

Java-Success.com

[Register](#) | [Login](#) | [Logout](#) | [Contact Us](#)

Industrial strength Java/JEE Career Companion to open more doors

[Home](#)
[Java FAQs](#)
[600+ Java Q&As](#)
[Career](#)
[Tutorials](#)
[Member](#)
[Why?](#)
[Can u Debug?](#)
[Java 8 ready?](#)
[Top X](#)
[Productivity Tools](#)
[Judging Experience?](#)

[Home](#) › [Interview](#) › [Pressed for time? Java/JEE Interview FAQs](#) › [Java Application Architecture Interview Essentials](#) › 001A: ♦ 7+ Java integration styles & patterns interview questions & answers

001A: ♦ 7+ Java integration styles & patterns interview questions & answers

Posted on [August 28, 2014](#) by [Arulkumaran Kumaraswamipillai](#)

40
Like
Share

Tweet

5
G+1

65

Share

Architectural and integration style diagrams with 5 questions frequently asked in Java job interviews. The depth of the answers you provide with diagrams and design alternatives will go a long way.

[Part-2: Java architecture Interview Questions & answers Q3 – Q7 with conceptual diagrams](#)

600+ Full Stack Java/JEE Interview Q&As ♥Free ♦FAQs

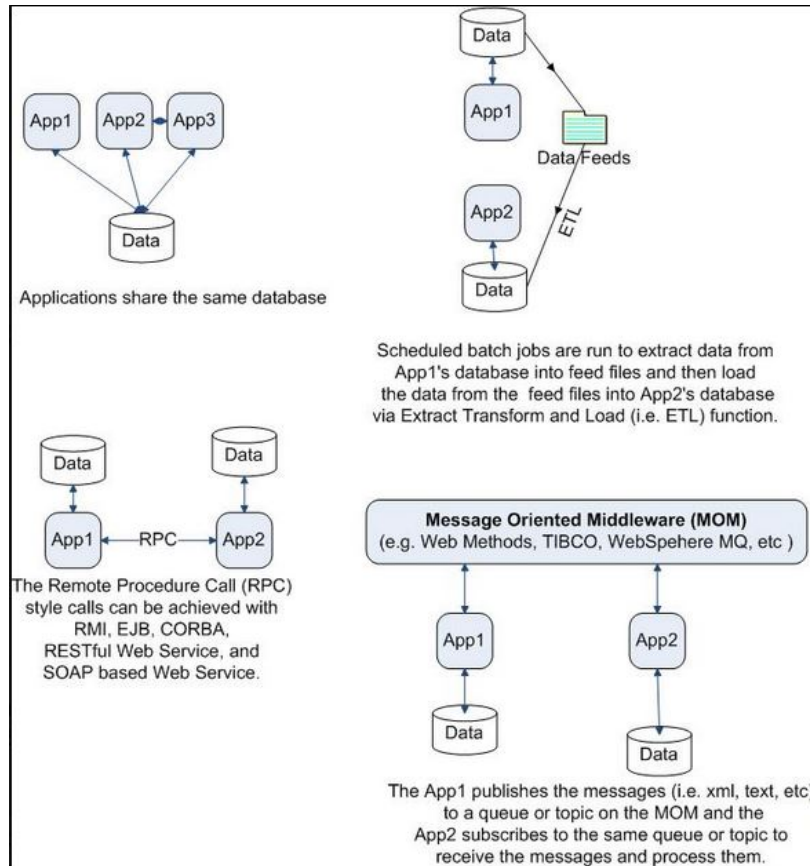
[open all](#) | [close all](#)

- ✚ [Ice Breaker Interview](#)
- ✚ [Core Java Interview C](#)
- ✚ [JEE Interview Q&A \(3](#)
- ✚ [Pressed for time? Jav](#)
- ✚ [Job Interview Ice B](#)
- ✚ [FAQ Core Java Jot](#)
- ✚ [FAQ JEE Job Inter](#)
- ✚ [FAQ Java Web Ser](#)
- ✚ [Java Application Ar](#)
- ✚ [001A: ♦ 7+ Java](#)
- ✚ [001B: ♦ Java arc](#)
- ✚ [04: ♦ How to go](#)
- ✚ [Hibernate Job Inter](#)
- ✚ [Spring Job Interview](#)
- ✚ [Java Key Area Ess](#)
- ✚ [OOP & FP Essential](#)
- ✚ [Code Quality Job In](#)
- ✚ [SQL, XML, UML, JSC](#)
- ✚ [Hadoop & BigData Int](#)
- ✚ [Java Architecture Inte](#)
- ✚ [♥♦ 01: 30+ Writing](#)

Q1. What are the different application integration styles?

