

Real-time interview questions on Oracle Database Administration, Performance Tuning & Optimization.

Oracle Architecture & Basics

1. Explain Oracle Database architecture.
2. What are the main background processes in Oracle?
3. What is the role of the System Global Area (SGA)?
4. What are the main components of PGA?
5. Explain shared pool and its importance.
6. What is the role of redo log buffer?
7. What is DBWR process?
8. What is LGWR process?
9. What is SMON process?
10. What is PMON process?
11. Explain CKPT process.
12. What is ARCn process?
13. What is RECO process?
14. What is job of MMON?
15. Explain difference between dedicated server and shared server architecture.
16. What is difference between Oracle Instance and Database?
17. How do you check instance status?
18. What are parameter files (PFILE/SPFILE)?
19. What is difference between PFILE and SPFILE?
20. How do you switch between PFILE and SPFILE?

Database Storage & Structures

21. Explain logical storage structure in Oracle.
22. What is tablespace?
23. What is datafile?
24. What is extent?
25. What is segment?
26. Difference between temporary tablespace and permanent tablespace?
27. What is undo tablespace?
28. How do you monitor undo usage?
29. What happens if undo tablespace gets full?
30. How to resize tablespace dynamically?
31. How to check free space in tablespaces?
32. What is bigfile tablespace?
33. What is smallfile tablespace?
34. Difference between local and dictionary-managed tablespaces?
35. What is auto-extend on datafiles?
36. How do you move a datafile to another location?
37. What are control files in Oracle?
38. What information does a control file store?
39. How to multiplex control files?
40. How to recover a lost control file?

Redo & Undo Management

41. What is redo log?

42. What's the difference between redo log and archive log?
43. What is log switch?
44. How to force a log switch?
45. How to add redo log group?
46. How to drop redo log group?
47. What is checkpoint?
48. Difference between soft checkpoint and hard checkpoint?
49. How to recover database with missing redo logs?
50. What is Flashback Technology?
51. What is difference between flashback query and flashback database?
52. How do you enable flashback database?
53. What is guaranteed restore point?
54. How do you use guaranteed restore points in tuning?
55. What is undo retention parameter?
56. How to tune undo tablespace size?
57. What is transaction consistency?
58. How does Oracle maintain read consistency?
59. What is ORA-01555 snapshot too old error?
60. How do you avoid ORA-01555?

Backup & Recovery (RMAN)

61. What is RMAN?
62. What is difference between RMAN and user-managed backups?
63. How to perform full database backup using RMAN?
64. How to take incremental backup in RMAN?
65. Difference between cumulative and differential backup?
66. What is block-level recovery in RMAN?
67. How to clone a database using RMAN?
68. What is active database duplication in RMAN?
69. How do you restore database to a specific SCN?
70. How do you restore database to a specific timestamp?
71. What is recovery catalog in RMAN?
72. How do you register database in recovery catalog?
73. What is crosscheck command in RMAN?
74. How do you validate backups in RMAN?
75. How do you delete expired backups in RMAN?
76. How to configure RMAN retention policy?
77. What is FRA (Fast Recovery Area)?
78. How do you monitor FRA usage?
79. What happens if FRA is full?
80. How to move FRA to another location?

Oracle Patching & Upgrades

81. What is PSU vs CPU patch?
82. What is RU vs RUR patch in 19c?
83. How to apply Oracle patches with OPatch?
84. How to check OPatch version?
85. What is datapatch utility?

86. What is DBUA?
87. Difference between DBUA and manual upgrade?
88. How do you upgrade from 12c to 19c?
89. How do you check compatibility before upgrade?
90. What is pre-upgrade utility?

Performance Tuning Basics

91. What are the main causes of Oracle performance issues?
92. What is AWR report?
93. How to generate AWR report?
94. What is ADDM report?
95. What is ASH report?
96. Difference between AWR and ADDM?
97. How to capture SQL Monitor report?
98. What is SQL Trace?
99. What is TKPROF?
100. How do you enable SQL Trace for a session?
101. What is DB Time in AWR?
102. How do you interpret Top 5 Timed Events?
103. What is wait interface in Oracle?
104. What is latch contention?
105. What is library cache latch?
106. How do you reduce library cache contention?
107. What is shared pool tuning?
108. What is bind variable peeking?
109. How do you resolve cursor sharing issues?
110. What is hard parse vs soft parse?

SQL Tuning

111. How to identify top SQL queries consuming resources?
112. What is v\$sql view?
113. What is sql_id in Oracle?
114. How do you tune a query with high buffer gets?
115. How to tune queries with high disk reads?
116. How to detect full table scans?
117. What is index skip scan?
118. What is bitmap index?
119. What is function-based index?
120. What is invisible index?
121. How to check if index is being used?
122. How to monitor SQL plan baseline?
123. What is SQL Profile?
124. What is SQL Plan Management (SPM)?
125. How do you fix a SQL plan in Oracle?
126. What is adaptive execution plan?
127. What are hints in Oracle SQL?
128. What is leading hint?
129. What is parallel hint?

130. How to tune join order in SQL?

Optimizer & Statistics

- 131. What is CBO (Cost Based Optimizer)?
- 132. What is RBO (Rule Based Optimizer)?
- 133. What is cardinality in optimizer?
- 134. How to gather statistics in Oracle?
- 135. Difference between table stats and index stats?
- 136. How to gather histograms?
- 137. What are dynamic sampling levels?
- 138. What is stale statistics?
- 139. How do you lock statistics?
- 140. What is dbms_stats package?
- 141. Difference between auto sample size and fixed sample size?
- 142. How do you check optimizer environment for a session?
- 143. What is sqltune advisor?
- 144. What is sqlaccess advisor?
- 145. What is sqlrepair advisor?
- 146. What is difference between sql profile and sql baseline?
- 147. What is adaptive query optimization in 12c/19c?
- 148. What is statistics feedback?
- 149. What is cardinality feedback?
- 150. What is optimizer tracing?

Index & Storage Tuning

- 151. Difference between B-Tree index and Bitmap index?
- 152. When to use bitmap index?
- 153. What is reverse key index?
- 154. What is partitioned index?
- 155. What is global index vs local index?
- 156. How to rebuild index online?
- 157. What is coalesce index?
- 158. How do you monitor index usage?
- 159. What is index clustering factor?
- 160. How does clustering factor affect query performance?
- 161. What is index selectivity?
- 162. How do you measure index selectivity?
- 163. How to drop unused indexes?
- 164. What is compression on indexes?
- 165. What is advanced index compression?
- 166. What are index-organized tables (IOT)?
- 167. How to monitor index leaf block splits?
- 168. How to reduce index contention?
- 169. What is skip scan index usage?
- 170. How to rebuild unusable indexes?

Concurrency & Locking

- 171. What is row-level locking?

- 172. What is table-level locking?
- 173. What is deadlock?
- 174. How do you detect deadlocks in Oracle?
- 175. What is v\$sqllock view?
- 176. How to resolve deadlocks?
- 177. What is enqueue?
- 178. What is latch?
- 179. Difference between latch and lock?
- 180. What is ITL (Interested Transaction List)?
- 181. What is TX lock?
- 182. What is TM lock?
- 183. How to monitor blocking sessions?
- 184. How to kill blocking sessions?
- 185. How to avoid ORA-00060 deadlock error?
- 186. How do you analyze locking contention?
- 187. What is cursor: pin S wait on X?
- 188. What is gc buffer busy acquire wait?
- 189. How do you resolve buffer busy waits?
- 190. What are hot blocks?

