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Interview preparation guideline

Java Programming:

- o Java OOPS
    - Abstraction
    - Encapsulation
    - Inheritance
    - Polymorphism
- o Java Serialization
    - Custom serialization
    - Serialization in inheritance
    - Externalization
- o Java Cloning
    - Shallow clone
    - Deep clone
    - Copy Constructor
- o Java Design Pattern
    - Creational
        - Singleton
        - Factory
        - Abstract Factory
    - Structural
        - Proxy
- o Java Design Principle
  S.O.L.I.D
- o Java Exception
    - custom exception
    - try catch finally
    - throw and throws
    - throw-able
    - exit/addshutdownhook
- o Java Generic
    - Bounded generic
    - Upper and Lower bound
    - Type erasure
    - limitation of generic
- o Java Collections
    - Arraylist and Linkedlist
    - HashMap
    - HashSet
    - ConcurrentHashMap
    - ConcurrentModification

- Fail Safe/Fail fast
- Unmodifiable list/ immutable list
- Comparator and Comparable
- equals and hashCode method
- Java Concurrency
  - Synchronization block/method
  - ThreadLocal
  - Executor/ExecutorService
  - Callable/Runnable
  - Future/FutureTask
  - shutDown()/shutdownNow
  - CyclicBarrier/CountDownlatch
  - Semaphore
  - wait/notify/yield
  - Re-entrant Locking
  - Atomicity/volatile
- Java String Operation
  - String pool
  - String Immutability
  - String Intern
- Java Reflexation
- Java Annotation
- Java Programs:
  - String reverse/retain white space position
  - String Anagram
  - String permutation
  - Solve Infix expression
  - Print Even Odd Number in sequence
  - Find or Print Primary number from 1 to 100.
  - Find middle element from linked list in one loop
  - Find second highest number from unsorted array.
  - Remove duplicate element from array or arraylist
  - Design LRU Implementation in Java
  - Design Snake Ladder Program in Java
  - Print A B C Alphabet in sequence
  - Binary Search algorithm
  - Implement Stack/Queue using LinkedList.
  - Design Traffic System with crossing road -|-

Spring Framework

- o Spring Core
- o Spring bean life-cycle
- o Spring bean scope
- o Spring MVC
- o Spring Exception
- o Spring Internationalization
- o Spring JDBC
- o Spring Validation
- o Spring Interceptor
- o Spring AOP
- o Spring Transaction
- o Spring ResponseBody/RequestBody
- o Spring integration with Hibernate
- o Spring @Component,@Repository,@Service,@Controller

Hibernate Framework

- o Hibernate Configure file
- o Hibernate get and load method
- o Hibernate Association {one-to-one, one-to-many, many-to-many} with annotation only
- o Hibernate Composite key
- o Hibernate Fetching strategy
- o Hibernate Inheritance
- o Hibernate Caching First and Second Level
- o Hibernate Query Cache
- o Hibernate Locking
- o Hibernate Version and timestamp
- o Hibernate Inverse
- o Hibernate Criteria
- o Hibernate openSession and getCurrentSession
- o Hibernate Dirty checking
- o Hibernate Paging

Rest Web service

- o Rest Parameters
- o Rest Content type
- o Rest Content-negotiation
- o Rest HATEOEAS
- o Rest Security
- o Rest MessageBodyReader/Writer-> Provider
- o ContextResolver<ObjectMapper> and ContextResolver<JAXBContext>
- o Rest Response code:
  - The 3xx denotes a redirection.
  - The real-time errors are 4xx (client error)
  - And 5xx (server error e.g. Exception).

Servlet

- o Servlet Life-cycle
- o Diff b/w Webserver and Application Server
- o Tree Structure of WAR
- o GET/POST
- o Idempotent
- o ServletConfig/ServletContext
- o RequestDispatcher and forward and include methods
- o forward/sendRedirect
- o Do we need to override service () method?
- o ServletContextListener and HttpSessionListener
- o What is the inter-servlet communication?
- o What are different methods of session management in servlets?
- o Why do we have servlet filters?
- o How to handle exceptions thrown by application with another servlet?
- o What is a deployment descriptor?
- o How to make sure a servlet is loaded at the application startup?
- o How to get the actual path of servlet in server?
  {getServletContext().getRealPath(request.getServletPath())}
- o How to get the server information in a servlet?
  {getServletContext().getServerInfo()}
- o How to get the IP address of client in servlet? {request.getRemoteAddr()}

JSP

- o JSP Life-cycle
- o JSP Life-Cycle methods
- o Which JSP lifecycle methods can be overridden?
- o What are different types of comments in JSP?
- o What is Scriptlet, Expression and Declaration in JSP?
- o What are JSP implicit objects?
- o Which implicit object is not available in normal JSP pages?
- o Explain JSP Action Elements or Action Tags?
- o What is difference between include directive and jsp: include action?
- o What is JSP Expression Language and what are its benefits?
- o What is JSP Standard Tag Library, provide some example usage?
- o What are the types of JSTL tags?
- o What is JSP Custom Tag and what are its components?

  {
  We can create JSP Custom Tags with following components:

  1. JSP Custom Tag Handler Class
  2. Creating Tag Library Descriptor (TLD) File
  3. Deployment Descriptor Configuration for TLD

  e.g. <mytags: formatNumber number="123456.789" format="#, ###.00"/>
  }
- o How can we handle exceptions thrown by JSP service method?
- o How can we prevent implicit session creation in JSP? {<%@ page session ="false" %>}

JQuery

Why do we use JQuery?

