

# Akash Gupta

Oracle/Postgres/AWS Cloud DBA

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## SUMMARY

Experienced Cloud engineer with over 5 years in database administration. Proficient in cloud database solutions and large - scale data migrations. Adept at designing efficient database structures and implementing robust data security measures.

## PROJECTS & WORK

### 1. Market Vision database management:

#### ❖ Key Contribution:

- Led seamless database migrations from on-premises data centers to AWS and Azure, including data center decommissioning.
- Optimized infrastructure by implementing cost-saving measures such as instance downsizing, disk/space management, and purging/archiving historical data.
- Performed health checks, monitoring, patching, backups, recovery, UAT refreshes, and performance tuning for multiple clients.
- Partnered with data specialists to deliver tailored database solutions based on client requirements.
- Supported the transition to Oracle Autonomous Database, enhancing RPO/RTO and reducing costs and manual effort.

### 2. CalHEERS Tools Databases Migration: This project deals with migration of multiple tools databases like RTC, ALM and Autosys sandbox and production databases from EC2 to RDS.

#### ❖ Key Contribution:

- Successfully migrated production and sandbox batch server backend database called Autosys through *DMS*.
- Successfully migrated production and sandbox application management database called ALM using Datapump, Toad.
- Successfully migrated production and sandbox ticketing application database called RTC to Oracle RDS.

### 3. Large Scale Data Migration: This project deals with migration of 50 prod/non-prod databases from Oracle to Postgres.

#### ❖ Key Contribution:

- Led the migration of multiple databases from oracle databases running on on-premises data center to Cloud Aurora Postgres.
- Ensured minimal downtime using Change data capture mechanism and data integrity throughout the migration process.

### 4. Database Optimization initiative: This project deals with conducting a comprehensive review of existing database structures, identifying and implementing optimizations that improved performance by 30% and helps in cost cuttings.

#### ❖ Key Contribution:

- Established new data models that better aligned with evolving business need.
- Led initiative to automate RDS snapshot extraction to S3, resulting in ~\$0.3M/year savings in Aurora backup storage costs.
- Developed a Jenkins job utilizing CloudWatch metrics to capture database health checks, long-running queries, and historical data for PostgreSQL, replicating Oracle's AWR report functionality.

### 5. CalHEERS DBA Support: This is a state project which streamlines the eligibility and enrollment process for healthcare products through covered California.

#### ❖ Key Contribution:

- Supported as a cloud database administrator for CALHEERS production and 50+ non-prod databases of total ~100TB.
- Engaged in RDS/Aurora Postgres database setup/migration. (*Tech Refresh*)
- Took care of 20+ end-to-end feature release process from DB end. (*GIT, Jenkins, launchpad, Liquibase, Management*)
- Designed bash script to automate cross schema foreign table import in Postgres across all environments.
- Implemented database code deployment process through Jenkins.
- Developed AWR equivalent monitoring and database health check report generation job in Postgres using CloudWatch CLI, python and Jenkins.
- Supported in Oracle database migration from Exadata machine to AWS cloud.
- Managed Active data guard broker configuration for real time reporting and Snapshot database for application testing.
- Implemented 50+ bash scripts, alerts and reports as part of cloud cutover activity which helps in standardize the CALHEERS operations. (*Automation*).
- Developed backup automation directly to S3 bucket using OSB in LT environment. (*Cloud, OSB*)
- Engaged in space management activity across 49+ database. (*Compression, partitioning, Redefinition, Re-organization*)
- Led database patching activity across more than 90 env including prod/non-prod/LT/Staging.
- Managed and setup FGA functionality for critical PII data. (*Auditing*)

- Monitor ETL load for DW databases snowflake. (*Performance tuning, SQL analysis, OEM, Advisory*).
- Database patching, switchover, RMAN restore recovery, User management, tablespace management.

**6. Ansible Automation tool:** This tool can be used to automate data to day tasks for thousands of Linux servers.

❖ **Key Contribution:**

- Designed this tool from scratch using bash and open-source configuration management tool called Ansible.
- Setup multiple options like health check, user administration, space alert etc. other tasks can also be added.

## TECHNICAL SKILLS

❖ **Database:**

- **Oracle DBA** → Dataguard (HA), Standby configuration (DR), Maintenance, RAC, RMAN, ASM, AWR, FGA, Datapump, Expdp/Impdp, performance tuning (Explain plan, Hints, profiling/baselining), OEM monitoring, partitioning, compression, redefinition, re-org, user management, Patching, flashback, backup and recovery, Cron Jobs, Golden Gate, OCI, database migration.
- **Postgres DBA** → Architecture design, Host based authentication, configuration, user management, Audit log management, tablespaces import/export, backup and restore, pg-upgrade, replication, partitioning, inheritance, monitoring, maintenance (vacuum, re-index), statistics, query analysis, High availability, PG Cron, PgBadger.