A1. There are a number of different integration styles like

1. Shared database
2. batch file transfer
3. Invoking remote procedures (RPC)
4. Exchanging asynchronous messages over a message oriented middle-ware (MOM).



Integration Styles

Q2. How does a Java EE application integrate with other systems?

A2. Using various protocols like HTTP(S), SOAP, RMI, FTP, TCP, proprietary, etc.

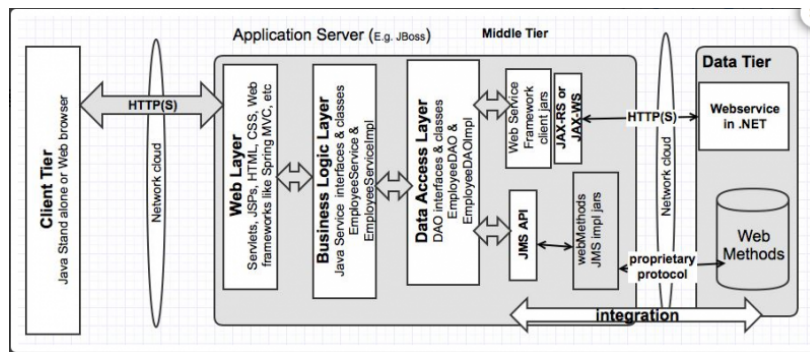
[001A: ♦ 7+ Java int](#)
[001B: ♦ Java archil](#)
[01: ♥♦ 40+ Java W](#)
[02: ♥♦ 13 Tips to w](#)
[03: ♦ What should I](#)
[04: ♦ How to go ab](#)
[05: ETL architectur](#)
[1. Asynchronous pi](#)
[2. Asynchronous pi](#)
[Scala Interview Q&As](#)
[Spring, Hibernate, & I](#)
[Testing & Profiling/Sa](#)
[Other Interview Q&A I](#)
[Free Java Interview](#)

16 Technical Key Areas

[open all](#) | [close all](#)

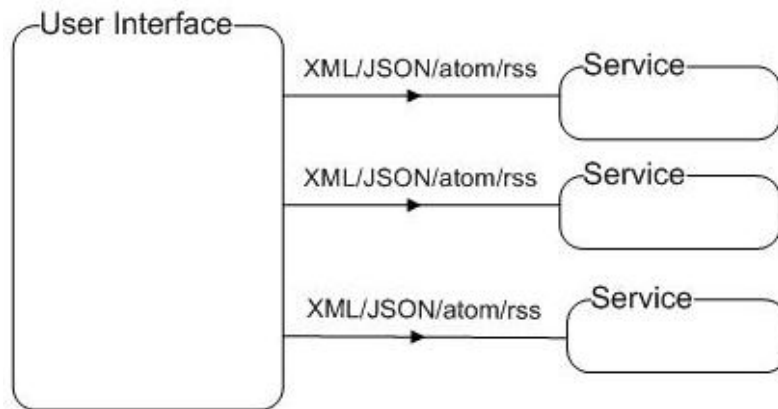
- [Best Practice \(6\)](#)
- [Coding \(26\)](#)
- [Concurrency \(6\)](#)
- [Design Concepts \(7\)](#)
- [Design Patterns \(11\)](#)
- [Exception Handling \(3\)](#)
- [Java Debugging \(21\)](#)
- [Judging Experience I](#)
- [Low Latency \(7\)](#)
- [Memory Management](#)
- [Performance \(13\)](#)
- [QoS \(8\)](#)
- [Scalability \(4\)](#)
- [SDLC \(6\)](#)
- [Security \(13\)](#)
- [Transaction Managen](#)

