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MSSQL VS ORACLE

INTERVIEW QUESTIONS & REAL-TIME DIFFERENCES

Architecture • Performance • Security • Administration • Real-World Use Cases

INTERVIEW QUESTIONS & ANSWERS

SQL SYNTAX COMPARISON
T-SQL vs PL/SQL

ARCHITECTURE COMPARISON
Detailed Diagrams

REAL-TIME DIFFERENCES
Use Cases

CAREER GUIDANCE
DBA, Developer, Data Engineer

SAI PHANINDRA THOLETI

20+ Years of Industry Experience

Corporate Trainer | Data Platform Specialist

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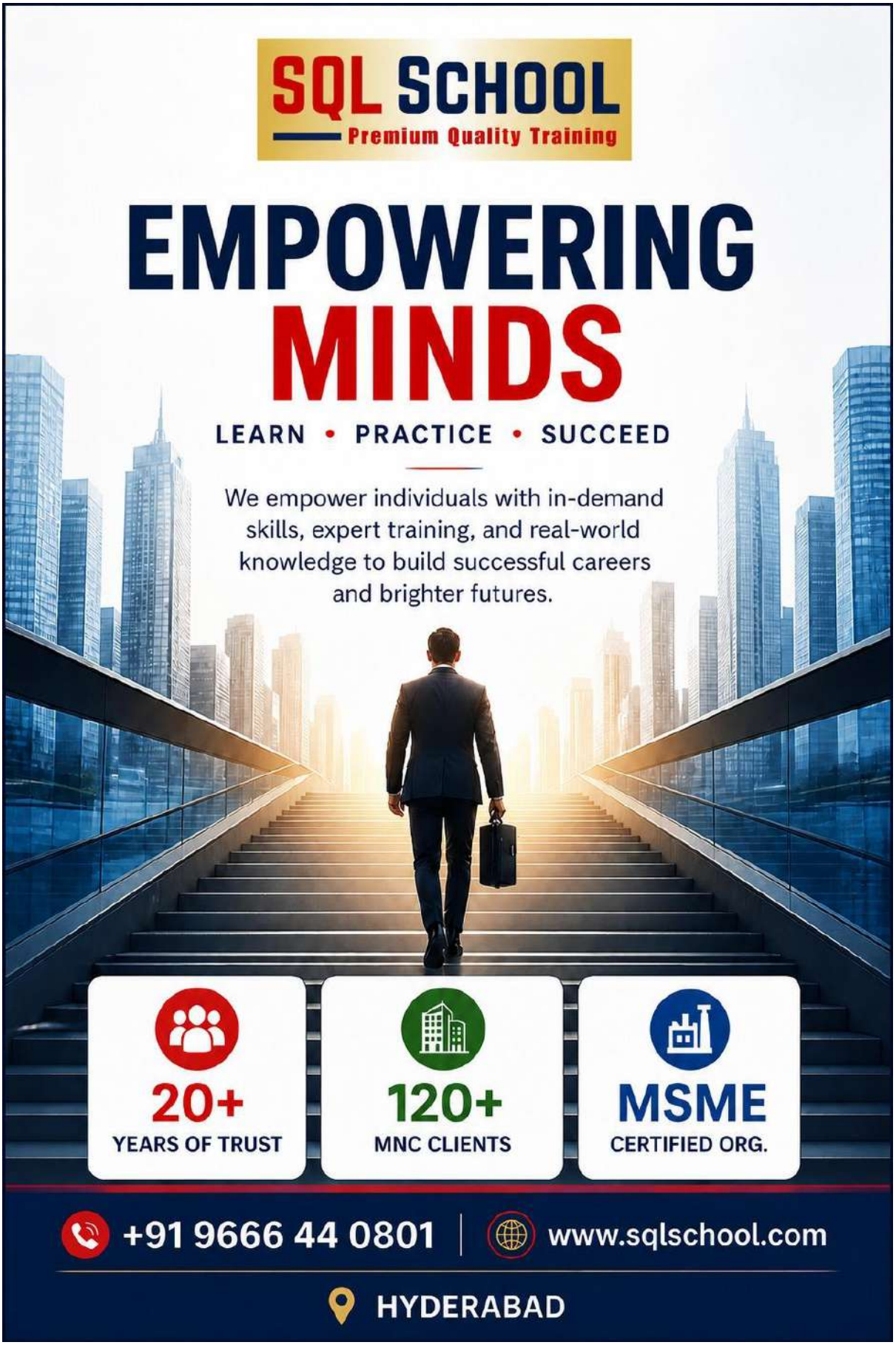

MSSQL vs Oracle Interview Questions & Real-Time Differences

In today's data-driven world, relational databases form the backbone of enterprise applications, business intelligence platforms, cloud solutions, and mission-critical systems. Among the most widely adopted database technologies, Microsoft SQL Server (MSSQL) and Oracle Database stand out as industry leaders, powering thousands of organizations across finance, healthcare, retail, manufacturing, telecommunications, and government sectors.

Choosing between MSSQL and Oracle is one of the most common challenges faced by Database Administrators (DBAs), Developers, Data Engineers, Architects, and IT decision-makers. Both platforms provide powerful features for data storage, security, performance, scalability, high availability, and disaster recovery. However, they differ significantly in architecture, administration, development methodologies, licensing models, cloud integration, and career opportunities.

This handbook provides a comprehensive comparison of MSSQL and Oracle from both technical and practical perspectives. It is designed to help students, professionals, and interview candidates understand the key differences between the two technologies through real-world examples, architecture diagrams, syntax comparisons, and frequently asked interview questions.