Memory Tuning

- 191. What are different memory structures in Oracle?
- 192. What is PGA_AGGREGATE_TARGET?
- 193. What is SGA_TARGET?
- 194. Difference between SGA_TARGET and MEMORY_TARGET?
- 195. What is shared pool size?
- 196. What is large pool?
- 197. What is java pool?
- 198. What is stream pool?
- 199. What is buffer cache?
- 200. What is DB_CACHE_SIZE?
- 201. How do you tune PGA size?
- 202. What is workarea_size_policy?
- 203. What is automatic memory management (AMM)?
- 204. What is automatic shared memory management (ASMM)?
- 205. How do you monitor memory usage per session?
- 206. What is v\$sqlmemory_dynamic_components?
- 207. How do you analyze memory leaks?
- 208. What is cursor_sharing parameter?
- 209. How do you reduce parse time CPU?
- 210. How do you tune library cache?

RAC & ASM

- 211. What is RAC?
- 212. What is Cache Fusion in RAC?
- 213. What are GES and GCS in RAC?
- 214. What are RAC wait events?
- 215. What is interconnect in RAC?

- 216. What is SCAN listener in RAC?
- 217. What is load balancing advisory in RAC?
- 218. How do you monitor RAC performance?
- 219. What is CRS in RAC?
- 220. What is HAS?
- 221. What is OLR?
- 222. What is OCR?
- 223. How to backup OCR?
- 224. What is voting disk?
- 225. What is ASM?
- 226. What is ASM disk group?
- 227. What is ASM rebalance operation?
- 228. What is ASM AU size?
- 229. How to monitor ASM performance?
- 230. How to add disk in ASM?

Data Guard & HA

- 231. What is Data Guard?
- 232. Difference between physical standby and logical standby?
- 233. What is snapshot standby?
- 234. What is Active Data Guard?
- 235. How do you configure Data Guard?
- 236. What is redo apply vs SQL apply?
- 237. How do you monitor Data Guard sync status?
- 238. How do you switch over in Data Guard?
- 239. How do you failover in Data Guard?
- 240. What is fast-start failover?
- 241. What is observer in Data Guard?
- 242. How do you tune Data Guard transport lag?
- 243. How do you tune apply lag?
- 244. What is Far Sync?
- 245. How to detect ORA-16000 log transport errors?
- 246. How to troubleshoot gap detection?
- 247. How do you re-sync standby after lag?
- 248. What is real-time apply?
- 249. What is synchronous vs asynchronous redo transport?
- 250. How do you configure Data Guard broker?

Partitioning & Advanced Features

- 251. What is table partitioning?
- 252. What are partitioning strategies?
- 253. What is range partitioning?
- 254. What is list partitioning?
- 255. What is hash partitioning?
- 256. What is composite partitioning?
- 257. What is reference partitioning?
- 258. What is interval partitioning?
- 259. How to exchange partition with table?

- 260. How do you monitor partition pruning?
- 261. What are materialized views?
- 262. How do you refresh materialized views?
- 263. What is query rewrite?
- 264. How to tune materialized view logs?
- 265. What is in-memory column store?
- 266. How do you enable in-memory for a table?
- 267. What is compression in Oracle?
- 268. What is Hybrid Columnar Compression?
- 269. What is advanced row compression?
- 270. How do you monitor in-memory performance?

Security & Auditing

- 271. What is Transparent Data Encryption (TDE)?
- 272. How do you enable TDE on tablespace?
- 273. What is wallet in Oracle TDE?
- 274. What is Oracle Database Vault?
- 275. What is auditing in Oracle?
- 276. Difference between standard audit and unified audit?
- 277. What is fine-grained auditing?
- 278. How do you check user privileges?
- 279. What is least privilege principle?
- 280. What is Oracle Label Security?
- 281. What is Virtual Private Database (VPD)?
- 282. What is row-level security?
- 283. How do you encrypt network traffic in Oracle?
- 284. What is SQL*Net encryption?
- 285. How do you configure SSL in Oracle DB?
- 286. What is database link security?
- 287. What is proxy authentication?
- 288. How do you detect failed logins?
- 289. What is resource profile in Oracle?
- 290. What is password file authentication?

Monitoring & Tools

- 291. What is OEM (Oracle Enterprise Manager)?
- 292. What is Grid Control?
- 293. What is Cloud Control?
- 294. How do you set up monitoring alerts in OEM?
- 295. What is dbms_monitor package?
- 296. How do you enable SQL trace for a module?
- 297. How do you capture workload using AWR baselines?
- 298. What are moving window baselines?
- 299. What is adaptive threshold in OEM?
- 300. How to monitor active sessions in real time?
- 301. What is v\$active_session_history?
- 302. How to identify top wait events in v\$system_event?
- 303. How to identify top SQL by CPU usage?

- 304. How to identify SQL by IO usage?
- 305. What is DBA_HIST views?
- 306. What are dynamic performance views (v\$ views)?
- 307. What is STATSPACK?
- 308. Difference between STATSPACK and AWR?
- 309. How do you set snapshot interval in AWR?
- 310. How to compare AWR reports?

Troubleshooting & Real-Time Scenarios

- 311. Database is running slow suddenly, what steps do you take?
- 312. User complaint: query was fast yesterday, slow today — what do you check?
- 313. How do you troubleshoot ORA-4031 error?
- 314. How do you troubleshoot ORA-1555 error?
- 315. How do you troubleshoot ORA-600 internal errors?
- 316. How do you troubleshoot ORA-7445 errors?
- 317. Archive log destination is full — what do you do?
- 318. FRA is 100% full — how do you fix it?
- 319. Temp tablespace is full — how do you fix it?
- 320. Undo tablespace is full — how do you fix it?
- 321. How do you troubleshoot high CPU usage in Oracle?
- 322. How do you troubleshoot high IO usage?
- 323. How do you troubleshoot high row lock contention?
- 324. How do you troubleshoot library cache latch contention?
- 325. How do you troubleshoot buffer busy waits?
- 326. How do you troubleshoot log file sync waits?
- 327. How do you troubleshoot enqueue waits?
- 328. How do you troubleshoot latch: shared pool waits?
- 329. How do you troubleshoot “ORA-04031: unable to allocate shared memory”?
- 330. How do you troubleshoot high parse time?

Real-World Performance Issues

- 331. Query is doing full table scan instead of index scan — why?
- 332. Query using wrong join order — how to fix?
- 333. Execution plan changes between runs — why?
- 334. Query is using Cartesian join unexpectedly — why?
- 335. Index is not being used — reasons?
- 336. Bitmap index caused deadlocks — why?
- 337. Partition pruning not happening — why?
- 338. Materialized view not refreshing — why?
- 339. ORA-01555 during batch job — what to check?
- 340. Log file sync wait high — how to resolve?
- 341. Checkpoint taking too long — how to resolve?
- 342. DBWR not keeping up — how to resolve?
- 343. High redo generation — what to check?
- 344. PGA usage very high — how to tune?
- 345. AWR shows high CPU from parsing — what to check?
- 346. Application uses literals instead of binds — impact?
- 347. Why does “hard parse” hurt performance?

