Database engineer

College/Division	Deputy Vice-Chancellor (Research)
School/Section	Integrated Marine Observing System (IMOS)
Location	Hobart
Classification	HEO 7
Reporting line	Team Leader - Information Infrastructure
Date	October 2021

Position Summary

The University of Tasmania is building a vision of a place-based University with a mission to enhance the intellectual, economic, social and cultural future of Tasmania, and from Tasmania, contribute to the world in areas of distinctive advantage. The University recognises that achieving this vision is dependent on the people we employ as well as creating a people-centred University that is values-based, relational, diverse, and development-focused.

We are seeking to appoint a Database Engineer in the [Integrated Marine Observing System (IMOS)](.) as part of [the Deputy Vice-Chancellor (Research) division.](.)

The Integrated Marine Observing System (IMOS) is a national collaborative research infrastructure, supported by the Australian Government. It is operated as an unincorporated joint venture, with the University of Tasmania as Lead Agent (http://imos.org.au/). IMOS provides a national, multi-institutional capability to undertake systematic and sustained observing of the marine environment, from the open ocean onto the continental shelf and into the coast, and across physical, chemical and biological variables.

All observations undertaken by IMOS produce data streams in near real time and/or delayed mode (quality controlled), that are discoverable, accessible, usable and reusable via the Australian Ocean Data Network (AODN). Increasingly, even more data is being made available via AODN from a wide range of partner organisations – research institutions, Federal and State Government departments, and private industry. As the national scale marine observing system, IMOS supports a high level of international collaboration.

The Australian Ocean Data Network (AODN) facility of IMOS has developed a single integrative framework for marine data and information management, discovery and access, supporting both IMOS and the Australian marine community. This infrastructure employs open-source principles and is standards-based, utilising ISO and OGC standards for metadata and data, based on an Amazon Web Services platform. The AODN team is structured as two interleaved groups – Information Infrastructure and Data Services –working together to deliver information services for IMOS and the AODN.

An organised individual with a background in computer science, database administration, data migration and software development are sought to fill a database engineer position based at the University of Tasmania. The position requires excellent communication skills and the ability to build and maintain effective working relationships with staff and collaborators from a wide range of academic and technical backgrounds.

The database engineer will assist in the ongoing development and implementation of the information infrastructure underpinning IMOS and the AODN. This person will provide expertise in database design and administration to support the development of new data-driven systems and the maintenance and improvement of existing systems.

We are an inclusive workplace committed to 'working from the strength that diversity brings' reflected in our Statement of Values. We are dedicated to attracting, retaining and developing our people and are committed to inclusive principles. We celebrate the range of diverse assets that gender identity,

ethnicity, sexual orientation, disability, age and life course bring. Applications are encouraged from all sectors of the community. **Tell us how we can make this job work for you.**

What You'll Do.

- Support all aspects of data infrastructure.
- Manage and implement database/data infrastructure changes to AWS managed database solutions.
- Design and implement new geospatial databases (in Postgres/PostGIS) – including associated data migrations.
- Provide expertise in data structures, optimising database performance and SQL statements to maintain database performance and reliability.
- Apply corporate best practices for Postgres databases, Extract, Transform, Load (ETL) design, ensuring quality and consistency across all development, testing and production environments.
- Contributing to projects ensuring they are delivered to a high standard with focus on continuous improvement (CI/CD) through task automation.
- Working with other members of the AODN team on system design, delivery and maintenance in addition to protocols and standards for data and metadata ingestion, processing and distribution.
- Documentation of work done including code, develop manuals for the use of systems and document processes and procedures where appropriate.

What We're Looking For (success criteria)

- Tertiary qualification in Information Technology related field and at least 5-years' experience in database administration (in lieu of formal qualifications, consideration will be given to candidates with relevant experience).
- Significant experience in data management including database design, administration, troubleshooting technical issues and performance tuning, preferably using PostgreSQL and PostGIS.
- Experience designing and executing data migrations and experience using Extract, Transform and Load (ETL) software (e.g., Talend).
- Strong understanding of AWS database offerings with hands-on experience deploying database infrastructure in AWS and experience using a range of AWS based technologies.
- Demonstrated methodical approach to development and documentation of software and systems.
- Detail oriented team player with well-developed written and verbal communications that result in effective and appropriate communication, including the ability to communicate complex concepts clearly and concisely.
- Ability and drive in learning new tools within a short timeframe.

Other desirable position requirements

- Experience in developing and maintaining web applications and web services using Java and/or Python frameworks.

University of Tasmania

The University of Tasmania is an institution with an enduring commitment to our state and community, and a strong global outlook. We are committed to enhancing the intellectual, economic, social and cultural future of Tasmania. Our Strategic Direction strongly reflects the University community's voice that our University must be place based but globally connected as well as regionally networked and designed to deliver quality access to higher education for the whole State.

We believe that from our unique position here in Tasmania we can impact the world through the contributions of our staff, students and graduates. We recognise that achieving this vision is dependent on the people we employ, as well as creating a university that is values-based, relational, diverse, and development-focused.

Check out more here:

https://www.utas.edu.au/jobs

The intention of this position description is to highlight the most important aspects, rather than to limit the scope or accountabilities of this role. Duties above may be altered in accordance with the changing requirements of the position.