Please go through the below reading materials and kindly prepare well before the further rounds of interview.

> <http://javahungry.blogspot.com/2013/08/hashing-how-hash-map-works-in-java-or.html>  
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**Few Links on Database:-**

DB/SQL.

<https://www.pluralsight.com/courses/introduction-to-sql>

<http://www.programmerinterview.com/index.php/database-sql/sql-having-vs-group-by/>

<http://www.programmerinterview.com/index.php/database-sql/inner-vs-outer-joins/>

<https://www.essentialsql.com/what-is-a-query-plan/>

<http://www.dotnettricks.com/learn/sqlserver/understanding-case-expression-in-sql-server-with-example>

<https://12factor.net/>

<https://www.journaldev.com/2888/spring-tutorial-spring-core-tutorial>

<https://www.baeldung.com/spring-tutorial>

·         Bindings

·         Polymorphism

·         Garbage Collection

.         Executors

·         Runtime Parameters

·         Read through Concurrent Collections

·         SQL Syntax

.         New Java Features

.         CHM

.         Deadlock resolution

.         Designing skills

.        Object immutability

.        Executor service

.        Hashmap concepts

.               ExecutorService

.               Concurrenthashmap

.               clustered and non clustered index

.               Finding number in infinite range

.               Range query

.               Immutable class

.               RDBMS

Java

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How to implement Connection pool

How to implement Thread pool.

Why do we need connection/thread pool

How to implement Blocking Queue

Explain architecture of your current project

Explain different layers in micro services, How to configure load balancing

Difference between Hash map and tree map

What is the implementation to use a class as a key in a tree map

Streams - find minimum number from a integer list

Lambdas, functional interface

How do you Sort numbers(which are comma separated) from a file. Size of the file is 100 GB. Assume you can load only 10 GB of data on java memory.

Spring

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Ways of dependency injection

How to you create non-singleton objects

How do you inject a prototype class into a singleton class

When Class A depends on Class B and Class B depends on Class A then how will you implement it

Database

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A table has four columns id, name, manager id, department id. Write a sql to get number of employees by manager of a given department id.

A table has two columns id and name. write a sql to select id(s) that are having duplicate names.

**1)OOPS(Object Oriented Programming):**

* **Polymorphism**
* **Overloading vs Overriding**
* **Abstract class vs Interface**

**2)Data Structures:**

* **List, Linkedlist, Array list, Sorted List**
* **Map, Treemap etc.**

**3)Operating Systems/JVM:**

* **Process vs Threads**
* **Stack vs Heap**
* **Garbage collection**

**4)Threads and Synchronization**

* **Runnable and thread class**
* **Synchronized block, methods-static and non-static**
* **Object vs Class level block**
* **Thread pools/ExecutorService**
* **Concurrent Collections**

**5)Database**

* **Model entities with one-to-many and many-to-many relationship**
* **PK and FK**
* **Indexes**
* **Transactions**
* **Stored Procs**
* <https://github.com/teivah/algodeck/blob/master/README.md>
* <http://javahungry.blogspot.com/2013/08/hashing-how-hash-map-works-in-java-or.html>
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* <https://github.com/donnemartin/system-design-primer/blob/master/README.md>
* <https://m.youtube.com/playlist?list=PLhfHPmPYPPRk6yMrcbfafFGSbE2EPK_A6>
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