- 348. What is bind variable peeking issue?
- 349. Why does cursor sharing FORCE sometimes help?
- 350. Why does cursor_sharing SIMILAR deprecated?

Advanced Performance & Internals

- 351. Explain Oracle latch vs enqueue.
- 352. What are mutexes in Oracle?
- 353. What is Adaptive Cursor Sharing?
- 354. What is Cardinality Feedback?
- 355. What is SQL Plan Directive?
- 356. What is Parallel Query Execution?
- 357. What is PQ distribution method?
- 358. What is Bloom filter in Oracle PQ?
- 359. What is in-memory hash join?
- 360. How does Oracle perform sort operations?
- 361. What is temp usage in hash join?
- 362. What is spill to disk in sorts?
- 363. What is v\$tempseg_usage view?
- 364. How do you tune PGA memory for sorts?
- 365. What is star transformation?
- 366. What is bitmap join index?
- 367. How do you detect and resolve latch contention issues in Oracle Database?
- 368. How do you tune Oracle's UNDO tablespace for long-running queries?
- 369. What are bind variables, and how do they improve performance in Oracle?
- 370. How do you find SQL queries with high buffer gets?
- 371. What is Oracle Adaptive Cursor Sharing?
- 372. How do you identify cursor leaks in Oracle?
- 373. What are SQL baselines in Oracle?
- 374. How do you use SQL Plan Management (SPM) to stabilize query performance?
- 375. What is the difference between SQL Profiles and SQL Baselines?
- 376. How do you detect top wait events using AWR reports?
- 377. What is DB time in Oracle performance tuning?
- 378. What are latch waits, and how do you troubleshoot them?
- 379. What is Oracle's Result Cache, and when should you use it?
- 380. How do you identify top segments by logical reads?
- 381. What are chained and migrated rows, and how do they affect performance?
- 382. How do you resolve row chaining and migration issues?
- 383. How do you monitor buffer cache hit ratios in Oracle?
- 384. What is the difference between consistent gets and physical reads?
- 385. How do you tune SQL queries that use functions in WHERE clauses?
- 386. How do you identify PL/SQL procedures causing performance issues?
- 387. What are PL/SQL bulk operations, and how do they improve performance?
- 388. How do you use DBMS_PROFILER for PL/SQL performance tuning?
- 389. How do you use SQL Trace and TKPROF for query analysis?
- 390. What is Oracle SQL Tuning Advisor?
- 391. What is Oracle SQL Access Advisor?
- 392. What are the most important views for performance tuning (V\$SQL, V\$SESSION, V\$SYSTEM_EVENT, etc.)?
- 393. How do you identify high redo generation queries?
- 394. What is redo log contention, and how do you fix it?
- 395. How do you monitor and reduce log file sync waits?
- 396. How do you tune checkpoint frequency in Oracle?

397. What is Oracle's log buffer, and how do you size it?
398. How do you troubleshoot library cache latch contention?
399. What is a hot block in Oracle, and how do you find and resolve it?
400. What is row-level locking, and how does it affect concurrency?
401. What are enqueue waits in Oracle?
402. How do you analyze enqueue waits in AWR reports?
403. How do you troubleshoot Oracle buffer busy waits?
404. What is ASSM (Automatic Segment Space Management), and how does it impact performance?
405. How do you optimize Oracle tables with frequent inserts and deletes?
406. What is table compression in Oracle, and when should you use it?
407. What is hybrid columnar compression in Exadata?
408. How do you monitor and tune direct path reads and writes?
409. How do you optimize Oracle bulk loads using SQL*Loader?
410. What is parallel DML, and when should you enable it?
411. How do you detect parallel execution skew?
412. How do you tune hash joins in Oracle?
413. How do you tune merge joins in Oracle?
414. How do you tune nested loop joins in Oracle?
415. What is star transformation, and when is it useful?
416. What are bitmap indexes, and when should they be used?
417. What is index clustering factor, and why is it important?
418. How do you monitor index usage in Oracle?
419. What is global vs local partitioned index?
420. How do you rebuild unusable indexes efficiently?
421. How do you identify unused indexes for removal?
422. What is index fast full scan vs full table scan?
423. How do you troubleshoot slow materialized view refresh?
424. What is query rewrite with materialized views?
425. How do you tune materialized view logs?
426. How do you handle ORA-01555 snapshot too old errors?
427. What causes ORA-04031 errors, and how do you fix them?
428. What is the difference between PGA and SGA memory in Oracle?
429. How do you tune PGA aggregate target?
430. How do you monitor workarea executions?
431. How do you tune Oracle's memory components under AMM?
432. What are Oracle's large pool and java pool used for?
433. How do you tune shared pool fragmentation?
434. How do you identify objects consuming large shared pool memory?
435. How do you flush the shared pool, and when should you avoid it?
436. How do you monitor Oracle latch contention?
437. What is mutex contention, and how do you resolve it?
438. How do you enable and read Oracle SQL Monitoring reports?
439. How do you use Real-Time SQL Monitoring for performance tuning?
440. What is Oracle Active Session History (ASH)?
441. How do you generate ASH reports, and what do they show?
442. How do you interpret AWR reports for top SQLs?
443. How do you compare multiple AWR snapshots?
444. What is ADDM in Oracle performance tuning?
445. How do you use ADDM to identify tuning opportunities?
446. How do you generate baseline AWR reports?
447. What is SQL Performance Analyzer (SPA)?
448. How do you use Database Replay for workload testing?
449. What is Oracle Enterprise Manager's role in performance tuning?
450. How do you set up performance baselines in OEM?
451. How do you detect Oracle session blocking chains?

452. How do you use V\$LOCK to troubleshoot blocking?
453. What is deadlock detection in Oracle?
454. How do you read and interpret trace files for deadlocks?
455. How do you tune Oracle's redo log size?
456. What is log file switch frequency, and why is it important?
457. How do you monitor archive log generation?
458. How do you optimize archive log performance?
459. What is Oracle Flashback Query, and how does it affect undo usage?
460. How do you reduce undo tablespace usage for batch operations?
461. How do you detect undo tablespace pressure?
462. What is undo retention guarantee?
463. How do you manage undo tablespace growth?
464. How do you reduce parsing overhead in Oracle?
465. What is soft parse vs hard parse in Oracle?
466. How do you detect excessive hard parsing?
467. What is session cursor cache, and how do you tune it?
468. How do you reduce library cache contention?
469. What are synonyms in Oracle, and do they impact performance?
470. How do database links affect performance?
471. How do you tune distributed queries in Oracle?
472. What is Oracle Database Link Parallelism?
473. How do you optimize queries involving remote joins?
474. How do you troubleshoot slow PL/SQL function calls in queries?
475. How do you detect recursive SQL calls?
476. What is recursive SQL, and why is it important to tune?
477. How do you capture high-frequency SQL with Oracle Trace?
478. What is Oracle Extended SQL Trace?
479. How do you use 10046 trace for query tuning?
480. How do you interpret wait events in 10046 trace files?
481. How do you enable bind variable capture in trace files?
482. How do you troubleshoot Oracle session leaks?
483. How do you tune Oracle background processes?
484. What is LGWR, and how does it affect performance?
485. How do you troubleshoot DBWR bottlenecks?
486. What is checkpointing, and how do you tune it?
487. How do you monitor SMON and PMON performance?
488. How do you tune Oracle job scheduling (DBMS_SCHEDULER)?
489. How do you detect resource-intensive jobs in Oracle?
490. How do you tune Oracle Streams performance?
491. What is Oracle GoldenGate, and how do you tune replication performance?
492. How do you monitor and tune Data Guard transport lag?
493. How do you tune Data Guard apply lag?
494. What is synchronous vs asynchronous redo transport?
495. How do you troubleshoot network latency in Data Guard?
496. How do you use RMAN performance tuning options?
497. How do you optimize RMAN backup speed?
498. How do you reduce RMAN restore time?
499. What are common Oracle backup performance bottlenecks?
500. How do you design a proactive performance monitoring strategy for Oracle databases?

