

PROJECTS

PRESENTATION

VIJAY

ABOUT ME

- An experienced IT professional specializing in PL/SQL Development, ETL Processes, and Database Management with a focus on high-performance data solutions.
- Proficient in automating end-to-end data workflows, reducing manual intervention, and ensuring seamless large-scale data migrations.
- Skilled in SQL tuning, query optimization, and performance troubleshooting for high-volume transactional systems.
- Hands-on experience in Database Administration (DBA) activities like data load monitoring, session & privilege user management, backups, and deployment coordination.
- Expertise in developing automation frameworks using Shell Scripts, SQL*Loader, and Cron Jobs for efficient data ingestion and validation.
- Strong focus on data quality, audit logging, error recovery mechanisms, and release management automation.

MY JOURNEY

2021

System Engineer Trainee
Assisted in developing and maintaining PL/SQL scripts, learning core database concepts, and supporting basic ETL processes under senior supervision.

2022

System Engineer
Independently handled development of PL/SQL procedures, participated in small-scale ETL automation, and began contributing to data validation and error handling tasks.

2024

Senior Systems Engineer
Led the design of scalable PL/SQL solutions, developed automated ETL frameworks, and took ownership of data migration activities with robust error recovery mechanisms.

2025

Technology Analyst
Driving end-to-end project delivery by architecting automation frameworks, optimizing high-volume data loads, coordinating releases, and managing DBA operations.

MY ROLE & RESPONSIBILITIES



Database Development:

Designing, developing, and optimizing PL/SQL packages, procedures, functions, and triggers to build robust and scalable database solutions.



ETL & Data Migration:

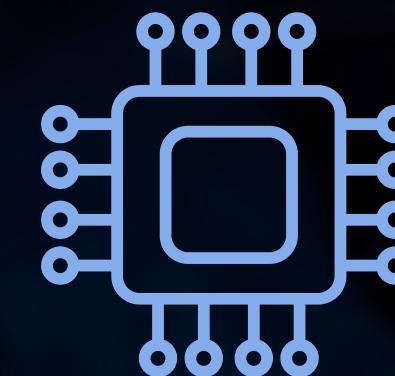
Building automated ETL frameworks (SQL*Loader, Shell Scripting, Cron Jobs) and leading large-scale data migrations with validation, error handling, and rollback mechanisms.



Automation, Release Management &

DBA Operations:

Orchestrating release management, automating database deployments, and executing critical DBA tasks like data load monitoring, session/user privilege management, and backup & recovery strategies.



Performance Tuning:

Expertise in SQL tuning, query optimization, and resolving performance bottlenecks to ensure efficient high-volume data processing.

PROJECT 1

ETL AUTOMATION & DATA MIGRATION FOR HIGH-VOLUME DAILY & SCHEDULED LOADS

Project Overview

Designed and implemented a fully automated ETL framework to handle daily and scheduled data loads, ensuring seamless ingestion, validation, and transformation of structured data between upstream and downstream systems.

Data Feeds & Flow

- Total Feeds: 6
 - Upstream to DB: 4 feeds (daily transactional data)
 - DB to Downstream Systems: 2 feeds (processed & validated data)

