

POSITION DESCRIPTION
Guadalupe-Blanco River Authority

POSITION TITLE: SCADA/DATABASE ADMINISTRATOR

I. ORGANIZATION

Division: General

Grade: 8

Salary Category: Exempt

Created: 11/22/2011

II. REPORTING RELATIONSHIPS

Immediate Supervisor: IT Manager

Next Higher Supervisor: Executive Manager of Finance and Administration

III. JOB SUMMARY (Including number of personnel supervised, if applicable)

The Supervisory Control and Data Acquisition (SCADA) System Specialist Database Administrator is responsible for:

- Control system programming, data analysis, screen development, database updates, point to point checkout and documentation, implementation, integration, operation and security of SCADA control systems of GBRA.
- Troubleshooting and keeping SCADA systems running at optimum level and maximizing their uptime.
- Maintaining and creating as needed scripts to perform special functions or automated reports.
- To strategically design, install, monitor, maintain and performance tune production databases while ensuring high levels of data availability.
- Responsible for developing, implementing, and overseeing database policies and procedures ensuring the integrity and availability of databases and their accompanying software.
- Evaluate and recommend all technology components, such as software, hardware, and network capabilities, for SCADA and database management systems and applications.

IV. TYPICAL DUTIES (May include, but not limited to the following:)

- A. Design and implement new SCADA programs, SCADA screens and control strategies.
- B. Develop automation solutions and equipment with proficiency in PLC, SCADA, HMI, Wonderware and RSView HMI software.
- C. Develop, debug, test and implement new PLC based control systems. Direct programming experience with Rockwell ControLogix and PLC5, Allen-Bradley

platforms, SCADA development using SQL Server and Wonderware InSQL, iHistorian.

- D. Troubleshoot and diagnose SCADA and network related failures, and or broken link connections to the field instrument and equipment.
- E. HMI Static and Dynamic graphics design, Popup screens, Scripting, Alarms, Reports and History Trends. Assign various security levels.
- F. OIT (Operator Interface terminal) graphics development and programming.
- G. Design Database, writing Procedures, Views, Triggers, Indexes and User Defined Functions for SCADA.
- H. Experience in Crystal Reports and/or SQL Server reporting services (SSRS).
- I. Assess and develop long-term strategic goals for GBRA's SCADA system and production databases in conjunction with the IT Manager.
- J. Analyze user requirements and based on findings, design functional specifications for client/server databases and database applications, develop database architectures, and quality assurance policies and procedures.
- K. Plan and implement capacity and resources expansion to ensure scalability of GBRA's production database including SCADA systems database.
- L. Design and implement redundant systems, policies, and procedures for disaster recovery and data archiving to ensure effective protection and integrity of data assets.
- M. Conduct research and make recommendations on SCADA and database products, services, protocols, and standards in support of procurement and development efforts.
- N. Monitor, optimize and allocate physical data storage for database systems and plan and coordinate data migrations between systems.
- O. Develop, implement, and maintain revision control and testing processes for modifications to SCADA system and databases.
- P. Perform database transaction and security audits; establish appropriate end-user database access control levels and develop routines for end users to facilitate best practices database use.
- Q. Develop and document database administration and SCADA system procedures.
- R. Perform other duties as assigned.

V. REQUIREMENTS OF THE POSITION

Education:

Bachelor's degree in computer science or related field. Equivalent years of MS SQL database administration and SCADA programming work experience will be accepted in lieu of Bachelor's degree.

Experience:

Minimum two years increasingly responsible experience in designing and maintaining SCADA systems and programming, MS SQL databases, T-SQL programming, and

Crystal Reports. Knowledge and experience in personal computer hardware and software applications in Windows XP, Windows 7 and Windows Server 2008 platform.

Special Requirements:

Excellent written and verbal communication skills required. Self-starter who is well organized and communicates effectively to all internal and external customers; ability to communicate technical subjects to GBRA employees who have little or no background and/or experience in computer systems. Keep current on changes, trends and developments in the information systems industry.

Hardware Skill Set

PLC:

Allan Bradley
SLC 500 5/03, 5/04, 5/05
MicroLogix 1200, 1500
ControlLogix 5561, 5563
GE Fanuc
LM 90-70

OTI:

Panel View 300, 500, 600, and 1000
Panel View Plus 700, 1000 and 1500

Software Skill Set

Visual Basic 6.0, VBA, VB.Net and C#.Net
C, C++
AB - RSLogix 500 & RSLogix 5000
GE – Versa Pro, LM 90 – 30

SCADA Programming:

Wonderware
RS View 32

Database:

MS SQL 2005
MS SQL 2008

OIT Programming:

Panel Builder
Wonderware
Maple systems
Red Lions

Protocols:

AB DF1
AB DH485
TCP IP Ethernet

MODBUS
SNP
SNPX

Registrations and Licenses:

Valid Texas Drivers License with acceptable MVR.

VI. WORKING CONDITIONS, TRAVEL, EQUIPMENT USED

The majority of work is indoors. Travel is dependent upon the remote site problems and will occasionally involve overnight stays. This individual must be willing to work long hours, nights and weekends as necessary to achieve expected results.

VII. ESSENTIAL JOB FUNCTIONS

- A. Communicate effectively with individuals and groups using oral, visual and written means.
- B. Extensive knowledge of the PC platform.
- C. Employ sound judgment and reasoning.
- D. Perform basic mathematics skills.
- E. Possess stamina to withstand occasional long periods of stressful work.
- F. Capable of lifting computer equipment and peripherals weighing up to 25 pounds.
- G. Safely operate a motor vehicle.

Employee signature

Date