

Job Description

Post title	Data Engineer
Grade	N9
Directorate	Operations
Team	Technology and Transformation
Reporting to	Data Architect
Responsible for	N/A

Job Purpose

As a Data Engineer within the North East Mayoral Strategic Authority's Technology and Transformation team, you will play a pivotal role in developing and maintaining a modern data platform that supports a wide range of business needs. Your work will be central to unlocking the value of the Authority's data assets, enabling better decision-making, service delivery, and strategic planning. You will lead significant data engineering projects that improve the quality, accessibility, and integration of data from both back-office and customer-facing systems, helping to create meaningful business and user value.

You will be responsible for designing, building and maintaining robust and scalable data pipelines, data visualisations and integration solutions.

You will collaborate closely with internal stakeholders, including senior leaders, and external partners to ensure data is of the highest quality, highly available, and shareable. This role works closely with the Data Architect, analysts and other stakeholders to build and implement scalable data solutions to ensure data flows efficiently from source systems to storage and data platform.

By setting rigorous standards and applying robust quality controls, you will help build trusted data products and services that deliver continuous insight and value to colleagues and stakeholders. You will also take a lead role in exploring and adopting modern data technologies, ensuring the Authority remains at the forefront of data innovation.

Duties and responsibilities

- Take a leading role in the build and upkeep of a data platform that will bring together data from various internal and external systems, applications, and databases.

- Develop effective working relationships with stakeholders across all Authority directorates, vendors and contractors to understand business problems and challenges and data sources and applications.
- Build and link datasets so that data professionals/analysts can easily derive insights, including accessing sensitive data in back-office systems, extracting, and loading it into appropriate technology.
- Work across the organisation to extract, clean, combine, and store data in a way that allows it to be exploited and used as an asset to help service delivery and decision-making.
- Anonymise data wherever necessary, working within the principles of GDPR and with suitable data protection and sharing agreements in place.
- Build pipelines and APIs to connect operational systems, data for analytics, and business intelligence (BI) systems.
- Build a wide range of organisational BI Dashboards and data visualisations
- Lead a series of data engineering projects in partnership, managing both internal and external partners and suppliers (e.g. Microsoft) to reach our goals.
- Lead on major programs of data engineering within business-critical live systems, working with services to understand and improve data quality. This may include purging data in accordance with regulation and internal policy.
- Automate currently manual data flows and reports to enable scaling and repeatable use, working with leaders to identify and take advantage of ways to speed up and smooth access to data.
- Write ETL (or ELT) scripts and code to ensure the ETL process performs optimally, leading on extracting data, joining, and helping analysts to derive insights.
- Play a leading role in the roll out of our data strategy, writing clear standards, data management and data quality policies, data sharing standards, and best practices for data engineering including data security and governance.
- Apply RBAC principles and contribute to data cataloguing and lineage.
- Collaborate with analysts and senior managers to build visualizations and reports that can be reused and which help improve decision-making.
- Lead on the development, maintenance, and use of the appropriate metadata repository.
- Work closely with data architects, data analysts, scientists, services, and vendors to develop "master data."

Organisational responsibilities

- **Communication**

We communicate effectively with our peers, partners and local authorities and work collaboratively to provide the best possible outcomes. Communication between teams, services and partner organisations is imperative in providing the best possible service to the region.

- **Confidentiality**

All members of staff are required to undertake that they will not divulge to anyone personal and/or confidential information to which they may have access during the course of their work.

All members of staff must be aware that they have explicit responsibility for the confidentiality and security of information received and imported in the course of work and in using organisation information assets.

- **Health, Safety and Wellbeing**

We take responsibility for health, safety and wellbeing in accordance with the North East MSA Health and Safety policy and procedures.

- **Performance Management**

We promote a culture whereby performance management is ingrained, and the highest of standards and performance are achieved by all. You will contribute to the organisation's appraisal processes to ensure continuous learning and improvement and to increase organisational performance.

All members of staff will receive appraisals, and it is the responsibility of each member of staff to follow guidance on the appraisal process.

The above is not exhaustive and the post holder will be expected to undertake any duties which may reasonably fall within the level of responsibility and the competence of the post as directed by their manager.

Values and Behaviours

Our values and behaviours are the things that are important to us, individually and as a team. They articulate the way we want to conduct ourselves. Combined, they work together to make us who we are, and we use them to anchor all that we do. The North East MSA values are:

- Strive for brilliance.
- One team.
- Drive sustainability.
- Make it happen.
- Be inclusive.