Technology Stack

Oracle | SQL*Loader | Shell Script | Cron Jobs | SFTP Automation

ETL Load Types

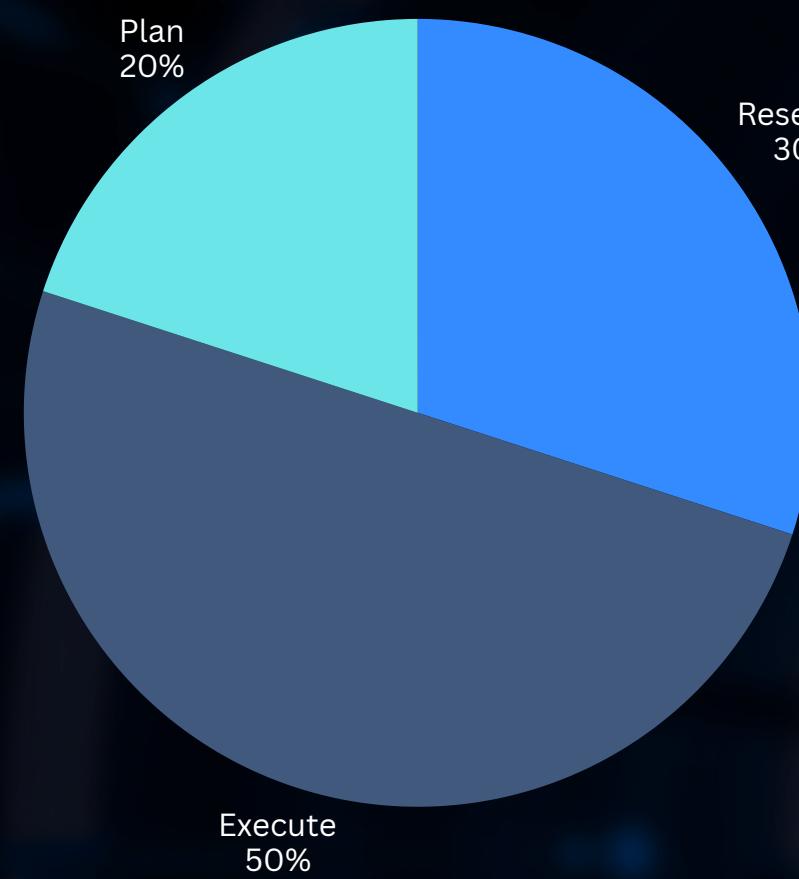
- Full Load: Once every 6 months for base tables
- Delta Load: Daily incremental loads using timestamp/PK-based diff logic

Key Achievements

- Automated end-to-end data load pipelines reducing manual intervention by 90%
- Improved data load performance by 45% through optimized SQL and parallel processing
- Implemented robust error handling, rollback, and restart mechanisms
- Ensured high data accuracy and SLA adherence for critical business feeds
- Developed reusable shell scripts and parameterized control files for onboarding new feeds



