

DATABASE ADMINISTRATOR

DEFINITION:

Under direction of the Chief Technology Officer or designee, the Database Administrator's role is to design, install, monitor, maintain, and performance tune all District production databases while ensuring high levels of data availability. This individual is also responsible for developing, implementing, and overseeing database policies and procedures to ensure the integrity and availability of databases and their accompanying software. Duties will also include contributing to other technology projects requiring programming and database administrator expertise.

QUALIFICATIONS:

Education:

- Any combination equivalent to: bachelor's degree in information systems, computer science, or a related field, and five years of experience as a database administrator.

Experience:

- At least 5 years of successful database administration

Other:

- Possession of a valid Class C California driver's license.

ESSENTIAL DUTIES AND RESPONSIBILITIES:

- Maintain data maps of all District productions databases, contribute strategic visions for automating data systems and assess long-term goals for new and existing District database systems.
- Design and develop database and database warehouse systems; provide database analysis and data modeling, and perform normalization procedures to ensure an integrated database system for existing and new applications; set-up and test production environments for business applications.
- Data Dashboards and Business Intelligence/Analytics:
 - Creates or modifies reports, dashboards, scorecards, self-service applications, data visualization applications, etc.
 - Architects and designs data models (dimensional, transactional)
 - Develops multidimensional semantic layer and BI query objects for end users
 - Works with users and/or business analysts to define BI requirements
 - Develops proofs of concept to validate ideas or technologies
 - Creates and delivers end-user training and documentation and provides best practice standards and templates
 - Helps District users select the appropriate BI tool(s)
- Maintain production and test databases to ensure proper database performance and operation.
- Assure data integrity, referential constraints, trigger, and procedures for database system to assure proper database operation.
- Analyze and diagnose database system problems and take appropriate corrective action for resolution.
- Develop technical policies and specifications for data importing and exporting, database system development, maintenance, backup, and recovery; coordinate implementation of policies.

- Oversee database security related to applications and operations.
- Provide for project management for special projects such as the data warehouse and others as directed; develop and implement project plans for key departmental projects; assure standards and proper quality of services are met.
- Maintain network system standards in database system development that optimize system integration and functionality.
- Research, review and provide consultation on software to determine the advisability and functionality of its use by FCUSD internal departments and school sites.
- Provide assistance in attaining software solutions to assure high quality and cost effective operations; recover lost data from database backup.
- Oversee the daily operation of backups for logical logs and physical database systems.
- Participate in the analysis of data requirements in the program development cycle and assist in the creation of Entity Relationships (ER) and Data Flow Diagrams (DFD).
- Monitor, evaluate, and analyze MS/SQL table and usage; modify or redesign database as needed and update MS/SQL statistics and table indices as scheduled to assure proper database performance indexes.
- Interface with system administration and operations staff to ensure efficient use of database systems; serve as second level user support.
- Perform the installation and upgrade of MS/SQL, Open Database Connection (ODBC) Driver, client-server application components, report writer servers, QSS software, and database related products.
- Support customer service staff in data access or database system related problems.
- Maintain current knowledge of database system technologies related to MS/SQL, systems administration, and SQL.
- Drive a vehicle to various sites to conduct work.
- Perform related duties as assigned.

KNOWLEDGE , SKILLS, AND ABILITIES:

KNOWLEDGE OF:

- Relational database design methods, techniques, characteristics, and practices.
- Proper programming development procedures in a client-server environment.
- Relational database techniques for performance monitoring and tuning, indexing, security, recovery, data segmentation, locks arrangement, and data integrity.
- Multiple operating systems and applications disciplines such as UNIX/Linux/Windows Server/Oracle/SAP.
- Networking concepts technology and related components of a client server environment.

- C, GUI, .Net, PHP and 4GL programming languages.
- Proper SQL and programming skills for writing database trigger and stored procedures.
- SQL and Non-SQL data loading principles.
- Data integration tools such as OLAP applications.
- SQL Server Analysis Services (SSAS) delivering online analytical processing (OLAP) and data mining functionality for business intelligence applications.
- Managing multi Tb (terabyte) data volumes.

ABILITY TO:

- Design and develop database system, provide data modeling table normalization, and performance.
- Design and develop data warehouse schemas and models.
- Conduct database needs assessments.
- Develop proper specifications related to database systems administration.
- Analyze and evaluate database systems and modify database systems effectively to meet office needs.
- Manage data across the enterprise through well-established data design standards.
- Develop and support conceptual, logical, and physical data models.
- Support data access, acquisition and physical database design.
- Support architectural compliance and infrastructure coordination.
- Verify data models reflect business requirements and data usage.
- Develop and implement data model meta-data.
- Develop and enforce metadata standards.
- Define data archiving/purge standards.
- Develop XML schemas for SOA entity services.
- Provide timely estimation of database/storage utilization and plan enhancements/upgrades required.
- Quickly identify database problems, evaluate causes and take correction action for resolution.
- Communicate effectively in both oral and written form.
- Perform application programming.

PHYSICAL REQUIREMENTS:

Physical Abilities include the usual and customary methods of performing the job's functions and require the following physical demands: occasional lifting, carrying, pushing and/or pulling; some climbing and balancing,

some stooping, kneeling, crouching; reaching, handling, touching and/or feeling; manual dexterity to operate a telephone and enter data into a computer.

Significant physical abilities include ability to sit at a desk, conference table, or in meetings of various configurations for extended periods of time; see and read, with or without visual aids, laws and codes, rules, policies and other printed matter, computer screens and printouts; hear and understand speech at normal room levels and hear and understand speech on the telephone; speak in audible tones so that others may understand clearly in normal conversations.

WORK ENVIRONMENT:

- The work environment characteristics described here are representative of those an employee encounters while performing the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.
- The noise level in the work environment is usually moderate.
- Employees in this position will be required to work indoors in a standard office environment and come in direct contact with district staff and the public.

