

Job Description

# **Job Title:**

DBA / Data Engineer

# **Responsible To:**

Digital Service Delivery Manager / Business Systems Manager

# **Responsible For:**

None

# **Grade:**

Grade 8, Spinal Column Points 33-37, £42,708 - £46,731

# **Hours:**

36.25 hours per week

# **Location:**

Digital, Data and Technology Department, Lancashire Fire and Rescue Service Headquarters, Garstang Road, Fulwood, Preston, PR2 3LH

# **Other terms and conditions:**

* National Joint Council for Local Government Services (Green Book)
* A Flexi Time Scheme is in operation
* Ad Hoc Car User

# **Special Requirements**

* It is a requirement of the post that the post holder holds a current category ‘B’ (car) full driving licence.
* It is a requirement that the candidate is able and committed to attend relevant training to develop skills and knowledge in relation to the development of software associated with LFRS.
* This role is subject to a Standard Check by the Disclosure and Barring Service[[1]](#footnote-1)

# **Our Aim**

The intended result of all our efforts is to: make Lancashire safer.

This is what we are here to achieve. We seek to do this by delivering prevention, protection, and emergency response services; using our trusted position in the community to influence the wider safety of people and working in partnership with other organisations where we have shared objectives.

# **Our Priorities**

* Valuing our people so they can focus on making Lancashire safer.
* Preventing fires and other emergencies from happening.
* Protecting people and property when fires happen.
* Responding to emergencies quickly and competently.
* Delivering value for money in how we use our resources.

The way we work to achieve our priorities is as important as what we do, and our Service values ‘Strive’ reflects the behaviours we expect from our staff:

* Service: Making Lancashire safer is the most important thing we do.
* Trust: We trust the people we work with.
* Respect: We respect each other.
* Integrity: We do what we say we will do.
* Valued: We actively listen to others.
* Empowered: We contribute to decisions and improvements.

The Service values are underpinned by the national Core Code of Ethics for Fire and Rescue Services in England. The Core Code sets out five ethical principles, which provide a basis for promoting good behaviour and challenging inappropriate behaviour:

* Putting our communities first: we put the interest of the public, the community and service users first.
* Integrity: we act with integrity including being open, honest and consistent in everything we do.
* Dignity and respect: making decisions objectively based on evidence, without discrimination or bias.
* Leadership: we are all positive role models, always demonstrating flexibility and resilient leadership. We are all accountable for everything we do and challenge all behaviour that falls short of the highest standards.
* Equality, diversity, and inclusion: We continually recognise and promote the value of equality, diversity, and inclusion both within the Fire and Rescue Service’s and the wider communities in which we serve. We stand against all forms of discrimination, create equal opportunities, promote equality, foster good relations, and celebrate difference.

Everyone in Lancashire Fire and Rescue Service is expected to behave in accordance with the Service values and to follow the Core Code, including those working with or on behalf of us.

You can read our full [Community Risk Management Plan.](https://www.lancsfirerescue.org.uk/about/publications/community-risk-management-plan-2022-2027)

# **Role Environment**

You’ll be working as part of a small but friendly and supportive team where peer support and continuous sharing of knowledge and ideas is key to the success of the function.

We place an emphasis on research and development and wherever possible make use of the latest technology, products and techniques – we’ll always support the introduction of innovative and new technology and ideas wherever suitable and relevant.

In addition to the core DBA and data engineering activities the role involves a high degree of variety, with a balance between customer engagement, requirements gathering and solutions design, involvement in testing and deployment plus some exposure to project management. In support of this we actively encourage personal development and provide for regular professional training at certified training centres wherever there is a need, as well as to stay abreast of new technology and industry trends.

Emphasis is placed on a sensible work / life balance and in recognition of this, flexible working and a generous annual leave allowance is standard for the role.

# **Job Role**

The DBA/Data Engineer position encompasses both database administration and data engineering disciplines. The individual in this role is expected to possess subject matter expertise in at least one of these areas, while also demonstrating practical and demonstrable experience in the other discipline.

The data engineering responsibilities concentrate on designing, building, and maintaining the infrastructure that enables data collection, storage, and processing using platforms such as SQL databases (on premise & Azure), NoSQL (such as Azure Cosmos DB), Azure Synapse (& Spark / Parquet files) & Power BI / Fabric. The role is responsible for developing and optimising data pipelines, ensuring data flows smoothly from various sources to the data warehouse, target databases or other repositories that underpin solutions such as hosted Web Apps.

