

Position Description (Te Whakaaturanga Tūranga Mahi)

Position Title (Te taitara): Senior Software Engineer

Business Unit (Te wāhanga): Digital Assessment Transformation

Grade: S8-IS

Overview – NZQA’s Role (Te tirohanga whānui – Ngā mahi a NZQA)

NZQA ensures that New Zealand qualifications are valued as credible and robust both nationally and internationally.

“Qualify for the future world” describes the focus of our work.

We are accountable for managing the New Zealand Qualifications Framework, administering the secondary school assessment system, independent quality assurance of non-university education providers, qualifications recognition and standard setting for some specified unit standards.

NZQA is a Te Reo Māori learning organisation.

More information can be found on our website at www.nzqa.govt.nz.

Public Service (Te ratonga tūmatanui)

Ka mahitahi mātou o te ratonga tūmatanui hei painga mō ngā tāngata puta noa i Aotearoa i āiane, ā, hei ngā rā hoki kei tua. He kawenga tino whaitake tā mātou hei tautoko i te Karauna me āna hononga ki a ngāi Māori i raro i te Tiriti o Waitangi. Ka tautoko mātou i te kāwanatanga manapori. Ka whakakotahingia mātou e te wairua whakarato ki ō mātou hapori, ā, ka arahina ā mātou mahi e ngā mātāpono, ngā tukanga me ngā tikanga matua o te ratonga tūmatanui.

Mō ētahi atu whakamārama, tirohia te paehono nei <https://www.publicservice.govt.nz/about-us>

Being in the public service we work collectively to make a meaningful difference for New Zealanders now and in the future. We have an important role in supporting the Crown in its relationships with Māori under the Treaty of Waitangi. We support democratic government. We are unified by a spirit of service to our communities and guided by the core principles and values of the public service in our work.

You can find out more about what this means at (<https://www.publicservice.govt.nz/about-us>).

Business Unit Overview (Te tirohanga whānui ā-tari)

NZQA has NCEA Online as its flagship programme within the Digital Assessment Transformation (DAT) Business Unit.

To ensure all New Zealanders can “qualify for the future world”, we need to utilise digital technologies. This is because these technologies will:

- transform teaching, learning and assessment
- enable students to personalise and tailor their own learning
- empower students with digital literacy and problem-solving skills
- engage students, and prevent the generation being “switched off” by the assessment methods we use.
- We want students to be successful, and we want them to reach their potential. We know technology can assist in these aims, as students are able to:
- be more engaged in the learning process
- know that the assessment is an extension of the learning process (assessment as learning)
- have a teacher who facilitates their unique learning process
- have improved access to information about their own learning progress (through more immediate feedback loops).

Alongside the work to be delivered, we know we need strong engagement, change management and communications, both externally and internally. We need to communicate regularly to a wide range of stakeholder groups, and we need to be able to tell a story that resonates with learners, parents, teachers, employers and meets their expectations.

The NCEA Online Programme builds this trust / mana by working with NZQA colleagues and a wide variety of external stakeholders by working in ways that are aligned with Ngā Mātāpono (Our Values).

Purpose of Position (He whakamārama)

A Software Engineer is typically responsible for the design, development, maintenance and enhancement of Database scripts and associated utilities to support business processes, production applications and reports. In addition, they may be involved in the design and development of high quality, scalable and robust web application solutions.

Senior Software Engineers have a technical involvement in the full software development life cycle of new applications, maintain production applications and may be required to provide technical support for production software to business users. Analysis and problem solving skills are required. This role will also be required to mentor other team members with less sophisticated technical knowledge.

