provides transactions, security, scalability, pooling of the resources, and concurrent execution of the applications
- Resources pooled by transactions between Entity Beans and backend servers for the resource at the enterprise tier

ENTITY BEANS

- Connect to enterprise tier which can have a database server or which connects to the distributed objects at higher tiers

TRANSACTIONS PERSISTENCY

- Maintained for data at enterprise server
- When data persists in a number of objects and files, maintaining persistency means that if a record is modified at a stored object, then the same modification is carried out in all the other objects using the same record

EXAMPLE

- If a user using a menu in an application changes email ID of a contact in a mobile device, then the changes are also made at each and every occurrence of that email ID for that contact
- The contact data is said to be maintain persistency

SESSION BEANS

- Establish a session between client request and server responses
- The transactions take place between the client and Session Beans

SUMMARY

- Used for web-, web-service and enterprise-server-based programming of the applications
- JEE used in applications needing enterprise server connections

...SUMMARY

- N tier client server computing environment
- Distribution components across the multiple computing tiers

End of Lesson 02

**Java Platform, Enterprise Edition
[Java 2 Enterprise Edition (J2EE) now
Jakarta EE]**