Equalities and Diversity

We are committed to creating a fairer North East where everyone can thrive with aspirational jobs, new skills, and better homes. All employees are responsible for taking proactive steps to eliminate discrimination, advance equal opportunities and foster good relationships in every aspect of their work.

Special requirements of post

- **DBS**

This post is not subject to a disclosure.

- **Politically restricted**

The North East MSA has designated that this post is not politically restricted in accordance with the requirement of section 1(5) of the Local Government and Housing Act 1989 and by regulations made from time to time by the Secretary of State.

Person Specification: Data Engineer

The following criteria will be used to shortlist at the application stage and will be further explored at the interview stage.

	Essential	Desirable
Qualifications	Educated to undergraduate level or above in a relevant subject (e.g. Maths/Statistics/Data Engineering/Computer Science/Physics etc.) or equivalent relevant experience.	- Professional Certification: Relevant associate or professional-level certification in cloud data engineering (e.g., Microsoft Certified: Azure Data Engineer Associate DP-203). - Project Methodology: A recognised qualification in agile project management or delivery (e.g., Certified Scrum Master or AgilePM).
Experience	- Significant experience in leading data projects and delivering data products or services. - Significant experience in SQL running complex queries. - Significant experience in implementing data models provided by Data Architect in data warehouse design, ensuring performance for analysis and reporting. - Experience of ingesting and transforming data to make it a valuable asset. - Experience of Azure / Microsoft Fabric / ADLS, Synapse, Data Factory, Purview, and cloud data services for data engineering. - Experience with data platform development and operations. - Experience working with multiple complex datasets to design and implement efficient data pipelines, perform data profiling, and ensure data quality for downstream analytics and reporting. - Able to give examples of successful delivery of data pipelines and services, including key metrics. - Experience in ETL/ELT processes for large monolithic IT systems and database management systems, making data usable on modern platforms.	- Public Sector Experience: Familiarity with local government data schemas (e.g., social care, transport, or housing data). - Mentorship: Experience in mentoring junior analysts or developers in best practices for coding and data management.

Skills and Knowledge	• Advanced proficiency in Python/PySpark and SQL. • Hands-on experience building ETL/ELT pipelines using Microsoft Fabric or Azure Data Factory. • Knowledge of Delta Lake formats and version control using Git. • Proficient in using SQL and NoSQL databases. • Excellent programming/coding skills across a range of languages, especially python. • Can write and communicate clearly with a range of people about highly technical topics. • Has a passion for learning, self-development, and problem solving. • Proven ability to work with analysts to support them with timely, relevant, high quality data to support analysis of data, find patterns and derive insight. • Advance skills in building and testing data pipelines and products to meet user needs. • Proven ability to clean, integrate, and scale datasets and pipelines. • Ability to write and execute tests to prove and maintain system quality. • In-depth applied knowledge of modern data engineering tools, technologies, and practices. • Knowledge of data visualization tools such as D3.js, PowerBI, Tableau, etc. • Familiarity with machine learning concepts and workflows to support data preparation and integration for advanced analytics. • Knowledge of corporate, industry, and professional data standards. • In-depth applied knowledge of SQL and NoSQL databases, and modern data storage solutions. • Knowledge of data governance, GDPR, data security, and data protection regulations, especially in the context of sensitive and confidential data.	• Experience with Infrastructure as Code (IaC): Knowledge of Terraform or Bicep to manage cloud environments. • Data Modelling Frameworks: Experience with dbt (data build tool) for transforming data within the warehouse. • Real-time Processing: Experience with streaming data technologies like Kafka or Azure Event Hubs.
Personal Qualities	• Analytical Problem Solver: A natural curiosity to dig into complex data discrepancies and find the root cause of pipeline failures. • Collaborative Communicator: Ability to translate complex technical engineering concepts into clear, strategic insights that align with the organisational goals and requirements of senior leaders. • Resilient & Adaptable: Comfortable working in an evolving “Technology and Transformation” environment where priorities may shift based on regional needs. • Ethically Minded: A strong internal compass regarding data privacy and the ethical use of citizen data beyond just GDPR compliance.	

Additional Requirements	• Work Arrangement: Requirement to attend Authority offices for key collaboration sessions, adhering to the authority's hybrid working policies. • Continuous Professional Development (CPD): Willingness to undertake specific vendor certifications (e.g., Microsoft Certified: Azure Data Engineer Associate) if not already held. • Flexibility: Occasional requirement to work outside of standard hours for critical system deployments or maintenance windows.	
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