80+ step by step Java



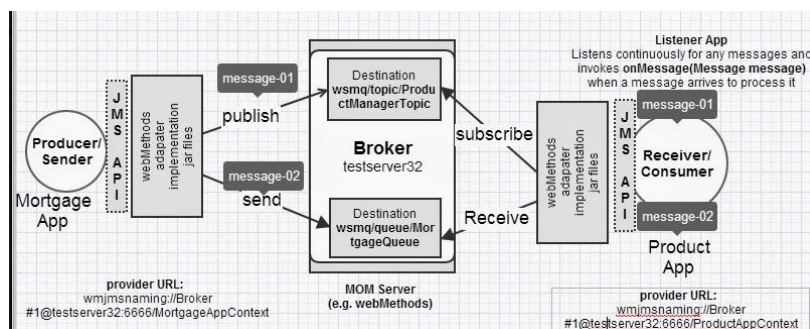
JEE Big Picture

1) **SOAP WS** (Apache CXF) and **RESTful** (Apache CXF, RESTEasy, Jersey, etc) Web Service. RESTful Web Service is more prevalent.



RESTful Service Calls

2) **Messaging** with JMS. With JMS, you can switch from one JMS compliant message broker (e.g. Web Methods) with another one (e.g. MQSeries or WebsphereMQ) with little or no changes to your source code.



Tutorials

[open all](#) | [close all](#)

- [Setting up Tutorial \(6\)](#)
- [Tutorial - Diagnosis \(2\)](#)
- [Akka Tutorial \(9\)](#)
- [Core Java Tutorials \(2\)](#)
- [Hadoop & Spark Tuto](#)
- [JEE Tutorials \(19\)](#)
- [Scala Tutorials \(1\)](#)
- [Spring & Hibernate T](#)
- [Tools Tutorials \(19\)](#)
- [Other Tutorials \(45\)](#)

100+ Java pre-interview coding tests

[open all](#) | [close all](#)

- [Can you write code? \(1\)](#)
- [Complete the given](#)
- [Converting from A to I](#)
- [Designing your classe](#)
- [Java Data Structures](#)
- [Passing the unit tests](#)
- [What is wrong with th](#)
- [Writing Code Home A](#)
- [Written Test Core Jav](#)
- [Written Test JEE \(1\)](#)

How good are your?

[open all](#) | [close all](#)

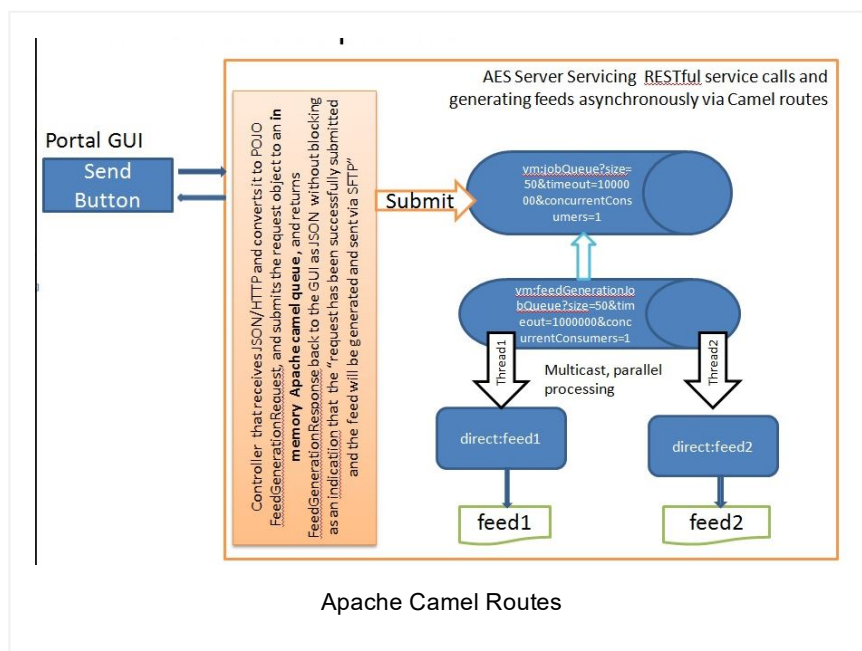
- [Career Making Know](#)
- [Job Hunting & Resum](#)

JMS

3) **JavaMail** for sending emails and Simplewire Java **SMS** to send SMSs.

