



Principal Data Engineer

POSITION DESCRIPTION FORM

Region / Portfolio / Directorate:

State Intelligence and Command

District / Branch:

Data Science and Analytics

Work Unit:

Data Management

Position Description Number:

Generic 556

Rank / Level / Band:

Level 6

Employment Conditions

Industrial Agreement/Award: Current PSA PSCSAA and Agency Specific Agreement

Work Pattern: Monday – Friday (Day Work): May be required to work outside normal operating hours

Location: Perth

Position Objective

Leads the technical design, development, and management of the engineering of data pipelines and databases for the purpose of provisioning data to support statistical and operational information for data science, analysis and reporting. Provides expert advice on Western Australia Police Force (WA Police Force) data management principles and processes to senior management and stakeholders, and operates with focus to maintain and provide the highest quality and integrity of data and information.

Role of Work Unit

The Data Management Unit (DMU) is responsible for maintaining a trustworthy foundation of data to support analytics across the Agency by managing data technologies through the application of high-performance computing, large scale data integration and emerging analytical platforms. This involves the management and engineering of data pipelines and databases for both near real-time and batch processes for the purpose of provisioning data to support statistical and operational tools and products for data science, analysis and reporting.

DMU ensure the quality and integrity of data and information for all DSA data assets. In addition to engineering responsibilities they are required to perform administration and take the technical lead on projects within DSA.

DMU use a modern Azure data stack including Synapse Analytics, Azure SQL and PowerBI Premium and Graph Technology is currently being introduced into the Agency.

Main activities of DMU:

- Understanding and managing the quality of data sources and liaising with data scientists and analysts to inform strategies to manage impacts and effects of this.
- Interrogating data in corporate systems and data holdings to apply analysis, design, modelling, and quality assurance techniques and establishing, modifying or maintaining data structures and their components.
- Informing strategy and architecture and providing advice to analysts, report designers, data scientists, intelligence analysts and investigators using the data structures and associated components.
- Building robust pipelines that support the ingestion of transactional data with high levels of performance and availability.
- Designing targeted data structures to support analysis.
- Influencing senior stakeholders through technical expertise, customer/domain knowledge and vision and objective, collaborates with senior stakeholders for new initiatives.

Reporting Relationships

This position reports to:

Executive Manager, Level 7

Direct reports to this position include:

- Nil

Total number of positions under control: Nil

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Key Accountabilities

1 Data Management (55%)

- 1.1 Leads and undertakes the development, review, and implementation of new data extractions from corporate systems and data holdings for ingestion to meet data science, analytical and reporting needs.
- 1.2 Leads and undertakes the design, analysis, and implementation of targeted data structures to support and facilitate the efficient and effective use of information resources for data science, analytical and reporting needs.
- 1.3 Leads and undertakes the Extract, Transformation and Load (ETL) process from corporate systems and data holdings into various data assets.
- 1.4 Proactively liaises with internal and external clients at all levels to identify and analyse data requirements, and to facilitate the appropriate use of information from all data assets.
- 1.5 Leads the effective administration, operation and maintenance of the Azure data stack and new data technologies.
- 1.6 Provides a technical lead to inform strategy and architecture of all data assets to support data science, analytical and reporting needs.

2 Advice, Consultancy and Corporate Engagement (30%)

- 2.1 Provides an authoritative consultancy and advisory service to police personnel to understand business requirements, and provide advice and guidance on data management process matters.
- 2.2 Negotiates and consults at a technical level in relation to data management processes, initiatives, and outcomes.
- 2.3 Provides technical leadership, direction, guidance and mentoring to staff in the DMU.
- 2.4 Provides advice to analysts, report designers, data scientists, intelligence analysts and investigators using the data structures and associated components.
- 2.5 Develops and maintains productive relationships with key technical stakeholder groups.
- 2.6 Prepares technical briefings, reports, and guidelines for WA Police Force personnel.
- 2.7 Represents the Portfolio and the WA Police Force at various technical committees, working groups, meetings, and forums.

3 Project Management (10%)

- 3.1 Scopes, undertakes, and manages data engineering and management projects, ensuring the areas having an interest in or impacted by the projects, are kept fully informed throughout the project life.
- 3.2 Manages and conducts the investigation and analysis of complex issues to identify relevant factors and make recommendations for further consideration or action.
- 3.3 Monitors progress of projects to ensure that milestones and performance indicators are met within time and budget constraints, and investigates and negotiates change proposals with relevant stakeholders.

4 Other (5%)

- 4.1 Understands and complies with information security policies and procedures to ensure information holdings/systems are kept confidential and utilised accurately and reliably.
- 4.2 Demonstrates and advocates a high level of ethics and integrity in accordance with the Agency's professional standards and Code of Conduct including reporting wrongdoing.
- 4.3 Undertakes other duties as directed.

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Specialist Prerequisite(s)

It is a requirement that the position holder is:

- An Australian Citizen prior to the completion of the selection process;
- Successful in obtaining and maintaining a **NEGATIVE VETTING LEVEL 2** security clearance for the duration of their appointment in the position.

Work Related Requirements

Essential	Context in which work related requirements will be applied and or general standard expected.
Conceptual, critical thinking, and analytic skills	Developing solutions to highly complex data engineering requests requiring a strong understanding of data management. Establishing and recommending solutions to issues from data, ideas, conversations and environmental scans. Providing advice on strategy and architecture to support business needs.
Experience in data engineering	Taking the lead technically for the ETL process and managing and engineering data pipelines and databases for the purpose of provisioning data to support statistical and operational tools and products for data science, analysis and reporting. Standardising data modelling guidelines and implementing best practices to meet operational and strategic objectives, government requirements, and organisational needs.
Project management skills	Initiating, developing, managing, and implementing various data engineering projects at a technical and business level. Leading project teams investigating complex issues.
Communication skills	Preparing briefing notes, responses, and reports on complex issues. Consulting, facilitating, and negotiating on a broad range of topics.
Knowledge in the use of computers and software packages	Using Microsoft Azure tools e.g. Synapse, Data Factory, SSIS, SQL as well as interrogation of a range of databases to ensure the timely extraction of data from transactional systems.

Desirable

Possession of, or progression towards, a relevant tertiary qualification in computer engineering, computer science or programming.

Capability Framework

The framework is intended to support staff and supervisors through the performance cycle and identify core competencies relevant to the rank and/or classification level.

Certification

The details contained in this document are an accurate statement of the duties, responsibilities and other requirements of the position.

Position Title and Work Unit	Name	Date
Workforce Officer, Organisational Design & Analysis	Pamela Soares	26/04/2022
A/Assistant Director, Data Science & Analytics	Janelle Bailly	26/04/2022
Commander, State Intelligence and Command	Charl Crous (approved Special Prerequisites)	08/09/2020