Position #012092

IS Systems Development Services Consultant/Admin.

Lead CI/CD Architect

POSITION SUMMARY

Under the broad policy guidance of the Bureau of Information Technology Services (BITS) Development, Data and Middleware Supervisor, this lead-worker position provides expert-level team leadership in the design, development and implementation of application hosting platforms and the automation of ETFs development toolchain from inception to completion. This position provides coaching and team leadership for developing highly complex development toolchain automation, application hosting and systems integration. This includes maintaining and systematizing legacy systems, developing new systems, and implementing commercial-off-the-shelf (COTS) software systems. This position provides leadership in all aspects of the development toolchain and DevOps including strategy, technical design, development, implementation, governance, and testing utilizing mainframe, web, mobile, cloud platforms and Software as a Service.

Serving as a DevOps architect, automation and integrator coach and team lead, this position leads the middleware and development teams in the selection, design, adoption and integration of the development toolchain. This position provides leadership in identifying, establishing, and adopting innovative approaches for development of business solutions including new tooling, frameworks, methodologies and the generation of initial procedures, policies, and standards for the adoption of DevOps at ETF. This position will lead efforts to design ETF's new development toolchain to enable continuous integration and delivery, as well as increasing release velocity and deployment reliability. This includes leading meetings and standups with technical teams/product owners to refine requirements for defining DevOps strategy, the selection of new tools, and their implementation and adoption. This position leads and monitors multi-functional teams to achieve daily, sprint, and project goals for middleware and DevOps initiatives. This position will collaborate with technical staff at ETF, DET and other agencies, technical users, security, and technical product owners to make sure product acceptance criteria is clear, meets technical users' needs and requirements, and is implemented effectively. This position will lead efforts to continuously improve processes based on feedback from retrospectives, development and monitoring of key performance metrics, and communication with major stakeholders. This position manages all aspects of assigned systems development tool projects and integrations; plans and budgets for product deliveries, manages human and fiscal resources; effectively negotiates timelines, products and other project concerns with top management positions this includes ETF leadership, the Division of Management Services Administrator, the Chief Information Officer, and other BITS Management. This position will also provide status and completion reports to management.

The position serves as a project and technical advisor and first-level authority for application hosting and system development toolchain activities. This position will provide expertise to assist ETF with delivering high quality software solutions for ETF Legacy systems, new systems development and the implementation of new business solutions expeditiously and efficiently. ETF is committed to serving our members and employers with the highest quality services possible while simultaneously pursuing new high-value initiatives. This position will help ensure that we meet our operational deliverables, while enhancing and modernizing ETF application hosting and delivery systems.

This position participates in the application change control process, project meetings, TARC, and ETF Board of Leads. This position will also work with BITS management and key stakeholders to develop key performance indicators (KPI's) and metrics.

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GOALS AND ACTIVITIES

45%   Goal A: Provision of leadership and guidance in the development and implementation of the comprehensive strategy and technical design of technologies within ETF for application hosting, automation and orchestration of the application delivery pipeline, and modernizing the development toolchain involving mainframe, web, mobile, cloud, DevOps and Software as a Service to meet business and users' needs.

A1.   Lead efforts to define, research, and select tools, techniques, standards, and methodologies for innovative solutions.

A2.   Design and develop innovative solutions for modernizing the application development toolchain and its automation and integration with existing and new systems.

A3.   Lead the implementation of new development tools in the development toolchain and their integration with existing tools for new and legacy applications using agile methodology.

A4.   Direct the design of prototypes and tests for complex and emerging systems to provide the best integration and delivery of business solutions.

A5.   Lead teams of middleware, application developers, infrastructure, and data professionals in the implementation and adoption of DevOps principals and cloud technology through various technical projects.

A6.   Plan and budget for workflow and product deliveries by working with management, middleware, infrastructure, security, and development staff to assess project scope and objectives, return on investment, risk, and budget for continuous integration/continuous delivery (CI/CD) efforts.

A7.   Develop policies, procedures, and standards for the use of, and compliance with, complex or emerging DevOps and cloud technologies within ETF, including technological standards for application development, development toolchain, and integration methodologies. This may include tool selection and implementation, orchestration, containers, automated testing, coding standards, build and code promotion, source code management, and integration methodologies.

A8.   Direct the definition of requirements and acceptance criteria for the development toolchain and middleware platforms, off-the-shelf software, cloud and software-as-a-service solutions, and integrations between systems.