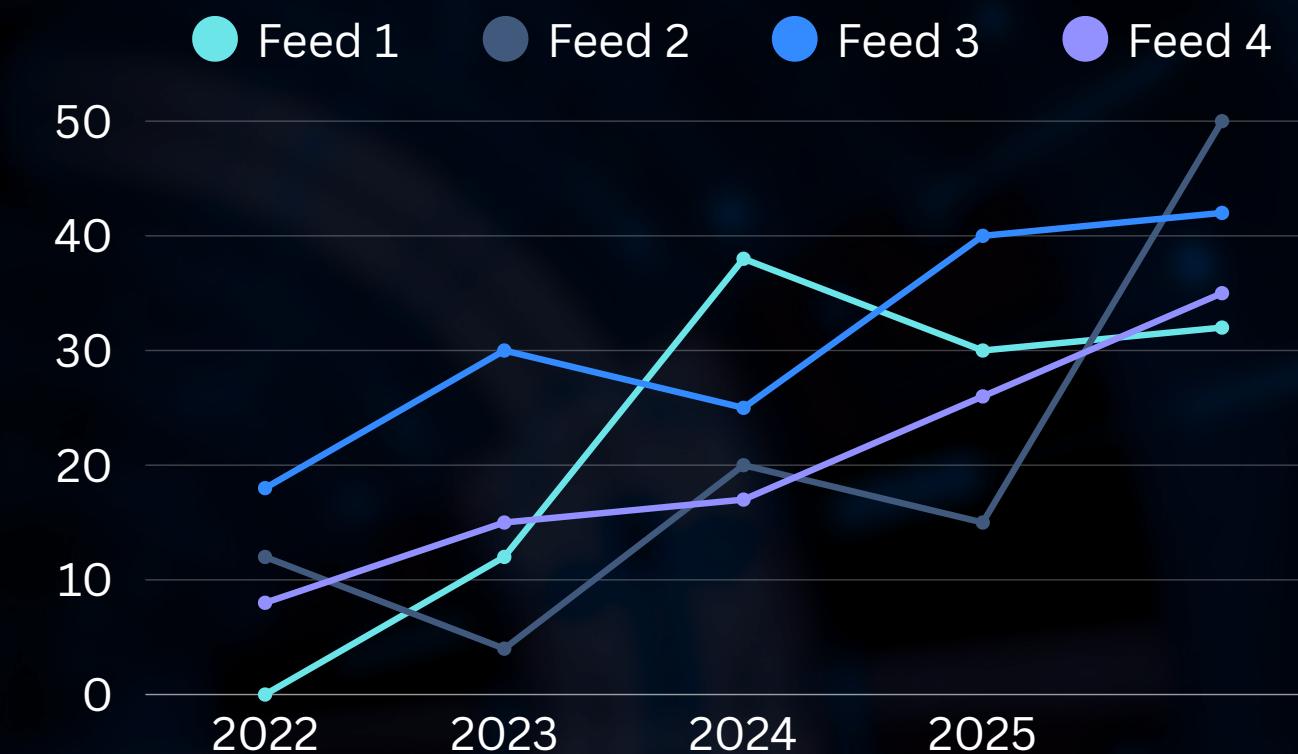
STUDY CHART



Breakdown:

- Research – 30%
 - Analyzing data & gathering source inputs
 - Understanding framework structure & dependencies
 - Effort estimation & feasibility analysis
- Planning – 20%
 - Task ordering & prioritization
 - Designing file formats for Full/Delta Load
 - Scheduled time slot planning & resource allocation
 - SFTP server setup & email alerts configuration
- Execution – 50%
 - Actual development & coding
 - Feed integration & file processing logic
 - Error handling, rollback & recovery
 - Testing across environments & validation

FEED LOAD



Key Enhancements Timeline:

- Year 1:
 - SQL tuning & query optimization for high-volume feeds
 - Parallel processing introduced to reduce load time
- Year 2:
 - Disk space & tablespace reallocation for growing data
 - SFTP bandwidth optimizations for faster file transfers
- Year 3:
 - Delta Load refinement to reduce data footprint
 - Automated monitoring scripts & email alert enhancements

PROJECT 2

ADVANCED PERFORMANCE TUNING & OPTIMIZATION FOR HIGH-VOLUME DATABASE SYSTEMS

Project Overview

Executed comprehensive SQL tuning and performance optimization strategies for high-volume transactional systems to enhance query efficiency, reduce resource utilization, and ensure consistent SLA compliance for critical business operations.

Performance Challenges Addressed

- Complex queries causing high CPU and I/O bottlenecks
- Long-running batch jobs exceeding SLA thresholds
- Unoptimized indexes impacting query performance
- Excessive tablespace usage due to data growth