The Data Engineer role is also responsible for implementing cross-system data integration and transformation processes, ensuring data quality and consistency. Additionally, the role will collaborate with key stakeholders to provide the necessary data for analysis and reporting, focusing on scalability, performance, and the security of our data systems.

This role will involve evolving and managing our data warehouse to support BI and analytics systems, including Power BI. The Data Engineer will ensure the efficient operation of data flows, re-engineer manual processes, write performance optimised ETL scripts and be familiar with technologies such as PySpark and Jupyter notebooks.

Additionally, you will collaborate with internal stakeholders, troubleshoot complex issues, and contribute to the organisation’s data strategy by creating robust data models, dashboards and other solutions for our reporting and BI needs.

The education and training of other Digital, Data and Technology department members on data engineering concepts and technologies will also be an important aspect of the role.

The database administrator (DBA) responsibilities of the role include ensuring the health and smooth operation of SQL Servers, performing maintenance activities, managing backups, handling recovery processes and ensuring high availability of both the on-premises and Azure-based database platforms.

Another key responsibility is the migration of on-premises services to Azure-hosted platforms when deemed appropriate. Furthermore, the role requires developing complex SQL solutions to facilitate seamless integration across various systems and platforms, ensuring a cohesive data infrastructure that supports the organisations objectives.

Providing expert knowledge and guidance to support the organisations custom software development activities, including creating custom SQL objects, is another essential element of this position.

A crucial responsibility of the role is troubleshooting complex issues by leveraging tools such as Profiler, Extended Events, and execution plans.

Collaboration is a key element of this role, requiring close coordination with internal stakeholders such as the Infrastructure team, Software Development team, SharePoint Admin, BI and reporting teams as well as the Business Systems Manager.

Finally, educating and training other members of the Digital, Data and Technology department, as well as the wider colleague base, in SQL concepts, principles, and technologies is a fundamental aspect of the role.

# **Responsibilities**

Data Engineering Specific:

* Support the BI reporting team by creating and maintaining solutions to underpin data objects used for reporting on KPI’s.
* Developing and maintaining performance optimised and scalable ELT / ETL pipelines to orchestrate data flows using technologies such as TSQL, Python, ADO, C#, PySpark and Jupyter notebooks.
* Support the Gazetteer and GIS teams to ensure stable and custom consolidated database platforms for all published mapping and GIS systems.
* Working closely with other functional areas within the Information landscape to contribute significantly to the creation and maintenance of a Data Warehouse and BI reporting solution.
* Responsibility for implementing and maintaining data flows using tools such as Azure Data Factory and SSIS or similar to connect operational systems, data for analytics and business intelligence (BI) systems.
* Working closely with the Business Systems Manager to ensure data is maintained and processed in accordance with data quality by establishing automated solutions to assess and create data quality metrics.
* Contributing to best practices and documentation for data platforms through the continuous improvement of development standards and processes.
* Testing data engineering solutions thoroughly using unit testing, integration testing and user acceptance testing.

DBA specific:

* Responsible for the day to day running of the Service’s SQL Server estate, including responsibility for backup & recovery, maintenance (consistency checks, reindexing, statistics maintenance) and provisioning HA / DR solutions.
* Work closely with the infrastructure team to support deployment and maintenance of 3rd party vendor supplied applications.
* Liaise with the M365 Administration team to support the database hosting platform together with responsibility for 3rd party interface tools (e.g. Layer2 BDLC, Axio SQL Works).
* Install, configure & maintain SQL Server clusters on physical and virtual (VMWare) environments.
* Lead on the design, implementation and maintenance of the Service’s Azure based database estate recommending high availability and resilient solutions.
* Work with the Infrastructure team plus 3rd party vendors to maintain SQL server health propose recommendations for performance tuning and optimisation.
* Design and implement performance optimised complex stored procedures, views, managed code and other objects in both the Azure cloud and on-premises environments.
* Underpin the Software Development team to create custom SQL objects and to provide expert knowledge and guidance in support of the Services custom Software Development activities.
* Act as the technical lead in any project related work with touchpoints on the SQL architecture.
* Proactively monitoring data objects and processes to identify issues and support the effective debugging and troubleshooting of any database related issues.