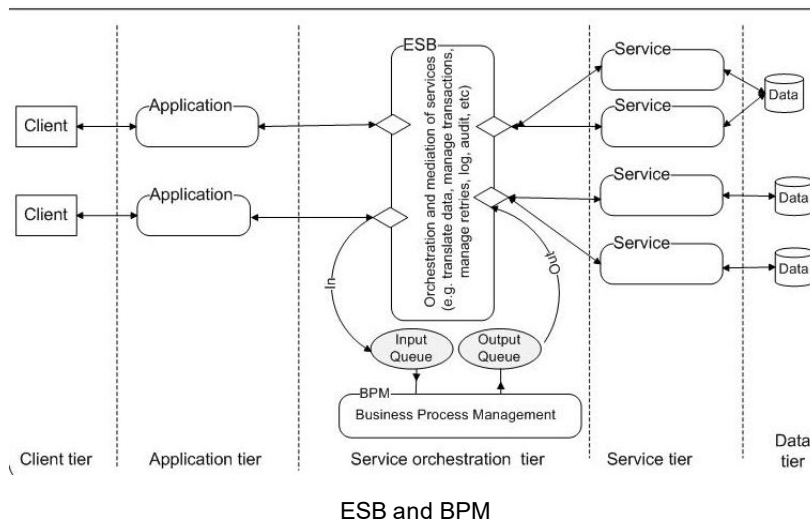
4) Overnight **batch job runs** to load data feeds with Spring batch or the new JEE batch jobs. These are ETL(Extract Transform and Load) tasks.

5) Using open source **integration frameworks** like Spring Integration or Apache Camel. This helps you integrate systems in a standardised way adhering to the enterprise integration patterns (EIP). Apache Camel is a light weight integration framework that allows you to use HTTP, FTP, JMS, EJB, JPA, RMI, JMS, JMX, LDAP, and Netty to name a few.

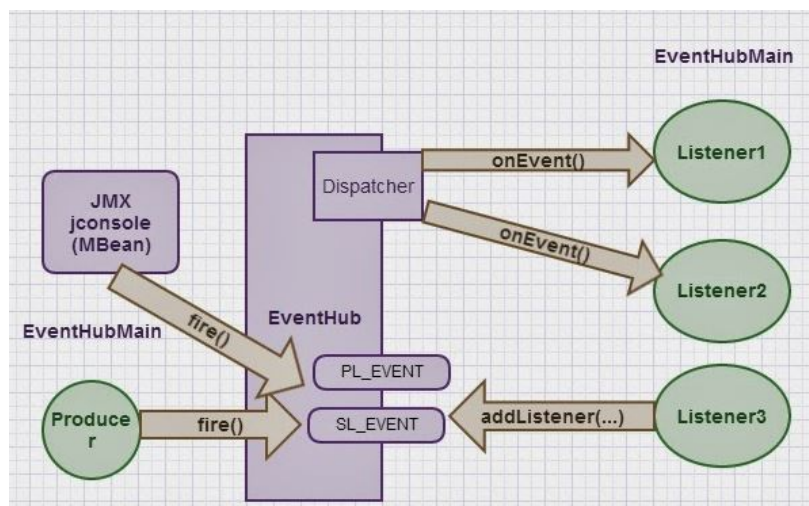


6) Using an **ESB** (Enterprise Service Bus) to integrate your applications. For example, Oracle Service Bus, TIBCO ESB, webMethods, Mule, etc. Under the hood, the ESB also uses an integration framework and provide more services and management functionalities like monitoring, high availability, clustering, graphical user interface for routing and configuring, etc. Usually, an ESB is a complex and powerful product with a higher learning curve. Suited for very large integration

projects. Projects requiring BPM (Business Process Management) integration and other integrated services like monitoring, clustering, etc. Mule does provide proprietary connector support for systems like SAP, Tibco Rendezvous, PayPal, Sibel CRM, IBM's CICS, etc.



