Role Profile

Job Title: Principal Data Engineer	**Role Profile Number:** SBC_11906
Grade: CFL 11	**Date Prepared**: 05/04/2022
Directorate/Group: Enabling Services	**Reporting to:** Head of Data, Performance and Insight
Structure Chart attached:	No

Job Purpose

Having confidence in the Council's data and having access to easily accessible, meaningful information for decision making is key to delivering our future Priorities and Pledges.

The Principal Data Engineer is responsible for Council's Data Archtiecture, which ensures the Council has the access to the data and insight it requires to fulfil its statutory or other functions.

The Principal Data Engineer will act as subject matter expert, line manager and mentoring support to the Data Engineer role, who will support the Principal Data Engineer in this role.

They will also use their knowledge and experience to support the Data, Performance and Insight team, wider organisation and partners. The role is fundamental to developing our data maturity and supporting the Council to become a data enabled organisation.

The role is be responsible for building and maintaining systems that collect, manage, and convert the Council's raw data into usable information. The role's primary function is to make reliable, well modelled data securely accessible for analysis, so the Council can use this data to provide the intelligence it needs for decision making.

Key Accountabilities

- Building and documenting the Council's data and pipeline infrastructure against the vision and designs agreed in Council's Data Strategy.

- Building data pipelines that cleanse, transform and aggregate data from different sources.
- Maintaining the Council's data infrastructure and platforms, ensuring high-performance, availability, security, resilience and integrity.
- Identifying, designing, and implementing internal improvements to the Council's data infrastructure: e.g. automating manual processes, optimising data delivery, re-designing infrastructure for greater scalability, etc.
- Working with data and business intelligence teams to model and assemble large, complex data sets and data flows that meet business requirements, including for prescriptive and predictive analysis.
- Developing warehousing capabilities to integrate complex data sources from Council and partner systems.
- Identifying opportunities for data acquisition and ingestion to enhance the intelligence available to the Council.
- Making datasets available to analysts, data scientists and data consumers across the Council while maintaining security of the Council's data.
- Line management of the Data Engineer role, who will support the Prinicapal Data Engineer in their duties.
- Coaching and mentoring data and analytics staff to develop best practice within the new data platforms and tools provided.

Knowledge & Experience

Candidates must have substantial knowledge and experience in the following areas of business and will be required to provide evidence of this:

- Significant experience in a wide range of databases, programming, ETL, big data, cloud and analytics tools.
- Proven experience in delivering value through integrating data, including experience of manipulating, processing and extracting value from integrating large, disconnected datasets.
- Ability to line manage staff and facilitate strong team working.
- Ability to produce data models and understand different types of data models.
- Understanding different tools and an ability to reverse-engineer a data model from a live system. Understanding industry-recognised data modelling patterns and standards.
- Ability to re-engineer manual data flows to enable scaling and repeatable use.
- Proficiency in integrating and separating data feeds in order to map, produce, transform and test new data products.

- Documenting your work effectively for longevity of the data solutions you're building e.g. source-to-target mappings.
- Ability to design, write, optimise and iterate code from prototype to production-ready. Understanding security, accessibility and version control.
- Using a range of coding tools and languages.
- Planning, designing, managing, executing and reporting tests, using appropriate tools and techniques. Ensuring that risks associated with deployment are adequately understood and documented.
- Ensuring problems are fixed; knowing how to analyse, identify and manage problems and implement appropriate solutions.
- Applying breadth and depth of technical knowledge.
- Understanding analytical tools and are aware of and keep up to date with advances in these. Identifying and use the most appropriate analytical techniques.
- Understanding metadata management and the variety of tools. Designing and maintaining appropriate metadata repositories.
- Proven experience of successfully delivering proven corporate data transformation initiatives.
- Recognising and exploiting opportunities to ensure efficient and effective performance of the organisation, exploring new ways of conducting data-driven business.
- Communicating effectively across organisational, technical and political boundaries, understanding the context.
- Making complex and technical information and language simple and accessible for non-technical audiences.
- Advocating on behalf of the team and communicate what it does, to create trust and authenticity.
- Responding to challenge, increasing consensus and challenging assumptions.
- Designing and building data-streaming systems.
- Working as part of a team, with strong planning, prioritisation, organisation, time management and communication skills
- Helping a variety of stakeholders understand their data and its potential through exploration.
- An understanding and experience of a wide range of reporting platforms to support with any required report migration activities.

Qualifications

- Educated to a graduate degree level in Computer Science, Statistics, Informatics, Information Systems or another quantitative field (or significant equivalent experience).

Decision Making

- Sole responsibility for decision making in relation to the design, build and maintenance of the Council's cloud and on premise data architecture. Decisions have significant cost implications as well as impact on services to be able to access and use the information they need.

Creativity and Innovation

- Ability to develop deep understanding of service needs and translate this into technical designs needed to provide data and management information to meet these needs.

Job Scope **Number and types of jobs managed** • 1 – Data Engineer **Typical tasks supervised/allocated to others** • Amendment, maintenance and devleopment of datasets and analytics tooling.	**Budget Holder** **Responsibility** **Asset Responsibility**:	Yes - £160k pa . Yes – Cloud and on-premise data archietcure

Contacts and Relationships

(how the role relates to the work of others i.e. officers, groups, committees, general public, members, partner organisations, internal and external contacts of the council)

Key relationships for the post holder will be with the Data, Performance and Insight Team, including Analysts and Data Science staff, IT Operations, System Administrators, Developers, Emerging Technology and Business Improvement teams, Data Management and Information Governance teams, External Suppliers, Heads of Service, Team Managers and service area operational staff. In addition, similar officers from partner organisations across Swindon and the wider South West region.

Required to represent the Council at key forums, working with Swindon's strategic partners including the NHS and police.

Other Key Features of the role

(working environment / emotional / conditions i.e. regular outside work, unpleasant or hazardous conditions, practical demands such as standing, carrying or working in constrained positions, potential verbal abuse and aggression from people, or risk of injury).