

Duty Statement

Current Proposed

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| Classification Title Information Technology Manager II | Division Office of Cradle-to-Career Data |
| Working Title Principal Data Architect | IT Domains Business Technology Management, Information Security Engineering, Information Technology Project Management, Software Engineering, System Engineering |
| Position Number 424-100-1406-002 | Effective Date |
| Name Vacant | Date Prepared 07/06/22 |

General Statement

The Cradle-to-Career (C2C) program is a longitudinal data system that will provide policymakers, researchers, educators, students, families, and other stakeholders' answers to key questions about student progression and outcomes. Ultimately, C2C will be a useful tool that will help provide critical information about the pipelines from early care to K-12 to higher education skills training and employment along with health and human services data. This data system will help support teachers, advisors, parents, and students and be an evidence-based tool that decision makers and researchers can use to help California adopt more equitable policies by providing insight into how educational experiences impact students' subsequent academic achievement, work, and earnings.

Under the administrative direction of the Director of Data Infrastructure, the Principal Data Architect is responsible for helping to build and protect the analytical data system that will power our public facing dashboards, query tools, and research requests for C2C. The Principal Data Architect will work closely with the Director of Data Infrastructure to manage the data infrastructure staff and contractors and work closely with the data and research services team, information security professionals, and data providers to ensure the data system meets user needs.

Duties include, but are not limited to, the following:

Job Functions

[Essential (E) / Marginal (M) Functions]:

System Architecture

40% (E)

- Design, review, and document processes and procedures for the California Cradle to Career Data System (Data System) to ensure security, extensibility, scaling, efficiency, and data quality.
- Design, review and document cloud infrastructure for the Data System including, but not limited to: technical diagrams, data lineage from ingestion to public consumption, access to data.
- Design, review and document Continuous Integration and Continuous Delivery (CI/CD) pipelines and their integration and automation with agile project management tooling.
- Implement processes, governance, and documentation for data security and privacy, protection of personally identifiable information (PII).
- Maintain documentation of databases and tools, data products (data dictionaries, data model, pipeline diagrams, etc.), and data cleaning and validation protocols.
- Monitor and track access and usage of the Data System.
- Review and assess security policies, procedures and protocols in collaboration with the team of information security professionals (e.g., help ensure compliance with NIST 800-53 Rev. 5, NIST Risk Management Framework, etc.).

Project Management

30% (E)

- Provide agile project management and direction to Data Infrastructure staff and contractors implementing the Data System.
- Scope and manage release cycles using agile methodologies using industry standard tooling.
- Monitor technical implementation and ensure systems are developing per plan and with excellence.
- Consult on backlog refinement, sprint planning, sprint execution, sprint review, and sprint retrospectives.

Data Modeling

20% (E)

- Collect and incorporate feedback from stakeholders. Implement feedback collected, in collaboration with contractors, to design, develop, or update the conceptual, logical, and physical data models necessary for the Data System.
- Develop proposed data models with future needs in mind; Propose and develop innovative approaches to making the data system accessible and useful to the public.
- Conduct detailed quality controls needed to ensure data matches are successfully implemented and data descriptions reflect data collection protocols.

Management

10% (E)

- Manage members of the Data Infrastructure team.
- Continually collect feedback from team members.
- Complete annual individual development plans and complete timely probationary reports for civil servants.
- Support the development of strong team norms on internal collaboration, efficient project management, and team cohesion.

Supervision Received

The incumbent reports directly to and receives the majority of assignments from the Director of Data Infrastructure for the Office of Cradle-to-Career Data.

Supervision Exercised

The incumbent directly supervises Data Infrastructure staff and contractors.

Personal Contacts

The incumbent will work with teams across the Office of Cradle-to-Career Data and GovOps Agency staff, community organizations, a wide range of stakeholders, and external contractors and advisors.

Actions and Consequences

The incumbent's duties are critical to the successful implementation of Data Infrastructure for the highly visible C2C program.

Functional Requirements

The demands described here are representative of those that the successful candidate must meet, with or without a reasonable accommodation, to successfully perform the essential functions of the job:

- Requires flexibility in work hours and work overtime occasionally, including night or weekend hours, as necessary.
- Requires daily use of a personal computer and related software applications at a workstation.
- Requires ability to complete tasks that typically may require making repetitive hand movements in the performance of daily duties, with or without reasonable accommodations and modifications to facilitate such tasks.
- Requires occasional travel to attend meetings and hearings.

Background Checks and Clearance

The successful candidate will be required to pass a criminal background check (see Education Code 10873).

Desirable Qualifications

Leadership

- Experience managing an agile team of technical professionals and effectively coaching them to achieve high performance.

Personal

- Enjoys collaborative processes and developing shared understanding.
- Ability to communicate with technical and non-technical audiences.
- Investigative ability and intellectual curiosity.
- Excellent oral and written communication skills.
- Ability to learn and embrace new technologies.
- Demonstrated ability working with diverse groups of stakeholders.
- Comfort with risk and trying new things.
- Ability to work independently and as part of a small team.
- Commitment to equity and the use of data to meet the needs of all Californians.

Technical

- Experience translating business needs into technical implementations, including mapping out business processes and data models.
- Experience designing, developing, deploying, securing, and maintaining infrastructure of data systems in Amazon Web Services (AWS).
- Experience estimating and projecting Total Cost of Ownership (TCO) of AWS implementations.
- Experience manipulating data and integrating data from disparate systems.
- Experience configuring, implementing and integrating CI/CD pipelines.
- Experience configuring, implementing, integrating, and administering Snowflake Data Cloud.
- Experience with Master Data Management techniques and tooling (e.g., Tamr).
- Experience configuring, implementing, and integrating Attribute Based Access Controls (ABAC) and Role Based Access Controls (RBAC).
- Experience configuring, implementing, and integrating Identity Access Management via modern tooling (e.g., Okta).
- Experience configuring, implementing and monitoring security and/or privacy frameworks (e.g., NIST).
- Experience implementing data orchestrators (e.g., Apache Airflow) and loaders (e.g., Fivetran).
- Experience with project management Software as a Service (SaaS) products (e.g., Asana, Jira).
- Experience with documentation SaaS products (e.g., Confluence).

Certifications

- AWS Solution Architect Professional Certificate
- AWS DevOps Engineer Professional Certificate

I have read and understand the duties listed above and I can perform these duties with or without reasonable accommodation. (If you believe reasonable accommodation is necessary, discuss your concerns with the hiring supervisor. If unsure of a need for reasonable accommodation, inform the hiring supervisor, who will discuss your concerns with the HR analyst.)

Duties of this position are subject to change and may be revised as needed or required.

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|---------------------------|------------------------------|-------------|
| Employee Signature | Employee Printed Name | Date |
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I have discussed the duties of this position with and have provided a copy of this duty statement to the employee named above.

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| Supervisor Signature | Supervisor Printed Name | Date |
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