❖ **Cloud:**

- **AWS** → EC2, VPC, S3, EBS, EFS, RDS, Aurora, ElastiCache, ASG, Load Balancer, Route53, SNS, SQS, Kinesis, Cloudfront (CDN), Cloud watch, Athena, Encryption, IAM, MFA, AMI, DMS advanced.
- **AZURE** → SQL database, Azure BLOB Storage, Azure VM Scale sets, Azure flexible Postgres server, Azure managed instance, Azure VM, Non-relational db APIs, Azure synapse analytics, Azure data bricks, Azure data factory, Apache spark.

❖ **Automation & Languages:** Bash scripting, Ansible, C, C++, HTML, CSS, SQL, Data Structures and Algorithms, AWS CLI.

❖ **Tools:** GIT, Jenkins, launchpad, Nagios, Dynatrace, OEM monitoring, Toad, SQL developer, JIRA, Confluence, PgAdmin, Putty, Dbeaver, Erwin data modeler.

❖ **Operating System:** Windows and Linux.

❖ **Subjects of Interest:** Cloud, DBMS, Object-Oriented Programming (OOP).

## EXPERIENCE

MCKINSEY & COMPANY, GURGAON, INDIA	<b>DATABASE ADMIN II</b>	09/2024-PRESENT
DELOITTE, GURGAON, INDIA	<b>CONSULTANT</b>	07/2023-09/2024
DELOITTE, GURGAON, INDIA	<b>ANALYST</b>	07/2020-07/2023
MENTORGRAPHICS, NOIDA, INDIA	<b>HEP TRAINEE</b>	06/2019-07/2019

## EDUCATION

Course	College/School	Year of Pursuing	CGPA/ Percentage
Bachelor of Technology (ECE)	National Institute of Technology, Kurukshetra	2016-20	<b>9.5185 CGPA</b>
Senior Secondary (UP Board)	Saraswati Vidhya Mandir Inter college, Shamli	2014-16	<b>95%</b>
Secondary (UP Board)	Saraswati Vidhya Mandir Inter college, Shamli	2012-14	<b>92%</b>

## ACHIEVEMENTS/AWARDS/CERTIFICATES

- ❖ **AWS Cloud Practitioner(CLF-02)** from AWS.
- ❖ **AWS Solutions Architect-Associate(SAA-C03)** from AWS.
- ❖ **Azure data engineer Associate(DP-203)** Certificate from Microsoft.
- ❖ **Azure data fundamentals(DP-900)** Certificate from Microsoft.
- ❖ **Oracle DBA 11g/12c** Certificate from Udemy along with ~3 years hands-on experience.
- ❖ **Oracle backup and recovery** Certificate from Udemy.
- ❖ **Oracle data guard admin** Certificate from Udemy.
- ❖ **Postgres database** training from RPS consulting and Sahasra technologies along with ~2 years hands-on experience.
- ❖ **Bash Scripting** Certificate from Udemy.
- ❖ **SQL** Certificate from Udemy.

- ❖ **Spot award/Applause** in Deloitte.
- ❖ **Department ranker** in Electronics and communication Engineering department (130+ students).
- ❖ DR-2 in 3rd Semester with **SGPA 9.8545**.
- ❖ DR-2 in 4th Semester with **SGPA 9.8519**.
- ❖ Received consolation prize in **Techspardha event** in NIT Kurukshetra.
- ❖ **District Rank 1** in UP Board 12<sup>th</sup> Examination (2016).
- ❖ **District Rank 2** in UP Board 10<sup>th</sup> Examination(2014).
- ❖ Honored by **DM** and **CM** for being **district topper** in UP Board 12<sup>th</sup> and 10<sup>th</sup> Examination.
- ❖ Won **Atul Maheshwari scholarship** organized by Amar Ujala in class 10<sup>th</sup>.
- ❖ Participated in various tech contest at school level-PIET, MIET, Rem Tech Olympiad, ABESIT.
- ❖ Led cultural program's team at school level and grab **1<sup>st</sup> place in speech competition** in whole Saharanpur Division.

## HOBBIES

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- ❖ Solving puzzles and try to learn new things & upgrade my knowledge every day.
- ❖ Singing and listening to music, watching movies and impactful series.
- ❖ Playing table tennis, badminton, cricket, and video games.

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