Working Relationships (Te hononga tāngata)

Responsible to: Programme Manager, NCEA Online Solutions

Functional relationships:

Internal:

- Software Engineering team
- DAT Management
- Project Delivery Team
- Architect Team
- Business Analysis Team
- Systems Team
- Client Services Team
- NZQA Business Unit Users

External:

- NZQA External Clients
- External Vendors

Key Accountabilities (Ngā haepapa matua)

Work Practice

- Analyse, design, construct, maintain and test software algorithms and applications.
- Comply and actively contribute to the improvement of the NZQA software development standards, methodologies, code documentation and revision and release control processes.
- Actively contribute to the implementation of secure software development best practise
- Troubleshoot defects of complex tightly coupled legacy business and Web applications.
- Provide technical analysis and estimation for project and BAU tasks.
- Investigate, evaluate and prototype new technologies, design patterns and libraries.
- Design user interfaces which comply with the NZ Web Accessibility standards.
- Assist with the preparation of release bundles for deployment.
- Document progress and issue resolutions in software repository and issue tracking system.
- As assigned, participate as a member of project teams, meeting accepted milestones.
- Communicate progress to the project manager on regular basis.
- Work with test team (QA) to evaluate, identify and correct software defects.
- Stay abreast of industry practices and technologies to be used in the development process.
- Develop and maintain excellent professional relationships and networks both within and external to IS.
- Contribute and collaborate as a team member to achieve common goals and objectives.

| Database Stream | or | Application Stream |
|---|-----------|--|
| <ul style="list-style-type: none">• Develop new Database Stored Procedures and enhance production Database Stored Procedures used by production applications by analysing and identifying areas for optimization.• Develop Database scripts with associated tools to support business process and to maintain production data integrity.• Develop Database scripts to export data from production Database into reporting Data Warehouse and to support reports used by production software.• Review and suggest improvements to Database Structure and design.• Conduct design and code reviews. | | <ul style="list-style-type: none">• Validate and implement technical solutions meeting business requirements.• Deliver/maintain comprehensive unit and functional test coverage to ensure code quality.• Conduct design and code reviews.• Build applications and assist operation deployment• Review and suggest improvements to production software and development toolset.• Review and suggest improvements to Database Structure and design.• Deliver test and production application artefacts to be deployed and release notes. |

Client Responsiveness

- Client requests are resolved in accordance with good practice standards
- Client expectations are well managed and client satisfaction with service delivery is high
- The ICT Strategic Plan is understood and support of that plan is embedded in work processes

Collaboration

- The role holder is an active and committed member of the team
- The role holder shares information for the benefit of the team
- Documentation and other support mechanisms are put in place to avoid creation of key person risk
- The role holder demonstrates accountability for their own performance.

NZQA Priorities (Ngā whāinga nui o NZQA)

The following areas are priorities for NZQA. Support and guidance will be provided to ensure these priorities are able to be met by all staff.

Health, Safety & Wellbeing

- Ensuring that all work is carried out in a safe and responsible manner that does not compromise the health and safety of self or others in the workplace.
- Complying with policies, procedures and directives issued by NZQA on health and safety matters.

Privacy & Security

- Acting in accordance with privacy and security policies and procedures.
- Maintaining the strictest confidentiality when dealing with any personal or sensitive information.
- Ensuring documents containing personal information are always kept secure.
- Maintaining a 'clear desk' in accordance with policy.

Knowledge / Records Management

- Working collaboratively and creating a learning environment by ensuring all business documents and information are made accessible for staff to use.

Ensuring that all business records, created and received, are maintained and disposed of according to the requirements of the NZQA information and records management policy, guides and processes.

Person Specification (Ngā pūmanawa tāngata)

Knowledge, Skills and Experience (including Technical Competencies)