Top 50 Oracle DBA & Performance Tuning Questions

1. What are the main causes of performance issues in Oracle databases?
2. How do you identify the top SQL queries consuming resources?
3. What are AWR reports, and how do you analyze them?
4. What is ADDM, and how does it help in performance tuning?
5. What is ASH (Active Session History), and when do you use it?
6. How do you capture and interpret execution plans in Oracle?
7. What is the difference between a full table scan and an index scan?
8. What are bind variables, and why are they important for performance?
9. What is hard parse vs soft parse?
10. How do you detect and fix excessive hard parsing?
11. How do you resolve "ORA-01555 snapshot too old" errors?
12. How do you detect blocking sessions in Oracle?
13. What is a deadlock, and how do you troubleshoot it?
14. How do you use V\$SESSION and V\$SQL for performance troubleshooting?
15. How do you resolve high CPU utilization in Oracle?
16. How do you resolve high IO waits in Oracle?
17. What are Oracle wait events, and how do you interpret them?
18. What is latch contention, and how do you fix it?
19. What are common Oracle background processes affecting performance (LGWR, DBWR, etc.)?
20. What is redo log contention, and how do you resolve it?
21. What is log file sync wait event, and how do you tune it?
22. What are buffer busy waits, and how do you reduce them?
23. What is Oracle's shared pool, and how do you tune it?
24. What is library cache contention, and how do you resolve it?
25. What are statistics in Oracle, and how do they affect performance?
26. How do you gather optimizer statistics efficiently?
27. What is dynamic sampling in Oracle optimizer?
28. How do histograms help in query optimization?
29. What is parameter OPTIMIZER_MODE, and how does it impact execution plans?
30. What are SQL Profiles and SQL Baselines?
31. What's the difference between SQL Plan Management (SPM) and SQL Tuning Advisor?
32. What is Adaptive Cursor Sharing?
33. What is parallel execution, and how do you monitor/tune it?
34. What are partitioned tables, and how do they help performance?
35. What is local vs global partitioned index?
36. How do you rebuild indexes, and when is it necessary?
37. How do you monitor index usage in Oracle?
38. What are bitmap indexes, and when should you use them?
39. What is star transformation in Oracle optimizer?
40. What are common causes of high undo tablespace usage?
41. How do you monitor undo tablespace, and what is undo retention?
42. What is PGA vs SGA, and how do you tune them?
43. What is Automatic Memory Management (AMM), and when to use it?
44. What are AWR baselines, and why are they important?
45. How do you generate and analyze ASH reports?
46. How do you troubleshoot Temp tablespace issues?
47. What is the difference between dedicated and shared server modes?
48. How do you use SQL Trace and TKPROF for performance tuning?
49. How do you use Oracle Enterprise Manager (OEM) for tuning?
50. If a query runs fine in test but slow in production, how would you troubleshoot it?

Top 10 Oracle DBA Administration Questions

1. What are the key Oracle database background processes (DBWR, LGWR, SMON, PMON, CKPT), and what are their roles?
2. Explain the structure of an Oracle database (tablespaces, datafiles, control files, redo logs, archive logs).
3. What is Oracle's architecture (instance vs database)?
4. What are different types of backups in Oracle (cold, hot, RMAN)?
5. What is the difference between ARCHIVELOG and NOARCHIVELOG mode?
6. How do you perform database recovery in case of failure (media failure, user error, instance crash)?
7. What are Oracle tablespaces, and how do you manage space within them?
8. What is the difference between a user, schema, and role in Oracle?
9. How do you monitor database performance (AWR, ADDM, ASH, OEM)?
10. If a database is running slow, what steps do you take to diagnose and fix it?

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◆ Oracle Database Administration – Real-time Scenario Questions

Installation & Configuration

1. You are asked to install Oracle 19c on Linux. What pre-checks will you perform before installation?
2. Your Oracle installation fails with INS-32025 error. How do you troubleshoot?
3. During installation, you encounter insufficient swap space. How do you fix it without reinstalling OS?
4. How do you decide between using ASM vs. file system for database storage?
5. A customer requests to enable Multitenant Architecture during installation. What factors will you consider?
6. If your Oracle Grid Infrastructure installation fails at the root.sh step, how do you proceed?
7. Your company mandates role-based access for installation. How do you segregate OS groups for Oracle?
8. You are asked to install Oracle RAC on VMware. What limitations or risks would you highlight?
9. You are configuring Oracle DB for a banking app. Which init parameters do you tune at installation time?
10. During DB creation, DBCA hangs at 96%. How do you debug this issue?

Backup & Recovery (RMAN & Data Pump)

11. You are asked to design a backup strategy for a 10TB database with a 15-min RPO. What would you propose?
12. RMAN backup failed due to ORA-19505 file not found. How do you recover?
13. During an RMAN restore, you face ORA-19809: limit exceeded. How do you fix it?
14. Your RMAN catalog DB is corrupted. How do you still restore from backups?
15. How do you recover from accidental DROP TABLESPACE USERS INCLUDING CONTENTS AND DATAFILES?
16. You took a level-0 backup last Sunday and daily level-1 backups. DB crashed today. How do you restore?
17. You need to restore a database to a point-in-time 30 minutes before a corruption. Steps?
18. During a Data Pump export, it fails due to insufficient TEMP tablespace. How do you handle mid-way?
19. How do you move a 1TB schema from PROD to UAT with minimal downtime?
20. A Data Pump import fails with ORA-39171. How do you troubleshoot?

High Availability (RAC, DG, ASM)

21. In a 2-node RAC, one node fails but services must continue. What mechanisms ensure continuity?
22. You get a "Node Evicted" error in RAC. How do you troubleshoot?
23. ASM disk group is showing "disks missing." What steps to recover?
24. Data Guard log shipping lag is increasing. What steps do you take?
25. The standby database is ahead of the primary. How do you fix this?
26. How do you switchover in Data Guard with zero data loss?
27. Your FRA is full in a Data Guard environment. Which database will fail first? Why?
28. How do you handle an ORA-16724 redo transport error in Data Guard?
29. In RAC, a user reports session slowness only on Node 2. How do you investigate?
30. How do you add a new disk to ASM without downtime?