Cross Discipline

* Utilising tools such as Azure DevOps for secure source code management as well as integrating CI/CD pipelines into the database development workflow.
* Creating and maintaining documentation to describe the technical solutions including system architecture and source to target mappings that detail how data flows between systems.
* Provide technical assistance and cross training to other team members.
* Assist with the resolution of IT Service Desk generated Incidents and problems with touchpoints on web applications, workflow, data, mobile forms, web & custom application infrastructure, or where formally escalated to the Software Developer as part of the ITIL process.
* Provide verbal and written reports (or incident updates) identifying progress in relation to complex incidents or problems and to communicate any known problems, issues or implications that may affect the department meetings its objectives or providing services.
* Design and propose technically detailed solutions, options and associated cost / benefit / risk profiles for the improvement of the “development infrastructure” scalability, reliability, performance and availability.
* To liaise with other LFRS departments, external service support suppliers and contractors in order to specify complex requirements, provide solutions, resolve incidents and problems, monitor service level agreements and / or improve best practice.
* To be involved with any major projects with a development requirement, as well as providing expert level input and guidance with installations, product updates, deployments and “developed infrastructure” related services.
* Where required, to be assigned the technical lead in meetings and other higher level scenarios.
* Involvement in the departments formal ITIL processes and Service Desk solution, including escalation procedures, change management and project management modules.
* Be responsible for own personal continuous improvement and development to ensure highest possible standards of work, together with mentoring and assisting other members of the team.
* Ensure compliance with legislation, policies and procedures.
* To be aware of the LFRS Safeguarding Procedures and to make referrals as appropriate to the role.
* Promote a positive image of the Service in dealing with all other organisations and members of the public.
* To promote the principles of equality and diversity and comply with Lancashire Fire and Rescue Service Equality, Diversity, and Inclusion Policy at all times.
* To observe all rules governing health and safety and use safety equipment where it is provided.
* To support LFRS in its commitment to prevent pollution and minimise its impact on the environment.
* The post holder may be requested to undertake the duties of higher graded staff subject to consultation. In addition, other duties at the same responsibility level may be interchanged with/added to this list at any time.

It is unacceptable for any Lancashire Fire and Rescue Service employee to be under the influence of alcohol or illegal drugs at work. Such employees pose unnecessary risks to themselves and to their colleagues.

# **Employee Specification** Please note all criteria are essential unless otherwise stated.

# **Qualifications**

* Degree (or similar) in a computing related subject or demonstrable evidence of the appropriate level of experience.

# **Experience**

* Evidence of appropriate experience of SQL Server DBA & Developer disciplines.
* Extensive implementation & development knowledge of SQL Server (all versions) in a role of production developer DBA.
* Evidence of appropriate experience implementing and maintaining performance optimised, resilient and highly available database architecture within the Azure cloud environment.
* Demonstrable experience working with database management systems such as SQL Server and Cosmos DB.
* Experience working as part of an Agile / Scrum team and using Azure DevOps or similar platforms for source code management and CI / CD pipelines.
* Experience of Azure SQL plus other elements of the Azure & M365 ecosystem.
* Experience using Azure Data Factory and understanding of ADF components and principles.

# **Knowledge, Skills, and Abilities**

* Proven knowledge of SQL Database and related RDBMS principles.
* Knowledge of the Azure cloud platform and associated resources that can be utilised for database management.
* Proven competence in creating complex T-SQL objects, reading query plans, tuning indexes and troubleshooting performance bottlenecks.
* Extensive knowledge of SQL Server High Availability & DR solutions.
* In depth knowledge of data warehouses and their supporting schema structures, ETL / ELT processes and data modelling.
* Ability to create, maintain and troubleshoot complex Azure Data Factory pipelines and SSIS automation packages including Data Warehouse related ETL & Payroll automation.
* Knowledge of Power BI or Fabric and associated underpinning technologies (such as DAX and Power Query) OR a willingness to learn and adopt as CPD.
* Able to produce and communicate detailed documentation, user guides & specifications.
* Ability to communicate clearly and effectively to elicit and define complex user requirements.
* Ability to influence and contribute to major organisational projects.
* Ability to manage third party suppliers.
* Good organisational skills, ability to work on own initiative and with a minimum of supervision.
* A commitment to inclusion, equality, and diversity.