What You Will Learn

- ✓ Fundamentals of Microsoft SQL Server and Oracle Database
- ✓ Architecture and component-level differences
- ✓ T-SQL versus PL/SQL programming concepts
- ✓ Database administration and maintenance strategies
- ✓ High Availability and Disaster Recovery solutions
- ✓ Security and performance optimization techniques
- ✓ Cloud integration with Azure SQL and Oracle Cloud
- ✓ Real-time industry use cases
- ✓ Frequently asked interview questions and answers
- ✓ Career opportunities for DBAs, Developers, and Data Engineers

Who Should Read This Guide?

- ✓ SQL Developers
- ✓ Database Administrators (DBAs)
- ✓ Oracle Developers
- ✓ Data Engineers
- ✓ Cloud Engineers
- ✓ Data Analysts
- ✓ IT Professionals preparing for interviews
- ✓ Students exploring database technologies

Whether you are preparing for a technical interview, evaluating database platforms for your organization, or building a successful career in database technologies, this guide will provide practical insights and industry-relevant knowledge to help you make informed decisions.

Practical Differences between MSSQL & Oracle SQL:

Features	MSSQL (TSQL)	Oracle PLSQL
String Concatenation	SELECT 'SQL' + ' School';	SELECT 'SQL' || ' School' FROM DUAL;
Current Date & Time	SELECT GETDATE();	SELECT SYSDATE FROM DUAL;
Increment Columns	CREATE TABLE Employees (EmpID INT IDENTITY(1,1), EmpName VARCHAR(100));	CREATE TABLE Employees (EmpID NUMBER GENERATED ALWAYS AS IDENTITY, EmpName VARCHAR2(100));
Top N Rows	SELECT TOP n * FROM Employees	SELECT * FROM Employees FETCH FIRST N ROWS ONLY;
Variables	DECLARE @EmpName VARCHAR(SET @EmpName = 'John'; SELECT @EmpName; PRINT @EmpName;	DECLARE EmpName VARCHAR2(100); BEGIN EmpName := 'John'; DBMS_OUTPUT.PUT_LINE(EmpName); END;
Null Handling	SELECT ISNULL(Salary, 0) FROM Employees;	SELECT NVL(Salary, 0) FROM Employees;
Conditional Logic	SELECT IIF(Salary > 50000, 'High', 'Low') FROM Employees;	SELECT CASE WHEN Salary > 50000 THEN 'High' ELSE 'Low' END FROM Employees;

Stored Procedures	CREATE PROCEDURE usp_GetEmp
	AS
	
	BEGIN
	SELECT *
	FROM Employees;
	END;
		CREATE OR REPLACE PROCEDURE GetEmployees AS
		BEGIN
		OPEN :ResultSet FOR
		SELECT * FROM Employees; END;

Error Handling	BEGIN TRY
	SELECT 10/0;
	END TRY
	BEGIN CATCH
	PRINT ERROR_MESSAGE();
	END CATCH
		BEGIN
		DBMS_OUTPUT.PUT_LINE(10/0);
		EXCEPTION
		WHEN OTHERS THEN
		DBMS_OUTPUT.PUT_LINE(SQLERRM);
		END;

MERGE	MERGE Employees AS T USING NewEmployees AS S ON T.EmpID = S.EmpID WHEN MATCHED THEN UPDATE SET T.Name=S.Name WHEN NOT MATCHED THEN INSERT(EmpID,Name) VALUES (S.EmpID,S.Name);	MERGE INTO Employees T USING NewEmployees S ON (T.EmpID = S.EmpID) WHEN MATCHED THEN UPDATE SET T.Name=S.Name WHEN NOT MATCHED THEN INSERT(EmpID,Name) VALUES (S.EmpID,S.Name);

Temporary Tables	CREATE TABLE #TempEmployee	CREATE GLOBAL TEMPORARY

	(EmpID INT, EmpName VARCHAR(100));	TABLE TempEmployee (EmpID NUMBER, EmpName VARCHAR2(100)) ON COMMIT PRESERVE ROWS;
Sequence Object	CREATE SEQUENCE SeqEmp START WITH 1 INCREMENT BY 1; SELECT NEXT VALUE FOR SeqEmp;	CREATE SEQUENCE SeqEmp START WITH 1 INCREMENT BY 1; SELECT SeqEmp.NEXTVAL FROM DUAL;
Data Types Comparison	VARCHAR NVARCHAR INT DATETIME BIT MONEY UNIQUEIDENTIFIER	VARCHAR2 NVARCHAR2 NUMBER DATE / TIMESTAMP NUMBER(1) NUMBER(19,4) RAW(16) / GUID
Advantages	✅ Easy to Learn and Implement ✅ Cost Effective ✅ Best Integration with Microsoft Products ✅ Excellent GUI Tools (SSMS) ✅ Strong Azure Cloud Support ✅ Faster Development Cycle	✅ Enterprise-Grade Database ✅ High Scalability ✅ RAC for Zero Downtime Systems ✅ Advanced Security Features ✅ Excellent Performance for Large Workloads ✅ Preferred in Banking & Telecom Industries
Career Perspective	✓ SQL Developer ✓ SQL DBA with Cloud, AI ✓ ETL Admin ✓ Data Engineer Data ✓ Analyst BI Developer ✓ Data Architect	✓ Oracle Developers ✓ Oracle DBAs ✓ ODI Developers

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