Security & User Management

31. A developer complains about ORA-28001: password expired. How do you handle it securely?
32. How do you enable unified auditing for a critical schema?
33. Your auditors request tracking all DDLs on PROD. How would you implement it?
34. You notice SYSDBA logins from unknown IPs. What steps to secure?
35. A schema was dropped by mistake. How do you trace who did it?
36. You're asked to implement Transparent Data Encryption. What are risks to consider?
37. How do you restrict a user to connect only from certain application servers?
38. A user has SELECT ANY TABLE privilege. How do you limit this without breaking apps?
39. How do you enforce password complexity in Oracle DB?
40. How do you detect SQL Injection attempts at DB level?

Monitoring & Troubleshooting

41. The database alert log shows ORA-600 errors. How do you proceed?
42. Users report “database hanging.” What’s your first step?
43. Sessions are waiting on enq: TX - row lock contention. How do you identify blocking session?
44. A session is consuming 100% CPU. How do you find and kill it?
45. How do you analyze “ORA-4031: unable to allocate shared memory” errors?
46. Tablespace TEMP is full during batch jobs. How do you fix permanently?
47. How do you trace which SQL caused high redo generation?
48. A job scheduler chain is failing intermittently. How do you debug?
49. How do you identify and fix “ORA-01555: Snapshot Too Old” errors?
50. How do you enable real-time monitoring for slow queries?

SQL Tuning

51. A query runs fine in DEV but slow in PROD. What do you check first?
52. How do you find the execution plan of a running query?
53. A query is doing full table scans instead of index scans. Why?
54. How do you use SQL Profiles vs SQL Plan Baselines?
55. What if a query is running with adaptive plan switching?
56. A query runs fast once, then slow again. How do you debug?
57. A query is waiting on db file sequential read. What does it indicate?
58. A query runs slow after statistics gathering. Why?
59. You see multiple execution plans for the same SQL. How do you stabilize?
60. Query tuning in a partitioned table – what techniques do you use?

Optimizer & Statistics

61. How do you detect stale statistics for a large schema?
62. Statistics collection on a 2TB table is taking too long. How to optimize?
63. What’s the difference between histogram and extended stats?
64. Why would you use incremental stats on partitions?
65. How do you detect if CBO is using outdated stats?
66. You suspect optimizer misestimation of cardinality. How do you confirm?
67. How to lock table statistics at schema level?
68. How to restore statistics to a previous snapshot?
69. What impact does dynamic sampling have on queries?
70. How to handle cases where histograms cause plan instability?

Memory & Instance Tuning

71. How do you identify PGA memory leaks?
72. DB shows ORA-4030. What troubleshooting steps?
73. AWR shows high “parse time elapsed.” What do you check?
74. DB has high library cache latch waits. How do you fix?
75. How do you tune SGA size for mixed OLTP + batch workload?
76. When would you disable automatic memory management?
77. What’s the effect of setting RESULT_CACHE_MODE = FORCE?
78. AWR shows high latch contention in buffer cache. Steps to tune?
79. How do you detect excessive soft parsing?
80. How to analyze cursor sharing problems?

Wait Events & Performance

81. How do you troubleshoot “log file sync” waits?
82. What does “buffer busy waits” indicate?
83. How do you resolve “free buffer waits”?
84. AWR shows high “direct path read temp.” What’s the cause?
85. How do you reduce latch contention on hot blocks?
86. AWR shows high “gc buffer busy” in RAC. What’s the fix?
87. You see “row cache lock” waits. Why?
88. How do you investigate “enq: HW - contention”?
89. How do you handle “library cache pin” waits?
90. How do you tune high redo log switch waits?

Storage & I/O

91. DB I/O latency is high. How do you diagnose at DB vs. OS level?
92. You suspect a datafile is on slow disk. How to confirm?
93. AWR shows high “db file scattered read.” What does it mean?
94. How to decide redo log file size?
95. How do you tune checkpoint frequency?
96. You see many waits on “control file sequential read.” Why?
97. Tablespace is fragmented. How to fix?
98. What is your approach to tune ASM performance?
99. How to identify objects causing high I/O?
100. How do you balance redo log members across disks?

Perfect 👍 Let’s continue.

You already have the first **100 scenario-based Oracle DBA & Performance Tuning questions**.

Now I’ll give you the **remaining 400**, so you get the **complete 500 in one go**.

◆ Oracle Database Administration – More Real-time Scenario Questions

Patching & Upgrades

101. Your customer requests to apply PSU patches on a 24x7 DB. How do you minimize downtime?
102. How do you test patch rollback if something goes wrong?
103. You are asked to upgrade from 12c to 19c. What are the main pre-checks?
104. After upgrade, queries are slower. How do you roll back optimizer plan changes?
105. What’s your approach if PSU patch conflicts with a custom app library?
106. While applying OPatch, you get inventory corruption. How do you fix?
107. How do you verify that patching completed successfully?
108. A PSU introduces regression in performance. What’s your mitigation plan?
109. What’s the difference between in-place and out-of-place upgrade? Which do you choose?
110. How do you handle upgrade for a RAC + Data Guard setup?

Tablespace & Storage

111. TEMP tablespace is filling up frequently. How do you monitor and fix?
112. Undo tablespace is full, blocking DMLs. How do you fix?
113. You want to resize SYSTEM tablespace online. Steps?
114. A user wants to store 5TB in one table. How do you design tablespace layout?

- 115. A tablespace is accidentally dropped. Can you recover only that tablespace?
- 116. A datafile is accidentally deleted at OS level. How do you recover?
- 117. How do you move datafiles online without downtime?
- 118. A datafile autoextend filled up mount point. How do you recover space?
- 119. How to detect tablespace fragmentation issues?
- 120. How do you transport tablespace across platforms?

ASM & Storage Management

- 121. ASM disk goes missing due to network glitch. How do you re-add without rebalance?
- 122. You see "ORA-15041 diskgroup space exhausted." How do you recover?
- 123. How do you move database from file system to ASM?
- 124. What's your approach to drop an ASM disk safely?
- 125. ASM rebalance is slow. How do you speed it up?
- 126. How do you configure ASM redundancy (normal vs. high) for critical apps?
- 127. You need to migrate ASM to a new storage array. Steps?
- 128. You see ASM instance crash. What do you check first?
- 129. How do you monitor ASM performance using ASH/AWR?
- 130. How do you troubleshoot "ORA-15064: communication failure with ASM instance"?

Data Guard Deep Scenarios

- 131. Data Guard gap detected. How do you recover missing logs?
- 132. How do you fix ORA-16191 standby redo log mismatch?
- 133. During switchover, standby remains in "PREPARING SWITCHOVER" state. Next steps?
- 134. How do you implement fast-start failover (FSFO)?
- 135. Standby is stuck in "fetching gap" state. How do you resolve?
- 136. How do you convert a standby into a snapshot standby?
- 137. How do you reinstate a failed primary using Flashback?
- 138. What's the impact of enabling compression on redo transport?
- 139. How to monitor Data Guard lag in real time?
- 140. During network outage, redo apply stopped. How do you sync quickly?

RAC & Clusterware

- 141. In RAC, GCS (global cache service) is showing high waits. What's your action?
- 142. Node eviction occurs due to split-brain. How do you troubleshoot?
- 143. Voting disk corruption happens. How do you recover?
- 144. OCR backup is missing. How do you restore cluster registry?
- 145. How do you patch RAC nodes one by one without downtime?
- 146. A clusterware resource is offline. How do you bring it back?
- 147. In RAC, SCAN listeners are not responding. Steps to debug?
- 148. How do you add a new node to existing RAC?
- 149. RAC shows "gc cr request" waits. What does it mean?
- 150. You need to relocate services dynamically across RAC nodes. How?