Technology Stack

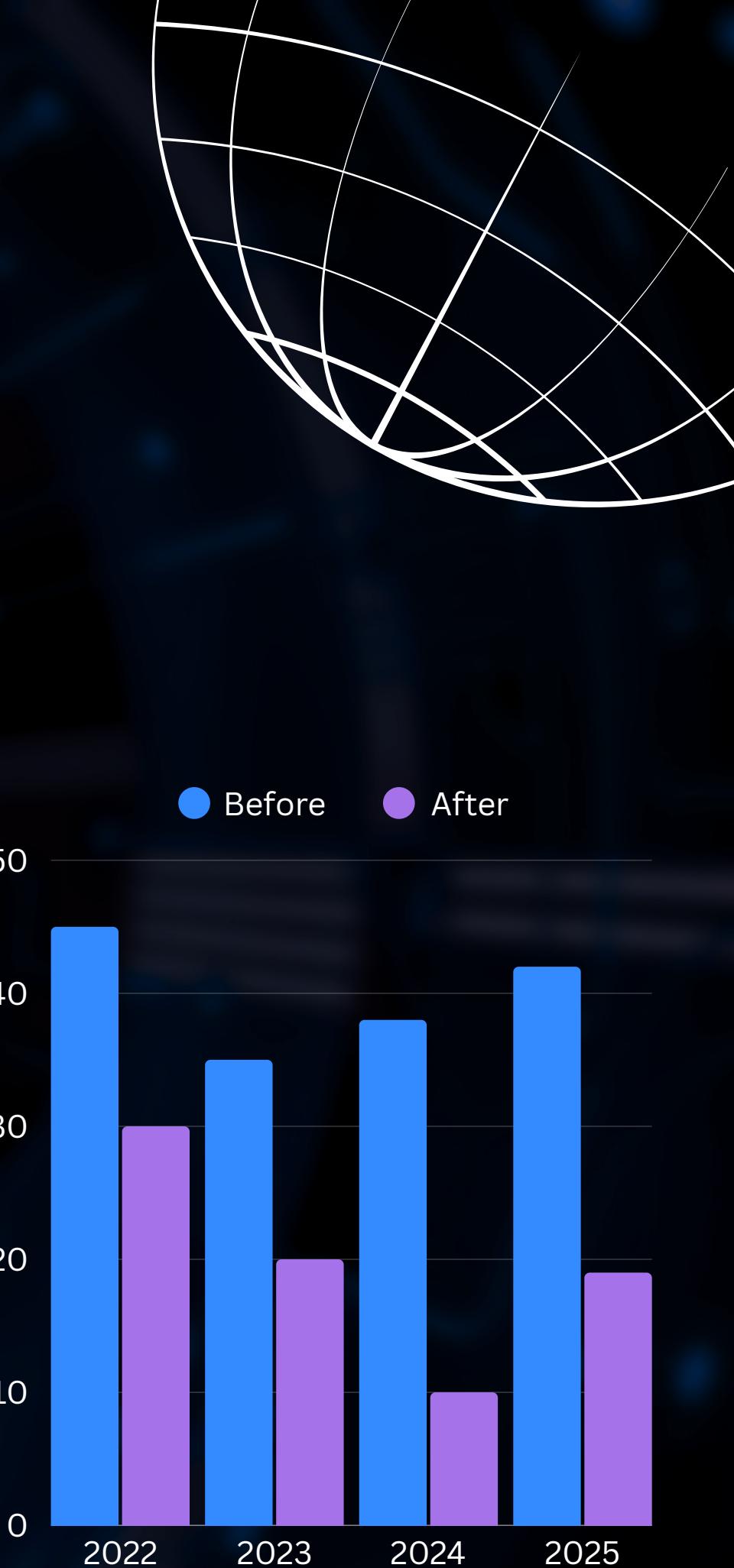
Oracle Database | SQL Developer | Explain Plan | AWR Reports | Index Optimization | Shell Scripting (for automation)

Optimization Techniques Applied

- SQL query refactoring & subquery un-nesting
- Index rebuilds and creation of function-based indexes
- Partitioning of large tables to improve query response time
- Parallel execution and hints optimization for batch processing

Key Achievements

- Reduced query execution time by 60%-70% for high-volume data fetches
- Optimized batch job runtimes from 3+ hours to under 1 hour
- Significantly reduced tablespace consumption through purging & archiving strategies
- Automated AWR report generation & performance monitoring dashboards
- Enhanced overall system stability and resource utilization efficiency



BEFORE VS AFTER PERFORMANCE IMPROVEMENT

Process Area	Before (Issue & Metrics)	Resolution & Fixes Applied	After (Improvement)
Complex Query Execution	Long-running queries (20-30 mins each), high CPU usage	SQL refactoring, index optimization	Execution time reduced to under 5 mins (80%↓)
Batch Job Processing	Batch jobs exceeding SLA (3-4 hours)	Parallel execution, hint optimization	Reduced runtime to ~1 hour (70%↓)
Tablespace Usage	Rapid tablespace growth, frequent space alerts	Space reallocation, unused index purging	40% reduction in tablespace consumption
Data Transfer via SFTP	File transfers taking ~45 mins per batch due to bandwidth issues	Compression techniques, SFTP tuning	Transfers optimized to ~20 mins (55%↓)
Monitoring & Issue Detection	Manual log reviews, delayed error identification	Automated monitoring scripts, email alerts	Real-time alerts & faster issue resolutions