Which is the starting point of code execution in jQuery?

What does dollar sign ($) means in jQuery?

Can we have multiple document.ready() function on the same page?

Can we use our own specific character in the place of $ sign in jQuery?

What is jQuery.noConflict?

Is there any difference between body onload() and document.ready() function?

What is the difference between .js and .min.js?

What is a CDN?

Which are the popular jQuery CDN? and what is the advantage of using CDN?

What are selectors in jQuery and how many types of selectors are there?

How do you select element by ID in jQuery?

What does $("div") will select?

How to select element having a particular class (".selected")?

What does $("div.parent") will select?

What are the fastest selectors in jQuery?

What are the slow selectors in jQuery?

How do you check if an element is empty?

How do you check if an element exists or not in jQuery?

What is the use of jquery .each() function?

What is the difference between $('div') and $('<div/>') in jQuery?

How do you implement animation functionality?

How to disable jQuery animation?

What is the difference between .empty(), .remove() and .detach() methods in jQuery?

What is difference between prop and attr?

How to check data type of any variable in jQuery?

How do you attach a event to element which should be executed only once?

Is it possible to hold or delay document.ready execution for sometime?

What is chaining in jQuery?

How does caching helps and how to use caching in jQuery?

How to write browser specific code using jQuery?

What are various methods to make ajax request in jQuery?

Is there any advantage of using $.ajax() for ajax call against $.get() or $.post()?

What are deferred and promise object in jQuery?

Can we execute/run multiple Ajax request simultaneously in jQuery? If yes, then how?

What are the methods used to provide effects?

Which command will give a version of jQuery?

JavaScript

Write the code for adding new elements dynamically?

What are global variables? How are these variable declared and what are the problems associated with using them?

What is 'this' keyword in JavaScript?

Explain the working of timers in JavaScript? Also elucidate the drawbacks of using the timer, if any?

What is === operator?

Explain how can you submit a form using JavaScript?

Does JavaScript support automatic type conversion?

How can the style/class of an element be changed?

    document.getElementById("myText").style.fontSize = "20?;

    document.getElementById("myText").className = "anyclass";

Explain the difference between "==" and "==="?

What would be the result of 3+2+"7"?

What is the function of delete operator?

What is the use of Void(0)?

What are escape characters?

Explain what is push() and pop()method in JavaScript?

What are java script scope?

How generic objects can be created?

What is the use of type of operator?

Which keywords are used to handle exceptions?

How to find operating system in the client machine using JavaScript?

What are the different types of errors in JavaScript?

What is unshift method in JavaScript?

How are object properties assigned?

What is the 'Strict' mode in JavaScript and how can it be enabled?

Explain window.onload and onDocumentReady?

How will you explain closures in JavaScript? When are they used?

What is the difference between .call() and .apply()?

Define event bubbling?

What are the decodeURI() and encodeURI()?

Why it is not advised to use innerHTML in JavaScript?

What is eval() function?

How to check if an object is an array or not?

What are the way by which we can create object in JavaScript ?

Write a function called deepClone which takes an object and creates a object copy of it.

SQL

JDBC Driver types

        Type 1: JDBC-ODBC bridge driver

        Type 2: Java + Native code driver

        Type 3: All Java + Middleware translation driver

        Type 4: All Java driver.

JDBC Connection codes

        Class.forName("jdbc driver");

Connection connection=DriverManager.getConnection (dburl, username,password);

Different between function and procedure

How to remove duplicate records from table.

        DELETE FROM EMPLOYEE WHERE AUTOID NOT IN (

        (SELECT MIN (AUTOID) FROM EMPLOYEE GROUP BY EMPID, SALARY, NAME))

Find out maximum nth salary of employee.

    MYSQL

    SELECT * FROM EMPLOYEE ORDER BY SALARY DESC LIMIT N-1,1

    ORACLE

    SELECT * FROM (

    SELECT EMP.*, ROW_NUMBER () OVER (ORDER BY SALARY DESC) MYROWNUM FROM EMPLOYEE EMP

) WHERE MYROWNUM = N;

Correlation Query

SELECT FROM EMPLOYEE EMP1 WHERE N= (SELECT DISTINCT (COUNT (SALARY))) FROM EMPLOYEE EMP2 WHERE EMP2.SALARY >=EMP1.SALARY);

Print Manager Name from employee table where employee have manager

Example:

EMPID	EMPNAME	MNGRID
1	ANIL	NULL
2	MANOJ	1
3	SANTOSH	1
4	PRIYANSHU	2
5	MAITHLI	3
6	SUHANA	1

OUTPUT WOULD BE:

EMPID	EMPNAME	MANGRNAME
1	ANIL	NULL
2	MANOJ	ANIL
3	SANTOSH	ANIL
4	PRIYANSHU	MANOJ
5	MAITHLI	SANTOSH
6	SUHANA	ANIL

QUERY (SELF LEFT OUTER JOIN)

SELECT E.EMPID, E.EMPNAME, M.EMPNAME AS MGRNAME FROM EMP E LEFT OUTER JOIN EMP M ON E.MGRID=M.EMPID;

Difference between UNION and UNION ALL

Difference between case when and DECODE

Difference between statement and prepared statement

Difference between LEFT OUTER JOIN and RIGHT OUTER JOIN.

Matched   Not Matched   Matched

LEFT TABLE   RIGHT TABLE   LEFT TABLE   RIGHT TABLE (Right Outer Join)