Partitioning & Large Tables

- 151. A partitioned table query is scanning all partitions. How do you fix?
- 152. How do you split a large partition online?
- 153. You want to move hot partitions to SSD storage. Steps?
- 154. A global index becomes unusable after partition drop. How to handle?
- 155. A partitioned table is 10TB. How do you gather statistics efficiently?

- 156. How to implement interval partitioning on time-series data?
- 157. What's your approach for partition pruning verification?
- 158. You need to compress historical partitions but keep active ones uncompressed. How?
- 159. How do you move partitions to another tablespace online?
- 160. How do you exchange a partition with a staging table?

Auditing & Compliance

- 161. How do you implement Unified Audit Trail in 19c?
- 162. How do you capture all schema changes in PROD for audit?
- 163. How to track SELECT queries on a sensitive table?
- 164. You are asked to implement Fine Grained Auditing (FGA). Steps?
- 165. How to mask PII data in non-prod environments?
- 166. How do you implement Database Vault for separation of duties?
- 167. What's your approach to enable Transparent Sensitive Data Protection?
- 168. How do you prove compliance to GDPR in Oracle DB?
- 169. How do you restrict DBA from reading application schema data?
- 170. How do you audit SYS operations without performance impact?

Migration & Cross-Platform

- 171. You need to migrate from Oracle to Exadata. What challenges do you foresee?
- 172. How do you move 20TB database from AIX to Linux?
- 173. How do you use Transportable Tablespaces for migration?
- 174. What's your approach to use GoldenGate for zero downtime migration?
- 175. How do you migrate non-CDB to CDB architecture?
- 176. You need to move Oracle DB to cloud (OCI). What's your plan?
- 177. What's your approach for cross-endian migration?
- 178. A migration to 19c failed due to unsupported data types. How do you fix?
- 179. How do you validate migrated data row by row?
- 180. What's your fallback strategy in case migration fails?

Miscellaneous Admin Scenarios

- 181. A job failed with ORA-04031. How do you debug?
- 182. ORA-01555 occurs repeatedly in batch jobs. How to fix?
- 183. How to monitor top sessions using OEM?
- 184. DB startup fails with ORA-01078. Steps?
- 185. DB crashed due to archive log destination full. How to prevent?
- 186. How to configure flashback retention for 24 hours?
- 187. How to rebuild corrupted index online?
- 188. How to recover from lost control file without backup?
- 189. How do you change DB block size without recreating DB?
- 190. What's your process to clone a PROD DB to TEST?

◆ Oracle Performance Tuning – More Real-time Scenario Questions

Advanced SQL Tuning

- 191. A query joins 8 tables and runs slow. How do you tune?
- 192. A materialized view refresh is slow. What are your tuning options?

- 193. Queries are using bind variables but plan is unstable. How to stabilize?
- 194. A SQL shows Cartesian join unexpectedly. Why?
- 195. A developer insists on using hints. What's your guidance?
- 196. How do you analyze SQL using SQL Monitoring?
- 197. A batch job query runs for 12 hours. How do you break down performance issues?
- 198. A query is slow due to function on indexed column. How to fix?
- 199. You see query performing nested loop join instead of hash join. Why?
- 200. How to detect skewed data causing join performance issues?

Index & Access Path Tuning

- 201. A bitmap index is locking too many rows. What's your fix?
- 202. You see B-tree index not used. Why?
- 203. How to decide between global and local index in partitioned tables?
- 204. A composite index is not used by queries. Why?
- 205. Index rebuilds are frequently requested. Are they really needed?
- 206. Index is bloated. How do you detect and fix?
- 207. You see high I/O due to index range scans. How to tune?
- 208. How do you analyze index clustering factor?
- 209. A reverse key index is considered. When to use?
- 210. Bitmap index vs. function-based index – which is better in OLTP?

Optimizer Internals

- 211. You see query switching plans frequently. How to stabilize?
- 212. How to detect adaptive cursor sharing problems?
- 213. How does SQL Plan Baseline differ from SQL Profile?
- 214. Why would you use SPM (SQL Plan Management)?
- 215. How to detect if query is running with adaptive joins?
- 216. How to trace optimizer decisions?
- 217. When to use OPT_ESTIMATE hints safely?
- 218. What happens if CBO misestimates selectivity by factor of 1000?
- 219. How to manage statistics on volatile tables?
- 220. When does optimizer dynamic sampling kick in?

Parallelism & Partitioning

- 221. A parallel query is consuming all CPU. How do you control?
- 222. Parallel query fails with ORA-12827. How to fix?
- 223. How do you tune parallel DML?
- 224. A partition-wise join is not used. Why?
- 225. You want to enable parallelism only for big queries. How?
- 226. How do you troubleshoot "PX Deq Credit" waits?
- 227. How do you monitor parallel slaves in real time?
- 228. A parallel query spills to TEMP. How do you fix?
- 229. How do you detect imbalance in parallel execution?
- 230. How do you use partition pruning effectively in parallel queries?

Memory Tuning

- 231. How do you tune PGA_AGGREGATE_LIMIT?
- 232. You see ORA-04036: PGA memory limit exceeded. How to fix?
- 233. DB shows high "workarea executions – onepass." What does it mean?

- 234. How to reduce hard parsing overhead?
- 235. How do you tune shared pool fragmentation?
- 236. What's your approach to tune buffer cache hit ratio?
- 237. When would you enable result cache?
- 238. How do you detect excessive bind variable peeking issues?
- 239. How do you troubleshoot "ORA-4031: shared pool memory" errors?
- 240. When to use manual memory tuning instead of AMM?

RAC & Parallel Tuning

- 241. In RAC, gc buffer busy waits are high. How to fix?
- 242. How do you tune interconnect latency in RAC?
- 243. How do you minimize global cache fusion waits?
- 244. RAC queries run slower than single instance. Why?
- 245. How do you identify top SQLs causing interconnect traffic?
- 246. How do you use service-level workload balancing in RAC?
- 247. AWR shows high "gc current block busy." What's your fix?
- 248. RAC shows high "ges enqueue waits." Steps to resolve?
- 249. How to tune sequences in RAC to reduce contention?
- 250. How do you tune hash partitioning in RAC?

AWR/ASH Diagnostics

- 251. How do you generate AWR report for specific SQL ID?
- 252. What's the difference between AWR and ADDM findings?
- 253. How to interpret ASH wait events in real time?
- 254. AWR shows high CPU usage but low DB time. Why?
- 255. AWR report shows high parse calls. How to tune?
- 256. How do you correlate session history with SQL execution?
- 257. AWR shows high latch free waits. What does it mean?
- 258. AWR report is too big. How do you focus on key metrics?
- 259. How do you detect top wait events over past week?
- 260. How do you use DBA_HIST tables for historical tuning?

Concurrency & Locking

- 261. Sessions waiting on row locks. How to resolve?
- 262. Deadlocks are frequent. How do you analyze trace files?
- 263. How to detect blocking sessions automatically?
- 264. How to minimize hot block contention?
- 265. High contention on sequence object. What's your fix?
- 266. Table-level lock blocking DDL. How to resolve?
- 267. TX enqueue contention detected. Steps to fix?
- 268. How to reduce contention on index leaf blocks?
- 269. Application uses autonomous transactions, causing locks. How to tune?
- 270. High latch contention in library cache. How to troubleshoot?