# **Desirable**

* Experience of developing data flows and semantic models in Power BI.
* Demonstrable experience building reports, dashboards and data visualisations in Power BI or Fabric (including DAX and Power Query).
* Experience with IaC solutions using Terraform, Bicep or similar tools.
* Experience with data based Artificial Intelligence or Machine Learning.
* Knowledge of Machine Learning and MLO OR a willingness to learn and adopt as CPD.
* Knowledge of Artificial Intelligence and relevant technologies in a data analytics environment OR a willingness to learn and adopt as CPD.

# **Special Requirements of the Post**

* It is a requirement of the post that the post holder holds a current category ‘B’ (car) full driving licence and has a car available which meets the requirements of Lancashire Fire and Rescue Service as detailed in the terms and conditions of the post, see further details.
* It is a requirement of the post that the post holder will be able and be prepared to attend evening and weekend meetings/events as required.

# **Terms and Conditions**

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# **Hours:**

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# **Location:**

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# **Car Parking:**

Free Car Parking Facilities are available at LFRS Service Headquarters.

# **Pension:**

Local Government Pension Scheme

# **Annual Leave Entitlement:**

Green Book

The annual leave year for business support staff runs from 01 April to 31 March.

The scale of annual leave is as follows: -

Spinal Column Points 20-36

0-5 years: 28 days

5-9 years: 28 days

10 years and above: 31 days

Spinal Column Point 37 and above

0-5 years: 29 days

5-9 years: 29 days

10 years and above: 32 days

Plus, bank holidays, plus 2 extra days which are accrued and taken if in post at Christmas/New Year. Staff employed at Lancashire Fire and Rescue Service Headquarters are also required to take some additional annual leave to facilitate the Christmas closure.

# **Other Terms and Conditions:**

* National Joint Council for Local Government Services.
* Lancashire Fire and Rescue Service operates a flexi-time scheme.
* Ad Hoc Car User

# **Car Categorisation**

Ad Hoc

Current Category ‘B’ (car) full driving licence. If it carries any endorsements, clearance will be required from the Head of Fleet and Engineering Services before you can be appointed even if you are successful at interview.

If you use your own vehicle, you will be reimbursed for the use of the vehicle on authorised journeys in accordance with the “Lancashire Fire and Rescue Service Ad Hoc Car User Scheme”.

The vehicle provided must be fit for purpose and meet the following requirements:

* Valid MOT test certificate.
* Maintained in accordance with the manufacturer’s recommendations, kept in good condition and be always fully road legal.
* Insured for you to drive on official business journeys.
* It should be noted that the provision of your own vehicle does not preclude Lancashire Fire and Rescue Service requiring you to use service transport where this is considered more appropriate and in the interests of the organisation.

# **Clearances:**

* Satisfactory references
* Standard Disclosure and Barring Service Check[[2]](#footnote-2)
* Occupational Health Assessment

It is unacceptance for any Lancashire Fire and Rescue Service employee to be under the influence of alcohol or illegal drugs at work. Such employees pose unnecessary risks to themselves and to their colleagues.

To this end, Lancashire Fire and Rescue Service will screen all candidates selected for employment for illegal drugs and alcohol. This will be carried out at our Occupational Health Unit, under strict protocols and confidentiality. Any candidate who refuses to be screened will not be employed. Any candidate who tests positive for illegal drugs or unsafe levels of alcohol will not be employed.

1. With effect from 6 July 2023, Fire and Rescue Authorities have been listed in Schedule 1 of the Rehabilitation of Offenders Act 1974 (Exceptions) Order 1975, meaning that all LFRS roles are subject to a Standard Level Disclosure and Barring Service (DBS) Check as a minimum. Some roles within the Service will be eligible for a higher level check depending on the duties of the role [↑](#footnote-ref-1)
2. With effect from 6 July 2023, Fire and Rescue Authorities have been listed in Schedule 1 of the Rehabilitation of Offenders Act 1974 (Exceptions) Order 1975, meaning that all LFRS roles are subject to a Standard Level Disclosure and Barring Service (DBS) Check as a minimum. Some roles within the Service will be eligible for a higher level check depending on the duties of the role [↑](#footnote-ref-2)