PROJECT 3

AUTOMATION FRAMEWORK

Project Overview

Developed and deployed a comprehensive automation framework to streamline mass data processing, error handling, system monitoring, and routine maintenance tasks. This end-to-end solution reduced manual efforts and enhanced operational stability across multiple environments.

Key Automation Areas

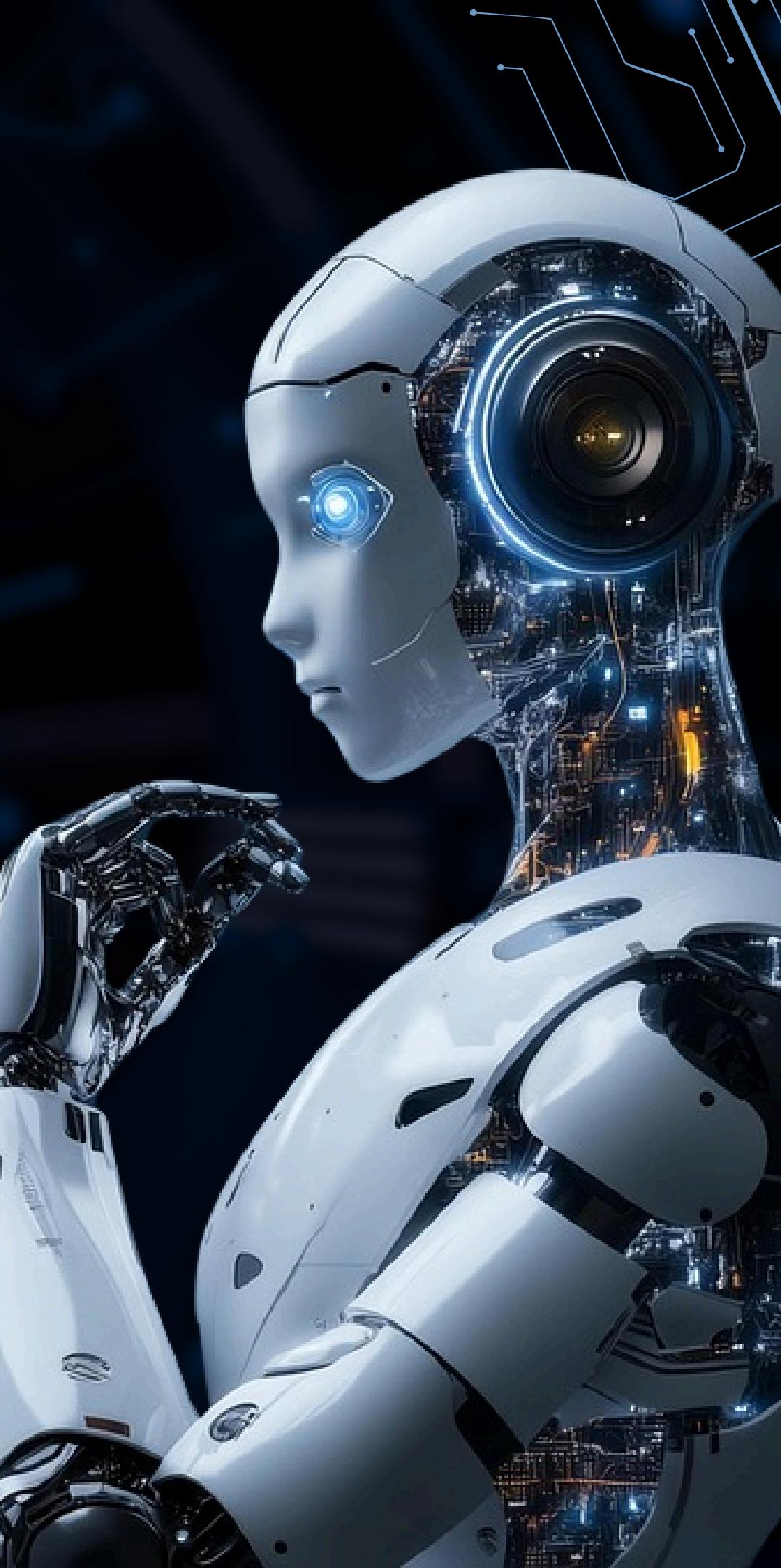
- Mass Data Processing (bulk load jobs, validations, diff checks)
- Automated Email Alerts for load status, failures, and monitoring updates
- Scheduled Table Cleanup & Archival processes
- Real-time Error Log Scanning & Alert Mechanisms
- Data Refresh Automation for staging/test environments
- DBMS Job Scheduling for routine database tasks
- Reusable Shell Scripts for repetitive operational processes