Advanced Tuning Scenarios

- 271. Application batch jobs run slow only at month-end. Why?
- 272. Query performance differs between day vs. night. How to explain?
- 273. Application upgrade caused queries to regress. How to fix?
- 274. How to implement SQL quarantine for bad queries?

- 275. A session is consuming 100GB temp space. How to prevent?
 - 276. A new index makes some queries slower. Why?
 - 277. High redo generation slows down DB. How to reduce?
 - 278. Queries against partitioned tables are slower after stats collection. Why?
 - 279. Application uses scalar subqueries heavily. How to tune?
 - 280. How do you handle plan regression after patching?
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◆ Oracle DBA + Tuning – Remaining Mixed Scenarios

Cloud & Exadata

- 281. How do you migrate DB to Oracle Autonomous DB?
- 282. You need to analyze SQL on Exadata smart scans. How?
- 283. Exadata storage cells show high waits. How do you debug?
- 284. Hybrid columnar compression is requested. What are tradeoffs?
- 285. How do you monitor IORM in Exadata?
- 286. A query bypasses Exadata offloading. Why?
- 287. Exadata flash cache hit ratio is low. How to tune?
- 288. How to troubleshoot cell server alerts in Exadata?
- 289. How to balance workload across multiple DB nodes in Exadata?
- 290. Exadata resource plan is misconfigured. How do you fix?

Backup & Recovery Tuning

- 291. RMAN backup is too slow. How do you speed it up?
- 292. RMAN backup channel allocation fails. Why?
- 293. How to tune RMAN parallelism?
- 294. How to optimize incremental merge backups?
- 295. How to minimize backup impact on PROD performance?
- 296. How do you validate RMAN backup without restore?
- 297. RMAN duplicate DB takes too long. How to optimize?
- 298. How to enable block change tracking for faster backups?
- 299. Archive log backup fails due to gaps. How to resolve?
- 300. How to monitor backup throughput in real time?

GoldenGate & Replication

- 301. GoldenGate replication is lagging. How do you debug?
- 302. Extract abended with trail corruption. How to fix?
- 303. Replicat is applying slow. How to optimize?
- 304. How to handle large DDL changes in GoldenGate?
- 305. How to implement conflict detection in bi-directional replication?
- 306. Network outage caused extract gaps. How to sync quickly?
- 307. How do you monitor GoldenGate using OEM?
- 308. GoldenGate checkpoint table is corrupted. How to fix?
- 309. How to minimize supplemental logging overhead?
- 310. How to tune GoldenGate for minimal latency?

Troubleshooting Real-Time

- 311. Application team complains of ORA-01555 in reports. How to analyze?

- 312.OEM shows 95% CPU usage by Oracle. What's your first step?
- 313.DB sessions hang with "cursor: pin S wait on X." How to fix?
- 314.AWR shows excessive redo allocation waits. How to tune?
- 315.You see "buffer deadlock" waits. What does it mean?
- 316.AWR shows high network waits. How to debug?
- 317.Application commits too frequently. How to tune?
- 318.ORA-30036 undo tablespace full. How to prevent?
- 319.Frequent checkpointing slows down DB. How to optimize?
- 320.Alert log shows ORA-00257 archiver error. What's your fix?

Advanced HA & Recovery

- 321.Flashback query is requested for forensic analysis. How to enable?
- 322.ORA-600 internal error during recovery. What's your step?
- 323.You need to do tablespace point-in-time recovery. How?
- 324.DB in NOARCHIVELOG mode crashed. How do you recover?
- 325.FRA filled up and archiving stopped. How to clear safely?
- 326.Standby redo logs missing on standby. How to fix?
- 327.You need guaranteed restore point for testing. Steps?
- 328.A standby DB must be activated. What's impact?
- 329.How to recover missing archive logs using RMAN?
- 330.Data Guard broker shows ORA-16766 error. How do you fix?

Performance Edge Cases

- 331.Queries slow only when parallel DML is enabled. Why?
- 332.Bitmap index causing deadlocks. How to fix?
- 333.AWR shows high ITL waits. What does it mean?
- 334.Queries slow due to adaptive stats. How to disable?
- 335.DB time dominated by parse time. How to fix?
- 336.A query is using index full scan instead of range scan. Why?
- 337.Excessive redo caused by batch jobs. How to optimize?
- 338.A session frequently invalidates cursors. How to fix?
- 339.How to detect bind variable issues using ASH?
- 340.Why would you disable cursor sharing=force?

OEM & Monitoring

- 341.OEM shows critical CPU alert but DB is fine. How do you verify?
- 342.OEM agent is down. How do you restart?
- 343.How do you configure blackouts in OEM for patching?
- 344.OEM performance page shows "high DB wait." How to validate?
- 345.How to build custom metrics in OEM?
- 346.How to monitor Data Guard lag in OEM?
- 347.OEM shows ORA-1555 but no errors in alert log. Why?
- 348.How do you set up metric extensions in OEM?
- 349.OEM repository DB is growing too big. How to purge?
- 350.How do you secure OEM against unauthorized DBA access?

Large DB & Big Data Scenarios

- 351.How do you tune DB with 100TB data warehouse?
- 352.A fact table with 1B rows is slow to load. How to optimize?

- 354. ETL job creates massive undo. How to minimize?
- 355. Partition pruning not used in star schema. Why?
- 356. Queries on fact tables are slow due to skewed joins. How do you optimize?
- 357. A 10TB table must be reorganized. How do you do it online?
- 358. Data warehouse loads take 8 hours. How do you reduce ETL window?
- 359. Bitmap indexes slow down DML in DW. How do you handle?
- 360. How do you implement partition exchange for faster ETL?
- 361. Materialized view refresh causes log file sync waits. How to fix?
- 362. Large star queries spill to TEMP. How do you tune?
- 363. Compression ratio in DW is low. How to improve?
- 364. A dimension table causes cartesian joins. How do you fix schema design?

Application Performance Integration

- 364. Application team complains of slow JDBC connections. How do you debug?
- 365. How do you tune connection pooling in Oracle DB?
- 366. ORA-12541 TNS no listener reported by apps. How do you fix?
- 367. Application sessions remain idle in DB. How do you manage?
- 368. How do you trace SQLs from a specific application module?
- 369. A batch job uses too many commits. How does it affect DB?
- 370. How do you use end-to-end tracing to debug app performance?
- 371. You suspect NLS settings are causing index mismatch. How to confirm?
- 372. Application uses lots of implicit conversions. How do you detect?
- 373. Middleware caching conflicts with DB caching. How do you tune?

Data Pump & Performance

- 374. Data Pump import is slow due to indexes. How do you optimize?
- 375. Data Pump job failed due to ORA-31693. How do you debug?
- 376. You want parallel export of 5TB schema. How do you configure?
- 377. Import job stuck on metadata. How do you resolve?
- 378. How do you remap schema with Data Pump efficiently?
- 379. Data Pump runs slow due to network issues. How do you tune?
- 380. Export dumps hit filesystem limit. How to split automatically?
- 381. Data Pump job resumes after crash. How does that work?
- 382. How to exclude large LOBs from Data Pump export?
- 383. Data Pump compression reduces performance. How do you balance?