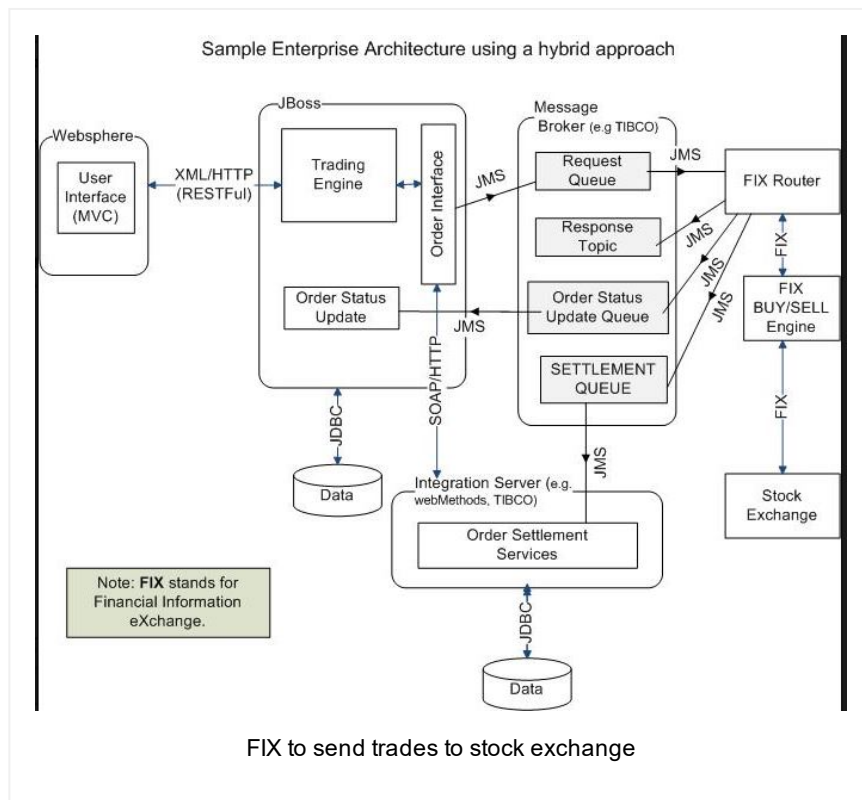
7) **TCP** based socket level integration. MINA is a popular framework for TCP based non blocking socket level communication. MINA is based on EDA (Event Driven Architecture). In EDA, Both the “Event” producers and listeners are loosely coupled via an “EventHub” and “Event”. An “EventHub” is used to register and unregister listeners.



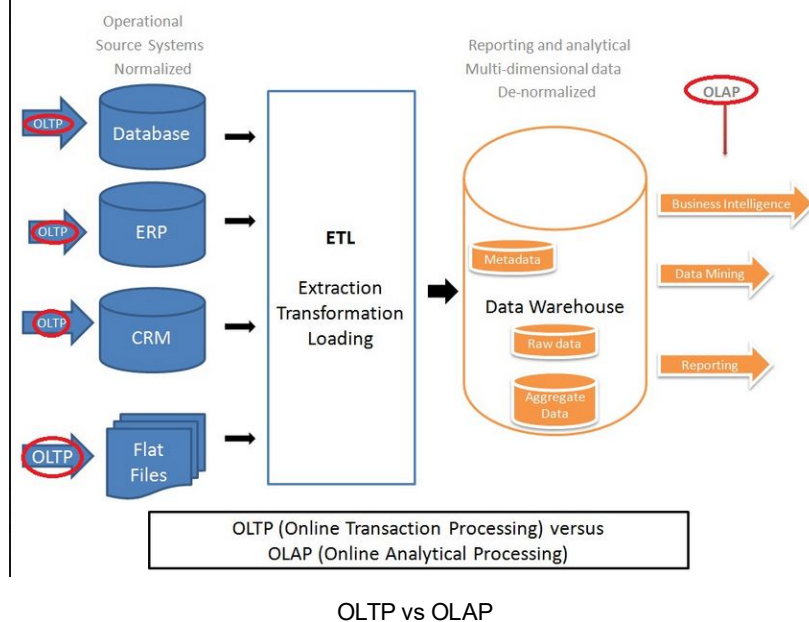
EDA (Event Driven ARchitecture)

8) Invoking **remote procedures via RMI, Burlap, and Hessian**. Burlap/Hessian remote objects are just ordinary Java objects that implement some interfaces. They don't require special proxy, home, or remote classes. One of the inherent benefits of this object-and-interface model is that it promotes the good object-oriented design practice of design by interface.

9) **FIX protocol** to exchange financial information. FIX stands for Financial Information eXchange, which is an open protocol intended to streamline electronic communications in the financial securities industry. Most of the exchanges use this standard for communication like sending Order, Executions, MarketData, etc. QuickFIX/J and CameronFIX are popular FIX frameworks for Java.