A9.   Incorporate security policies, principles and practices into the development build and deployment pipeline automation, container, and orchestration requirements.

A10.   Negotiate timelines, products, and other project concerns with management, including Division Administrators and Department Heads.

A11.   Provide guidance and facilitate the adoption of test-driven and behavior-driven development methods and practices by coordinating the application developers in the selection and implementation of new development tools, procedures and processes.

A12.   Meet with section staff to provide feedback and assist in workload prioritization to ensure agency deliverables are timely.

30%   Goal B: Provision of leadership and advanced consulting services to middleware, database, and developers in identifying and adopting innovative approaches for providing business solutions including strategy, tooling, frameworks, practices and methodologies for mainframe, web, mobile, and cloud platforms.

- B1.   Lead the development of project estimations and resource allocations.
- B2.   Provide coaching on DevOps and cloud principles, ensuring compliance with established standards, and establishing task assignments and ongoing processes.
- B3.   Provide advanced technical design and development consultation to developers in the adoption of automation, containerization and orchestration of the CI/CD toolchain using DevOps and cloud technologies.
- B4.   Coordinate project teams working on automating the promotion of code, application testing, and the delivery of applications from inception to completion. Project teams may be composed of entry, objective, advanced and consultant level IS staff contractors, business area managers, project vendors, and test team members.
- B5.   Work with middleware and application development management staff to develop actionable KPI's regarding the development toolchain, including setting goals and objectives, collecting measures, and calculating metrics.
- B6.   Work with the test team to identify, select and implement testing tools and the automation of testing plans that include performance and security.
- B7.   Develop and implement strategies to remediate issues found during testing.
- B8.   Develop programs and training recommendations to aid in the adoption of DevOps and cloud principles to include the creation/hosting of regular coaching and learning opportunities to examine and review innovative tools, frameworks, methodologies and practices for web, mobile, and cloud business solutions. Prepare and present materials to broad audiences including developers and managers.
- B9.   Develop documentation templates, standards and processes for the recommendation of new tools and methodologies that ensures input from all impacted areas for the adoption of DevOps and the cloud consistent with industry standards.
- B10. Participate in preparing Request for Proposal or Request for Bids. Evaluate products, prepare bid specifications, rank proposals, recommend vendors and identify integrations with existing applications.
- B11. Represent the section, bureau, division, department and/or state on committees or in ventures to facilitate the provision of information and technology. Prepare and present materials as needed.

15%   Goal C: Resolution of production issues on ETFs middleware platforms and with the development toolchain through a formalized software maintenance process.

- C1.   Perform advanced business systems analysis and technical design to identify customer requirements and user stories.
- C2.   Participate in business and IT change control, ensuring that all tickets go through the proper vetting and approval processes.
- C3.   Plan, schedule, and execute software upgrades, managing human and fiscal resource for software maintenance.

C4. Work with product owners and business analysts on software maintenance issues, including reviewing for clarity, prioritization, and acceptance criteria.

C5. Act as liaison between customers/end-users and technical staff, both vendor and internal, including tracking problems and resolutions.

C6. Monitor, manage and resolve service and incident requests in a timely manner.

C7. Prepare communications including status, root cause, timeline, testing process and deployment/implementation date.

C8. Train senior and specialist level staff on advanced problem resolution.

C9. Coordinate the development of changes with other existing and developing systems or subsystems to ensure integration and compatibility.

C10. Control and document changes to custom- and vendor-delivered software, including reviewing proposals for changes, documenting actual changes made and monitoring the lifecycle of these changes through upgrades.

10% Goal D. Continuously enhance business and technical knowledge and expertise involving innovation associated with the development toolchain automation, application development strategies, tooling, frameworks, practices and methodologies. Participation in IT team leadership, TARC, and tactical planning. Provision of training and assistance. Performance of special assignments.

D1. Carry out special assignments that meet the needs of the agency including the preparation of special reports or documents as requested.

D2. Orient new employees to development tools, standards, procedures, policies, practices and major application areas.

D3. Provide the middleware team with assistance, evaluate team assignments and output, and recommend training, as needed, to increase staff effectiveness and productivity.

D4. Meet with BITS management and staff to evaluate progression on tasks, identify and resolve issues, and plan for future projects and initiatives.