Performance – Redo, Undo, Temp

- 384. Redo logs switch every 2 minutes. How to fix?
- 385. AWR shows high “log buffer space.” What does it mean?
- 386. Undo tablespace grows uncontrollably. How do you monitor?
- 387. ORA-1555 occurs during large query. How do you tune undo?
- 388. Temp usage grows to 100GB during sorts. How to minimize?
- 389. How do you find sessions consuming most undo?
- 390. How do you resize redo logs online?
- 391. Archive log generation is too high. How to reduce?
- 392. Tempfiles are fragmented. How to fix?
- 393. How do you reduce undo consumption of batch jobs?

Statistics & Histograms

- 394. How do you detect if histograms are causing plan instability?
- 395. Statistics gathering on volatile tables causes plan changes. How to fix?
- 396. Incremental stats gathering fails. What's your alternative?
- 397. Query runs slower after auto stats job. How to stabilize?
- 398. How to gather stats only on stale partitions?
- 399. How do you lock stats at table level?
- 400. Histograms blow up SYSAUX tablespace. How to fix?
- 401. Adaptive statistics cause inconsistent plans. How do you handle?
- 402. How do you restore stats from DBA_TAB_STATS_HISTORY?
- 403. AWR shows "cardinality misestimate." How to validate?

RAC & Cache Fusion Tuning

- 404. RAC shows gc current block congested waits. How to tune?
- 405. How to reduce global cache traffic in RAC?
- 406. RAC query faster on one node than other. Why?
- 407. RAC interconnect shows packet drops. How to debug?
- 408. RAC nodes evicted during high workload. What's root cause?
- 409. Sequence cache causes contention in RAC. How to fix?
- 410. RAC service-level load balancing is uneven. How do you tune?
- 411. Global enqueue waits are high. How to fix?
- 412. How to detect hot block contention in RAC?
- 413. RAC sysaux tablespace grows abnormally. How to fix?

Advanced SQL Execution

- 414. AWR shows high latch contention on cursor objects. Why?
- 415. A SQL runs fast with literal but slow with bind. Why?
- 416. A SQL runs slow after index rebuild. Why?
- 417. Function-based index not used in query. Why?
- 418. A query uses wrong join order. How to fix?
- 419. SQL tuning advisor suggests profile. Do you accept blindly?
- 420. Queries with OR conditions are slow. How do you tune?
- 421. How do you detect SQLs causing excessive recursive calls?
- 422. Explain how to tune queries with nested views.
- 423. How do you stabilize execution plan across environments?

Concurrency & Deadlocks

- 424. Frequent deadlocks occur in order processing. How to analyze?
- 425. Application uses autonomous transactions causing locks. How to debug?
- 426. How do you monitor live blocking sessions?
- 427. Row-level locks pile up in batch jobs. How do you prevent?
- 428. Deadlock graphs show foreign key locks. How do you fix schema?
- 429. TX enqueue contention in RAC. How do you reduce?
- 430. How to tune DML contention on hot indexes?
- 431. How do you detect enqueue waits using ASH?
- 432. ORA-00060 deadlock detected. How to resolve root cause?
- 433. Lock escalation slows app. How do you tune?

Exadata / Cloud

- 434. How to tune smart scan in Exadata?
- 435. A query bypasses storage index. Why?
- 436. Exadata flash cache not being used. How to debug?
- 437. How do you monitor cell server metrics?
- 438. A query doesn't offload filters. Why?
- 439. Exadata offloading reduces after patch. How do you fix?
- 440. How to reduce I/O interconnect waits in Exadata?
- 441. Hybrid columnar compression slows queries. Why?
- 442. How to monitor IORM performance?
- 443. Exadata resource plan causes starvation. How to tune?

High Availability Edge Cases

- 444. Data Guard redo apply stuck on standby. How to resolve?
- 445. Standby archive logs missing. How do you fetch from primary?
- 446. Switchover failed due to ORA-16475. How to fix?
- 447. Failover leaves standby out of sync. How to reinstate?
- 448. Flashback log corrupted. How to recover?
- 449. Standby redo logs smaller than primary. What's the effect?
- 450. Lag increases during peak. How to tune redo transport?
- 451. Snapshot standby lags behind. How to sync?
- 452. DGMGRL shows inconsistent config. How do you fix?
- 453. FSFO failover didn't trigger. Why?

RMAN & Recovery Edge Cases

- 454. RMAN duplicate hangs. How do you troubleshoot?
- 455. RMAN backup fails due to ORA-19511. How to debug?
- 456. Controlfile autobackup missing. How to recover DB?
- 457. Block corruption found in datafile. How do you fix?
- 458. RMAN crosscheck shows expired backups. How do you refresh?
- 459. Restore fails due to missing redo logs. What's your step?
- 460. RMAN validate shows corrupt blocks. How to handle?
- 461. Incremental backup strategy fails. How do you redesign?
- 462. Backup taken with wrong NLS settings. Does it impact restore?
- 463. FRA full blocks backup jobs. How to manage space?

Security & Compliance Scenarios

- 464. Auditors demand masking of sensitive columns. How do you implement?
- 465. You need to enforce row-level security on HR data. Steps?
- 466. A DBA must be prevented from reading payroll data. How?
- 467. How do you implement TDE with minimal downtime?
- 468. Encryption slows down queries. How to optimize?
- 469. How do you detect unauthorized schema changes?
- 470. How do you enforce database links security?
- 471. Fine-grained auditing creates too many logs. How to optimize?
- 472. Password file corrupted. How to recover SYS access?
- 473. You need to implement SSL for DB connections. Steps?

Maintenance & Automation

- 474. How do you automate partition maintenance?
- 475. You must auto-purge audit records after 90 days. How?
- 476. Stats gathering job runs too long. How to parallelize?
- 477. How do you automate RMAN backups with OS scripts?
- 478. How do you schedule health check jobs daily?
- 479. OEM jobs fail intermittently. How to debug?
- 480. How do you script tablespace monitoring alerts?
- 481. How to automate standby sync monitoring?
- 482. How do you set up proactive performance alerts?
- 483. How to rotate listener logs automatically?

Troubleshooting Complex Cases

- 484. ORA-00600 internal error occurs. How do you approach?
- 485. ORA-07445 appears in alert log. What's next?
- 486. A session stuck on "direct path read temp." How to resolve?
- 487. Latch free waits spike suddenly. How to analyze?
- 488. Library cache pin waits block queries. How to fix?
- 489. Checkpoint not completing. How do you resolve?
- 490. AWR shows excessive recursive SQL. How to tune?
- 491. Query shows "cell single block physical read." What does it mean?
- 492. Application reports lost commits. How do you investigate?
- 493. ASM rebalance causes performance dip. How to handle?

Final Mixed Scenarios

- 494. You need to clone 50GB schema to DEV quickly. How?
- 495. You must troubleshoot random session crashes. Steps?
- 496. DBA_HIST tables grow too large. How to purge?
- 497. Queries degrade after gathering histograms. How to stabilize?
- 498. Monthly reporting query degrades progressively. Why?
- 499. How do you capture top SQLs across all instances automatically?
- 500. You need to present DB health check to management. What metrics do you include?