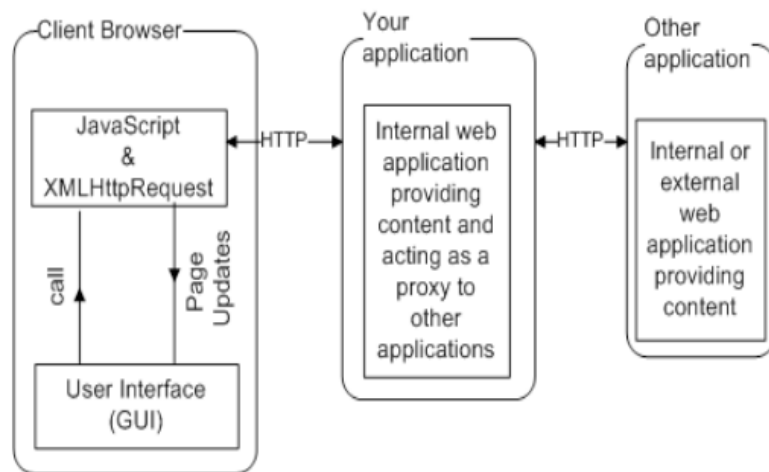


10) Integration with **data-warehouse** systems for multi-dimensional reporting. OLTP (OnLine Transaction Processing) data is summarised and sent to **OLAP** (OnLine Analytical Processing) systems for business intelligence, data mining, and complex reporting. IBM Cognos, JasperSoft, Oracle Enterprise BI server, etc are OLAP systems. There



11) Server side and client side **mashups**. Merging of services and content from multiple web sites in an integrated and coherent way is called a mashup.

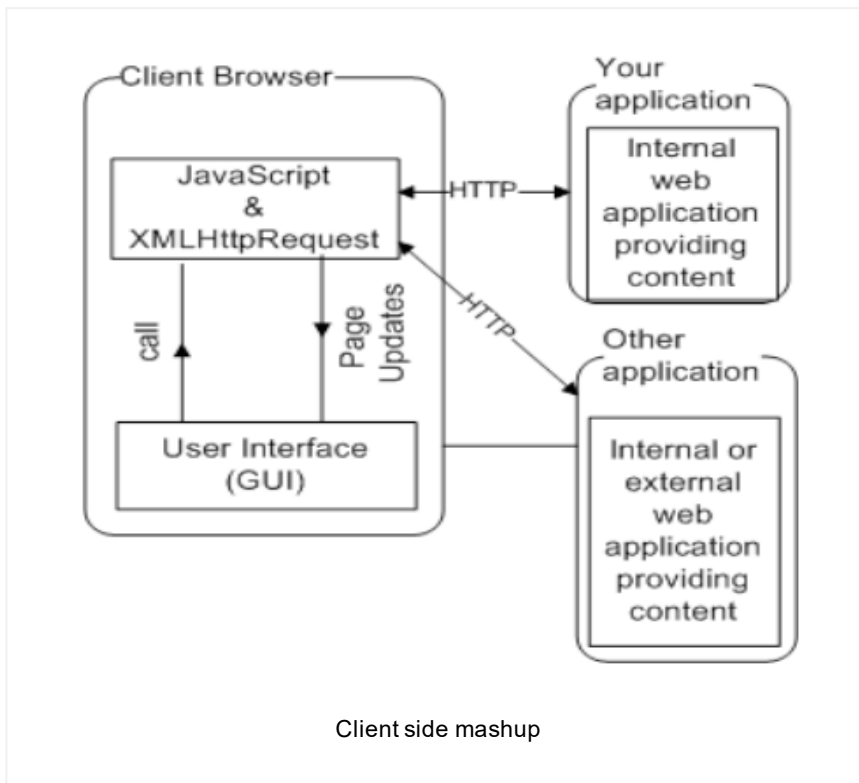
A **server-side mash-up** integrates content in the server and pass it to the client. Hence this style of mash-up is also called a proxy-style mash up because the server acts as a proxy.



Server side mashup

A **client side mash-up** integrate services and content on the client by mashing up directly with the other web applications' data or functionality. You also need to be aware of the cross

domain restrictions imposed by JavaScript for Ajax calls and you can overcome these restrictions with JSONP or CORS (Cross Origin Resource Sharing). The **CORS** is more industrial strength solution.



