**DBS Backend Interview Preparation Guide**

- Prepare 3 minutes introduction – brief about yourself, your current project – what problem it solved, your key technical skills.
- List down some of the key challenges you faced in your projects and how you helped to solve it.

- **Object Oriented Principles** – Abstraction, Encapsulation, Inheritance and Polymorphism. Must be able to demonstrate these principles with examples / scenarios. Type of polymorphism. Association, aggregation and composition.
  https://beginnersbook.com/2013/04/runtime-compile-time-polymorphism/
  https://www.geeksforgeeks.org/dynamic-method-dispatch-runtime-polymorphism-java/
  https://beginnersbook.com/2013/05/aggregation/
  https://www.geeksforgeeks.org/overloading-in-java/

- **Core Java** - Collections (List, Map and Set), hashcode () and equals (), mutable vs immutable objects, how to create immutable objects. HashMap and ConcurrentHashMap differences, Exception handling in Java, Serialization, Threads concepts, heap dump analysis etc.

  https://crunchify.com/hashmap-vs-concurrenthashmap-vs-synchronizedmap-how-a-hashmap-can-be-synchronized-in-java/
  http://javahungry.blogspot.com/2014/02/hashmap-vs-concurrenthashmap-java-collections-interview-question.html
  https://www.baeldung.com/java-exceptions-interview-questions
  https://javarevisited.blogspot.com/2013/06/10-java-exception-and-error-interview-questions-answers-programming.html
  http://tutorials.jenkov.com/java-concurrency/race-conditions-and-critical-sections.html
  https://www.baeldung.com/java-volatile
  https://jorosjavajams.wordpress.com/volatile-vs-synchronized/
  https://java2blog.com/java-serialization-interview-questions-and-answers/
  https://www.journaldev.com/349/java-classloader
  https://betsol.com/2017/06/java-memory-management-for-java-virtual-machine-jvm/
  https://stackoverflow.com/questions/1440134/when-should-a-class-be-comparable-and-or-comparator
  https://www.geeksforgeeks.org/java-util-hashmap-in-java/
  http://coding-geek.com/how-does-a-hashmap-work-in-java/
  https://www.youtube.com/watch?v=Nr56SlbMed4
  https://www.journaldev.com/1058/deadlock-in-java-example
  https://googleads.g.doubleclick.net/aclk?sa=L&ai=C8np_FVhrW73vJpKIoAPWkbuABqXVnbEFjdzCup8Cpp6tjWsQAiCl7NQcKAhg5erjA8gBAagD
  AcgDAqoEwgFPOK7JHO2NAReQcpL1oY9AS4rBfdBje-XbETIK3Iscq9CZkOGJ4j6x4ys5ry-nlibK0619-
  IGYRNrkKxtDz1esOm5HYvyp681d2qEjtIPoksPNvl-
  Z_RemifMh5lMNqs5oVWbraqfo9Jgev57pTogW63uoOPoSuVqLsiEMKvmgRmWw1_V_URwquFB3RmNefwZX0ks8T6MkWBcSWDoDrZoFfz22z1x
  5DCkMVXfa0Qx6hJNz8C6SpOZLB8XfbOVab4zF9qAGRcAGC4AH5ffNagHjs4bqAfVyRuoB9nLG6gHz8wbqAemvhuoB5jOG9gHAdIIBwiAARABG
  AKACgE&num=2&sig=AOD64_1od9u4UjZlHeLpO2h1cVSOaAmenA&adurl=https://www.journaldev.com/1162/java-multithreading-
  concurrency-interview-questions-answers
  http://mrbool.com/working-with-java-executor-framework-in-multithreaded-application/27560
  https://www.journaldev.com/129/how-to-create-immutable-class-in-java
  https://www.journaldev.com/2529/jdbc-interview-questions-and-answers
  https://blogs.oracle.com/poonam/about-g1-garbage-collector,-permanent-generation-and-metaspace
  https://blog.codecentric.de/en/2008/07/memory-analysis-part-1-obtaining-a-java-heapdump/
  https://dzone.com/articles/memory-analysis-how-to-obtain-java-heat-dump
  https://javarevisited.blogspot.com/2015/01/top-20-string-coding-interview-question-programming-interview.html

- **Java 8** – Functional Interface, Lambdas, Stream, Optional and Method References etc.
  https://medium.freecodecamp.org/learn-these-4-things-and-working-with-lambda-expressions-b0ab36e0fffc
  https://www.journaldev.com/2774/java-8-stream
  https://javabrains.io/courses/java_lambdabasics/lessons/Introduction-To-Streams
  https://www.javatpoint.com/java-8-stream
  https://www.journaldev.com/2752/java-8-interface-changes-static-method-default-method
  http://www.java2s.com/Tutorials/Java/Stream_How_to/IntStream/Use_lambda_to_check_if_a_integer_is_a_prime_number.htm
  https://www.journaldev.com/10081/javase8-interview-questions-part2

- **Solid Principles**

  https://www.youtube.com/watch?v=t86v3N4OshQ

- **Hibernate**
  https://www.thoughts-on-java.org/complete-guide-inheritance-strategies-jpa-hibernate/
  https://codingcompiler.com/hibernate-interview-questions-answers/
  https://howtodoinjava.com/hibernate/complete-hibernate-query-language-hql-tutorial/
  https://dzone.com/articles/all-about-hibernate-second
  https://www.journaldev.com/2969/hibernate-caching-first-level-cache

- **SQL**
  http://a4academics.com/interview-questions/53-database-and-sql/397-top-100-database-sql-interview-questions-and-answers-examples-queries
  https://www.c-sharpcorner.com/article/most-asked-sql-queries-in-interview-questions/
  https://www.youtube.com/watch?v=2HVMiPPuPIM

https://community.modeanalytics.com/sql/tutorial/sql-performance-tuning/

- **Spring / Spring Boot and Rest**
  https://www.baeldung.com/spring-interview-questions
  https://intellipaat.com/interview-question/spring-interview-questions/
  http://candidjava.com/tutorial/spring-boot-interview-questions/
  https://www.techbeamers.com/rest-api-interview-questions-answers/
  https://dzone.com/articles/spring-transactional-amp-exceptions
  https://www.baeldung.com/exception-handling-for-rest-with-spring

- **Unit Testing**
  https://mindmajix.com/junit-interview-questions
  https://www.baeldung.com/junit-5
  https://www.javacodegeeks.com/2014/09/mockito-101.html

- **Design Patterns**
  Singleton, Factory, Abstract Factory, Builder, Observer, Decorator

- **CI/CD (** Overview of Jenkins,Sonar,code coverage, smells etc.**)**
  https://www.youtube.com/watch?v=p7-U1_E_j3w
  https://www.xoriant.com/blog/mobility/introduction-sonarqube.html
  https://blog.codinghorror.com/code-smells/
  https://www.javaworld.com/article/2074515/core-java/unit-test-code-coverage-with-maven-and-jacoco.html

- **Others**

  https://www.youtube.com/watch?v=Hbt56gFj998
  http://bigocheatsheet.com/
  https://www.geeksforgeeks.org/bubble-sort/
  http://interactivepython.org/courselib/static/pythonds/SortSearch/TheMergeSort.html