Technology Stack

Oracle DB | DBMS_SCHEDULER | Shell Scripting | SQL*Loader | Cron Jobs | SFTP | SQL Developer

Key Achievements

- Reduced manual effort in mass data processing by 90%, ensuring consistent SLA adherence.
- Improved issue detection and resolution time by 70% through real-time log scanning and automated alerts.
- Optimized database storage with 50% reduction in tablespace consumption via automated cleanup mechanisms.
- Streamlined data refresh processes, reducing turnaround time from 4 hours to 1.5 hours.
- Enhanced job reliability by automating routine DBA operations with DBMS_SCHEDULER and proactive monitoring.
- Established a reusable automation framework adaptable for onboarding new feeds and processes swiftly.



BEFORE VS AFTER AUTOMATION IMPACT TABLE

Process Area	Before (Issue & Metrics)	Resolution & Fixes Applied	After (Improvement)
Mass Data Processing	Manual intervention in bulk load processes, prone to delays & errors	Automated end-to-end data load pipelines	Reduced manual effort by 90%, improved SLA adherence
Error Detection	Reactive issue identification through manual log reviews	Real-time error log scanning & alerting mechanisms	Issues detected & resolved 70% faster
Table Cleanup	Periodic manual cleanup causing disk space alerts	Automated archival & cleanup scripts	50% reduction in tablespace usage
Data Refresh	Time-consuming manual data refreshes for UAT environments	Automated data refresh with rollback mechanisms	Reduced refresh time from 4 hours to 1.5 hours
Routine DBMS Jobs	Scattered manual job executions with no centralized control	DBMS_SCHEDULER jobs with monitoring & auto-recovery	Enhanced job reliability and proactive monitoring

PROJECT 4

COMPLEX PL/SQL DEVELOPMENT, DBA OPERATIONS & RELEASE MANAGEMENT AUTOMATION

Project Overview

Led the development of complex PL/SQL solutions, coordinated DBA operations, and streamlined release management processes to ensure smooth deployments, optimized database performance, and reduced operational overheads in production environments.

Key Focus Areas

- Complex PL/SQL Packages, Procedures, Functions & Triggers Development
- Release Automation & Deployment Coordination
- DBA Activities: Data Load Monitoring, Backup Strategies, Session/User Management
- Error Handling, Rollback, and Restart Mechanisms
- Audit Logging & Data Reconciliation Processes

Technology Stack

Oracle PL/SQL | SQL Developer | Shell Scripting | SQL Loader | DBMS_SCHEDULER | GitLab | SQL Plus | Unix/Linux Scripting

Key Achievements

- Reduced deployment preparation time by 60% through reusable automation scripts.
- Achieved 100% deployment accuracy with automated pre/post-deployment validations.
- Enhanced production stability with robust error handling and recovery frameworks.
- Improved coordination efficiency between Development & DBA teams.
- Established a scalable release management process adaptable for future projects.

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 [Portfolio](#)



THANK YOU