Part-2 covers following Java architecture Interview Questions & answers Q3 – Q7 with diagrams

- Q3.** Can you discuss some of the high level architectures you are experienced with?
- Q4.** In your experience, what are some of the common architectural and development mistakes?
- Q5.** What causes performance issues in Java?
- Q6.** In your experience, what are some of the key security considerations in an enterprise Java application?
- Q7.** Can you list some key software design principles?

More white board session links

- 1) What should be a typical Java EE architecture?

- 2) How to go about designing a medium size JEE application?
- 3) The 13+ Java key areas, especially [Scalability](#), [QoS](#), [Security](#), [Transaction Management](#), and [Performance](#).
- 4) Know how to [draw ERDs](#).
- 5) Know your [UML](#). [UML Interview Q&A](#)

Popular Member Posts

♦ [11 Spring boot interview questions & answers](#)

850 views

♦ [Q11-Q23: Top 50+ Core on Java OOP Interview Questions & Answers](#)

768 views

001A: ♦ [7+ Java integration styles & patterns interview questions & answers](#)

397 views

[18 Java scenarios based interview Questions and Answers](#)

387 views

♦ [7 Java debugging interview questions & answers](#)

307 views

01b: ♦ [13 Spring basics Q8 – Q13 interview questions & answers](#)

305 views

01: ♦ [15 Ice breaker questions asked 90% of the time in Java job interviews with hints](#)

297 views

♦ [10 ERD \(Entity-Relationship Diagrams\) Interview Questions and Answers](#)

293 views

♦ [Q24-Q36: Top 50+ Core on Java classes, interfaces and generics interview questions & answers](#)

246 views

001B: ♦ [Java architecture & design concepts interview questions & answers](#)

203 views

Bio

Latest Posts



Arulkumaran Kumaraswamipillai



Mechanical Eng to freelance Java developer in 3 yrs. Contracting since 2003, and attended 150+ Java job interviews, and often got 4 - 7 job offers to choose from. It pays to prepare. So, published Java interview Q&A books via Amazon.com in 2005, and sold 35,000+ copies. Books are outdated and replaced with this subscription based site. **945+** paid members. [join my LinkedIn Group](#). [Reviews](#)



About Arulkumaran Kumaraswamipillai

Mechanical Eng to freelance Java developer in 3 yrs. Contracting since 2003, and attended 150+ Java job interviews, and often got 4 - 7 job offers to choose from. It pays to prepare. So, published Java interview Q&A books via Amazon.com in 2005, and sold 35,000+ copies. Books are outdated and replaced with this subscription based site. **945+** paid members. [join my LinkedIn Group](#). [Reviews](#)

◀ 8 JPA interview questions and answers

◆ Java development process interview Q&A ▶

Posted in Java Application Architecture Interview Essentials, Java Architecture Interview Q&A, member-paid

Tags: Architect FAQs, Java/JEE FAQs, JEE FAQs

Empowers you to open more doors, and fast-track

Technical Know Hows

☀ [Java generics in no time](#) ☀ [Top 6 tips to transforming your thinking from OOP to FP](#) ☀ [How does a HashMap internally work? What is a hashing function?](#)

☀ [10+ Java String class interview Q&As](#) ☀ [Java auto un/boxing benefits & caveats](#) ☀ [Top 11 slacknesses that can come back and bite you as an experienced Java developer or architect](#)

Non-Technical Know Hows

☀ [6 Aspects that can motivate you to fast-track your career & go places](#) ☀ [Are you reinventing yourself as a Java developer?](#) ☀ [8 tips to safeguard your Java career against offshoring](#) ☀ [My top 5 career mistakes](#)

Prepare to succeed

☀ [Turn readers of your Java CV go from “Blah blah” to “Wow”?](#) ☀ [How to prepare for Java job interviews?](#) ☀ [16 Technical Key Areas](#) ☀ [How to choose from multiple Java job offers?](#)

Select Category ▼

© Disclaimer

The contents in this Java-Success are copy righted. The author has the right to correct or enhance the current content without any prior notice.

These are general advice only, and one needs to take his/her own circumstances into consideration. The author will not be held liable for any damages caused or alleged to be caused either directly or indirectly by these materials and resources. Any trademarked names or labels used in this blog remain the property of their respective trademark owners. No guarantees are made regarding the accuracy or usefulness of content, though I do make an effort to be accurate. Links to external sites do not imply endorsement of the linked-to sites.