Essential:

| Database Stream | or | Application Stream |
|--|----|---|
| <ul style="list-style-type: none"> • 5+ years IT software development experience, in advanced transact SQL preferably in a Sybase or SQL Server environment. • Comprehensive understanding and experience of RDMS (relational database management system), Data warehouse, data modelling and database design. • Ability to troubleshoot complex database issues including performance and security. Recommend appropriate solution(s). | | <ul style="list-style-type: none"> • 5+ years work experience in a JEE development environment, preferably gained on complex multi-tier web-based business applications. • Proficiency with Struts, Spring, Hibernate, Ibatis, Ant, JMS, SQL, XML, XSLT, JSP and Tag Libraries. • Ability to troubleshoot complex application issues including performance and security. Recommend appropriate solution(s). • Exhibit proficiency in Test Driven Development (TDD) and associated toolset e.g. Cucumber, Selenium and Gherkin • Exhibit proficiency in automated build, deployment and continuous integration processes (Jenkins). • Working understanding of Design Patterns including Enterprise Integration Patterns |

- Experience using version control and bug tracking systems.
- Knowledge and experience of software development standards, processes and methodologies.
- Ability to:
 - Effectively understand and translate product and business requirements into technical solutions.
 - Develop software solutions by studying information needs; conferring with users; studying systems flow, data usage, and work processes; investigating problem areas; following the software development lifecycle.
 - Utilise software engineering tools such as configuration management systems, build processes, and debuggers in the software development process.
 - Code with future proofing and re-usability of code in mind and to be aware of the effects of coding practice.
 - Analyse relevant data and information and in turn draw accurate conclusions.
 - Mentor team members in following best practise.
- Experience in delivering oral and written communications to all levels of an organisation.
- Team oriented.

Desirable:

| Database Stream | or | Application Stream |
|--|----|--|
| <ul style="list-style-type: none"> • Knowledge and extensive experience with Sybase Adaptive Server Enterprise, Sybase IQ and SQL server. • Knowledge and experience of BOE and Crystal reports.. • Knowledge and experience of SQL performance tuning. | | <ul style="list-style-type: none"> • Knowledge and experience of some of the following: Eclipse/ IntelliJ, Tomcat, JBoss, Sybase and Sybase IQ, JQuery, HTML/Javascript/CSS, Ajax. • Knowledge of Service Oriented Architectures • Knowledge of messaging service frameworks e.g. AMQP, Stomp • Knowledge of isomorphic Javascript applications • Experience with GIT, Maven, Sonar, and Jenkins. |

- Experience in Jira (Issue and Project Tracking Software).
- Experience in Agile methodologies.

Qualifications**Essential:**

A qualification at level 7 of the New Zealand Qualifications Framework or equivalent industry experience.

Desirable:

- A relevant Industry Certification.
- A relevant post-graduate qualification at level 8 of the NZ Qualifications Framework.

Other Requirements (Ngā herenga atu o te tūranga mahi)

During the critical period of systems use during the annual NCEA secondary examinations timetable of operations, and during releases from time-to-time throughout the year, the position holder will be required to be rostered to be on-call.

Development Competencies (Te whanake pūkenga)

NZQA has the following Core Competencies for the purpose of development planning:

Client responsiveness - Honouring NZQA's commitments to all external and internal clients by providing helpful, courteous, accessible, responsive and knowledgeable service.

Collaboration - Working collaboratively with others, sharing information and networking to achieve common goals and positive outcomes.

Communication - Listening and communicating with others in an effective manner.

Continuous learning - Identifying and addressing personal development needs to enhance individual and organisational performance; learning through self reflection on success and failures.

Decision-making - Making good decisions and solving problems involving varied levels of complexity, ambiguity and risk.

Engaging with Māori - Engages effectively with Māori, underpinned by NZQA's values, and applies an understanding of Te Ao Māori that is relevant to the context of our business.

Valuing diversity - Helping create an inclusive work environment that embraces and appreciates diversity.

Work practice - Focusing personal efforts in an organised way to achieve results consistent with NZQA's objectives, seizing opportunities that arise, and maintaining effectiveness in a variety of situations.

Job Description Scope of Duties (Ngā mahi whāiti o te tūranga mahi)

The job holder is expected to perform such other duties as can reasonably be regarded as incidental to the job description, and such other duties reasonably within their experience and capabilities as may be from time to time assigned following consultation.