STATE OF MONTANA
JOB DESCRIPTION

Montana state government is an equal opportunity employer. The State shall, upon request, provide reasonable accommodations to otherwise qualified individuals with disabilities.

Job Title: Database Administrator   Position Number: 81101, 81013, 35015, 81030

Location: Helena

Department: MDT   Division and Bureau: ISD   Section and Unit: Infrastructure and Applications

Job Overview:

The Database Administrator works closely with application development and network operations personnel to understand the needs of their defined database schemas, assists with fine tuning their queries and supporting their developer tool sets. The incumbent leads in analysis, design, modeling, and development, while participating in the implementation and maintenance of database solutions across a variety of technology platforms. The incumbent performs database analysis of existing applications offering recommendations for revising or adapting those applications to improve database performance; independently performs complex work assignments and problem resolution across systems and processes. The incumbent performs data analysis using existing and/or creating new logical models, physical models, and data flows; and assists developers in determining the logical database model using normalization methodologies and entity/relationship modeling. The incumbent develops and maintains the enterprise application data model and can demonstrate the impact of new strategy implementations including, where necessary, the incorporation of data models from other State agencies or vendor supplied off-the-shelf solutions. The incumbent is responsible for database patching, upgrades, monitoring, tuning, and performing backups when needed. The incumbent must have experience using ETL technologies (Talend, Fivetran, etc.) and have experience with data warehouse platforms like SnowFlake.

Essential Functions (Major Duties or Responsibilities):

Database Analysis - 65%

- This position is a key resource for bringing the enterprise data implications forward during database structure analysis; preferred database platform discussions for a given application; and methodology for upgrade and/or migration planning. As such, the incumbent will

influence the enterprise design, integration and maintenance of enterprise databases (Oracle, SQL, Postgres and other as appropriate) to meet the business needs of MDT.

- Conduct research and make recommendations on database products, services, protocols, and standards.
- Participates in database design and optimization tasks.
- Plans the future operations and architecture of the system from the perspective of upgrading, data storage and access.
- Uses data modeling software to analyze the most appropriate ways to store, organize, use and present data in a database structure.
- Provides direction and recommendations regarding database strategy and decisions; helps define vision, identifies timelines and goals that would ensure the implementation of all approved technology initiatives.
- Participates in the exploration of options and alternatives for other data stores/databases that should be further exploited in a division-wide POC.
- Stays current on database products and their offerings including awareness of capabilities, limitations, licensing costs, releases, etc.
- Evaluates and understands all features and functions of currently installed products/releases.
- Educates and communicates with development staff on the most efficient ways to create and maintain data for application development.
- Assists in the development of policies and procedures necessary to ensure the security and integrity of enterprise databases and other data stores.
- Participates in the design and implementation of database security models.
- Coordinates security model decisions for user access levels for each segment of the database.
- Conducts preliminary assessments of user business needs, clearly defining and documenting detailed objectives of what is to be accomplished by developing and implementing new technology or information systems.
- Supports the efforts for major database release level installations and/or migrations.
- Shares features and functions knowledge with applications personnel as needed (e.g. when changes occur) ensuring changes/differences are identified.

Data Analysis - 35%

- Assists with maintaining an enterprise data architecture that articulates the principles, blueprints and standards, across the data domains of transaction, interaction and analytic, which are used in the deployment of technology solutions for MDT/ISD Customers.
- Assists with Developing and maintaining the Enterprise Data Model (EDM) to serve as both the strategic and tactical planning vehicles to manage enterprise data.
- Participates in the review process for system design specifications, process models, data architecture and/or data flow diagrams.
- Works with development project teams to adopt a strong data reconciliation process concerning the replication of data that includes defining reconciliation architecture.
- Works with business, ISD security, and technical staff to identify sensitive information and evaluate methods of handling such data.

Supervision

The number of employees supervised is: 0

The position number for each supervised employee is: NA

Physical and Environmental Demands:

- This position functions in a typical office environment.

Knowledge, Skills and Abilities (Behaviors):

- Perform all DBA services for MDT RDBMS environment including patching, upgrading, issue/defect resolution, performance and health monitoring, backup/restore/failover activities, upgrade planning, coordination, and execution.
- Influence the enterprise design, integration and maintenance of enterprise databases (Oracle, SQL, Postgres, Snowflake, and other as appropriate) to meet the business needs of MDT.
- Database design and optimization.
- Understand how to plan for future operations and architecture of the system from the perspective of upgrading, data storage and access.
- Communicate and recommendation database strategy and decisions; define vision, identifiestimelines and goals that would ensure the implementation of all approved technology initiatives.
- Research and exploration of options and alternatives for other data stores/databases that should be further exploited in a division-wide POC.
- Stays current on database products and their offerings including awareness of capabilities, limitations, licensing costs, releases, etc.
- Understands all features and functions of currently installed products/releases.
- Supports development of policies and procedures necessary to ensure the security and integrity of enterprise databases and other data stores.
- Participates in the design and implementation of database security models.
- Coordinates security model decisions for user access levels for each segment of the database.
- Leads the efforts for major database release level installations and/or migrations.
- Communicates features and functions knowledge with applications personnel as needed (e.g. when changes occur) ensuring changes/differences are identified.
- Collaborates in developing and maintaining the Enterprise Data Model (EDM) to serve as both the strategic and tactical planning vehicles to manage enterprise data.
- Contributes to enterprise data architecture activities.
- Key collaborator in the agency disaster recovery practices.
- Supports the MDT data architect, and the other DBA's, in their use of Snowflake.
- Generally provides DBA level support to data warehouse efforts of the agency.
- Supports the reviews process for system design specifications, process models, data architecture and/or data flow diagrams.

Minimum Qualifications (Education and Experience):

The required knowledge and skills are typically acquired through a combination of education and experience equivalent to a Bachelor's Degree in Computer Science, Database Administration, or a closely related field such as Information Systems Design.

This position requires a minimum of 6 years of related experience. The experience must include 1-3 years each of Project Management, team or project leadership and database schema development. Expertise in SQL (Standard Query Language), with working knowledge of the Oracle RDBMS, SQL, and Postgres and their associated tools.

Alternative Qualifications: AS in Computer Science, Database Administrationt or Information Systems Design or a BA/BS in a non-related field plus 8 years of database management experience OR AS degree in non-related field plus 10 years of database management experience OR 12 years of database management experience. The experience also needs to include 1 – 3 years each of Project Management, team or project leadership, and database schema development. Additionally, 3 to 5 years of experience with MDT applications is strongly preferred.

Special Requirements:

☒ Fingerprint check   ☐ Valid driver's license

☐ Background check   ☐ Other; Describe

035   Union Code   Safety Responsibilities

> The specific statements shown in each section of this description are not intended to be all inclusive. They represent typical elements and criteria considered necessary to perform the job successfully.

<u>Signatures</u>

My signature below indicates the statements in the job description are accurate and complete.

Immediate Supervisor	**Title**	**Date**

Administrative Review	**Title**	**Date**

My signature below indicates that I have read this job description.

Employee	**Title**	**Date**

<u>Human Resources Review</u>

Job Code Title: Database Administrator 3.1   Job Code Number: C1E023

My signature below indicates that Human Resources has reviewed this job description for completeness and has made the following determinations:

☐ FLSA Exempt   ☒ FLSA Non-Exempt

☒ Telework Available   ☐ Telework Not Available

☒ Classification Complete   ☐ Organizational Chart attached

Human Resources:

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Signature   **Title**   **Date**