D5. Research and evaluate new tools and technologies. Utilize Gartner for innovative approaches, research and best practices

D6. Stay up to date on development processes and modern technologies utilizing web resources and independent study, online training, books, internal documents, attending in-house, local and out-of-state training seminars, conferences, and workshops.

D7. Participate on the ETF Board of Leads and TARC.

D8. Additional duties as assigned.

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Knowledge, Skills, and Abilities
1. Expert skill and knowledge of the administration, configuration and maintenance of web application server software such as IBM WebSphere, JBOSS, Apache Tomcat, etc.
2. Expert skill and knowledge of the administration, configuration and maintenance of http servers such as IBM HTTP Server, IIS, Apache etc.
3. Expert skill and knowledge of Linux Operating System installation, configuration and administration.
4. Expert skills using scripting languages such as Windows batch, Unix shell, Python, and Perl.
5. Expert ability to troubleshoot application servers on local and wide area networks including support of DNS, firewalls, directories, and SSL Certificates and tools such as Snort and WireShark.
6. Expert skills using project management methodologies, tools, and techniques including project/work plan development and management, preparation of project artifacts such as charter, scope, fiscal, status updates, cost-benefit, and risk analyses and the coordination of projects and people.
7. Expert skills with web hosting and development tool analysis and design.
8. Expert knowledge of web security and associated vulnerabilities.
9. Expert ability to debug and troubleshoot (both during development and in production) and the various troubleshooting approaches that can be used.
10. Advanced skill gathering requirements and evaluating new technologies in the marketplace.
11. Advanced knowledge of automating CI/CD pipelines, containers and orchestration.
12. Advanced knowledge of application systems, including multi-tier technologies and the application development life cycle processes.
13. Advanced knowledge of Agile principles, including the Scrum methodology.
14. Skill supporting, managing or designing solutions and people in a DevOps environment.
15. Knowledge of collaboration tools such as SharePoint, MS TEAMs, Jira, and LucidCharts.
16. Knowledge of code quality tools and what they can measure (such as SonarQube).
17. Knowledge of artifact repositories such as Nexus and/or Artifactory.
18. Knowledge of build automation tools such as Maven and/or Gradle.
19. Expert skill in testing of solutions including performance, integration, and regression testing.
20. Knowledge and experience with cloud computing platforms like Amazon Web Services, Microsoft Azure, Google Cloud Platform, etc.
21. Knowledge and skill applying industry standard best practices in a DevOps environment with regards to developing, deploying, supporting homegrown and 3rd party applications
22. Ability to design business solutions that leverage strengths (and insulate-from weaknesses) of solutions to meet customer requirements.
23. Knowledge of the administration, configuration and maintenance of tools in the application development toolchain such as CVS, Jenkins, Subversion, Hudson, Crucible, Fisheye, Git or Ant.
24. Knowledge of integrated development environments like My Eclipse, IntelliJ IDEA, etc.
25. Knowledge of testing tools like JUnit, Mockito, BDDMockito, Jasmine, SoapUI, Cucumber and Selenium.
26. Knowledge of business analysis and application design techniques and prototyping.
27. Knowledge of Behavior-Driven Development (BDD) and Test-Driven Development (TDD).
28. Knowledge with relational databases like DB2 and SQL Server (includes logical/physical data modeling and writing SQL).
29. Knowledge of branching strategies such as pre/post commit, pull requests, patching, feature, hotfix, bugfix, maintenance, etc.
30. Knowledge of IT Management frameworks and tools such as ITIL LEAN, value stream mapping and business process mapping
31. Expert ability to work effectively with, lead and coordinate staff at all levels of responsibility and authority throughout the department and other state agencies, business partners, employers and third-party administrators.

32. Excellent verbal and written communication skills, including highly effective communication in small and large group settings, including public speaking.
33. Expert ability to recommend, negotiate, direct and implement change and adoption of new technology.
34. Highly effective time management, organizational, analytical and evaluation skills.
35. Ability to strategize, anticipate industry disruptions, and plan for future state.
36. Ability to facilitate the development of strategic and operational project plans.
37. Ability to assess and articulate strengths and weaknesses of vendors/offerings.
38. Skill managing technological vendor partnerships and solutions.
39. Knowledge of large organization / government evaluation, procurement, design, implementation, support and end-of-life process(es).
40. Ability to take initiative to assertively represent business needs, to stand firm when necessary and to compromise when possible, to diplomatically challenge assumptions, and to make recommendations to business and technical staff at all levels of responsibility and authority throughout the department.