



Government of Western Australia  
Office of the Government  
Chief Information Officer

**PSC** | Public Sector  
Commission



# Information and communications technology capability framework

A guide for practitioners and leaders in  
information and communications technology  
(ICT)

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# Foreword



## **Mal Wauchope, Public Sector Commissioner**

There is broad recognition across the Western Australian public sector that enhancing the information and communications technology (ICT) function is a critical factor in delivering effective and efficient services to the community. This includes building the capability and competencies of ICT practitioners and leaders.

To assist in this enhancement, the Public Sector Commission has partnered with the Office of the Government Chief Information Officer (OGCIO) to develop the *Information and communications technology capability framework*.

As the sector transitions to a highly digital environment, ICT workforce capabilities need to be more formally established, maintained and consistently applied across agencies. Guiding the professional development of ICT practitioners and leaders—through the provision of more structured roles and career progression—will contribute to a more flexible, skilled and sustainable ICT workforce.

The development of this ICT capability framework has involved comprehensive consultation and collaboration with Chief Information Officers, ICT practitioners and senior executives from a diverse group of agencies across the sector. I thank all those who have contributed their time and expertise to this initiative.

M C Wauchope  
PUBLIC SECTOR COMMISSIONER



### **Giles Nunis, Government Chief Information Officer**

Technology is an integral part of the future of the public sector and offers tremendous opportunities to change the way we deliver government services to the Western Australian community.

As our technological environment continues to evolve at a rapid pace, there is a need to ensure we have a workforce with the right ICT skill set and knowledge to be ahead of the curve and deliver on the business of government now and into the future. ICT practitioners are now expected to have the skills to partner with the business to drive projects and deliver on business objectives. It is equally important for non-ICT leaders and managers to have a better understanding of ICT more generally, to help drive business decisions.

The ICT capability framework provides clarity around the skills required for different ICT roles to align with new challenges and expectations. The ICT capability framework aligns to the Government's whole-of-sector ICT strategy, [\*Digital WA: The Western Australian Government Information and Communications Technology Strategy 2016-2020\*](#).

The framework aligns ICT skill capabilities to core government functions and activities, and provides agencies with a consistent approach and platform for performance management, training and development, and workforce planning.

Importantly the framework will help identify skill and capability gaps in the public sector. Enabling the development of skill sets that integrate technical expertise with business requirements and leadership qualities, ICT practitioners are provided with a pathway for progression into management roles.

Giles Nunis  
GOVERNMENT CHIEF INFORMATION OFFICER

## Introduction

Information and communications technology (ICT) is a vital and integral part of any organisation. From instantaneous communication through the use of email and social media through to the use of devices such as smart phones and tablets, technology has increased productivity and improved operations and service delivery in organisations.

The digital environment is evolving at a rapid pace, and changes in technology are reshaping industries and redefining the roles of ICT. Within government, ICT roles are changing to focus more on business service delivery, data management and service-oriented contracts.

Having a greater understanding of what ICT capabilities are required at all levels within the public sector, will ensure the a workforce with the right ICT knowledge and skills to deliver on the business of government. Enhancing digital capabilities within the sector will also assist in making better use of new technologies, and enable closer cooperation between business and ICT professionals within agencies.

The OGCIO, in partnership with the Commission, has developed this ICT capability framework to provide the basis upon which agencies can build ICT capability within their organisation.

The ICT capability framework provides:

- agencies with the tools that are required to respond to new and evolving demands
- greater consistency of ICT capabilities across the sector
- a common language for describing ICT capabilities
- a more inclusive and diverse ICT workforce within Government
- a common methodology in assessing/reviewing ICT capabilities
- guided career progression and targeted development for ICT practitioners
- the opportunity for Chief Information Officers (CIOs) to be identified as part of their agencies' executive
- a more consistent approach to ICT staff development across the sector.

## High level view

‘A capability framework is a set of detailed and behaviourally-specific descriptions of the key behaviours, and underlying skills, knowledge, abilities and attributes, which are required for successful performance in an organisation, team or job’.<sup>1</sup>

The ICT capability framework provides guidance for ICT and human resource practitioners, leaders and teams. It has been designed to develop greater consistency in defining ICT practitioner capability through a shared narrative across the sector. The framework also applies to external contractors.

Implementing the framework will ensure:

- ICT practitioners are recognised as a source of expertise and guidance for the sector
- CIOs, ICT managers and human resource (HR) practitioners develop a common language when communicating about the work of ICT
- the value of ICT to agencies and government can be more clearly defined.

### Audience

- CIOs
- ICT practitioners
- ICT project teams
- ICT divisions
- HR practitioners.

### Practical applications

The framework is designed to be used across all aspects of workforce development:

- learning, professional development and training
- performance management
- workforce planning
- skills and knowledge gap analysis
- job description form (JDF) creation.

NOTE: The framework is not a job classification tool to justify classification levels. Agencies should use the framework as a tool to identify critical capabilities and development needs of individuals required to effectively and efficiently fulfil a role.

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<sup>1</sup> Ref - Catano, V.M. (1998). Competencies: A review of the literature and bibliography. Halifax, Nova Scotia, Canada: St Mary's University

The ICT capabilities do not translate directly to a particular level, but apply across a range of job levels that may require a similar range of capabilities. This reflects the different roles across agencies, accommodates agency specific requirements and business needs, and takes into account that issues and challenges will vary from agency-to-agency and from role-to-role.

## Components of the framework

To apply the framework within an agency, users need to understand the two separate sources of information that come together and create a 'capability set' used to achieve a series of different outcomes. The capability set applies to a role or an individual and is defined below.

### 1. Public sector capability profiles

The framework utilises the [Public sector capability profile: Levels 1-6](#) and the [Public sector leadership capability profile: Level 7 to Class 4](#) to identify common 'work related' capabilities required across the sector.

The capabilities listed in these documents are grouped into the following areas:

1. Shapes and manages strategy
2. Achieves results
3. Builds productive relationships
4. Exemplifies personal integrity and self-awareness
5. Communicates and influences effectively.

### 2. Skills framework for the information age (SFIA)

The framework leverages a world's best practice technical approach, known as SFIA, to identify specific ICT related capabilities required for ICT roles or related to an individual's skillset.

SFIA is the industry-accepted tool used globally in more than 200 countries by practitioners who manage or work in ICT related roles. SFIA lists 97 skills applicable to all ICT roles and functions. These skills are further broken down into capabilities across seven levels of responsibility. SFIA is intended to help match the skills of the workforce to the needs of the business, and is available [online](#).

To access the model and supporting documentation required to create the 'capability set', complete the free online registration process and download the SFIA:

- summary
- reference
- reference in Excel format.

# Application of the framework

ICT managers and HR teams should use the following steps to identify the capabilities for a particular ICT role or those possessed by an individual practitioner. Capabilities should be described using common language derived by following the steps below, and these should be used to describe the work related requirements in a JDF.

## Step 1. Determine SFIA capabilities

Select the SFIA skills that apply to a role or individual. It is recommended that a minimum of four and a maximum of ten skills are selected.

Once the SFIA skills are known, select the relevant SFIA capabilities by determining which of the various capabilities written for each SFIA skill apply to the role or individual. It is suggested that around 70 per cent of capabilities are selected from one SFIA level, and the remaining 30 per cent selected from surrounding levels (Figure 1).

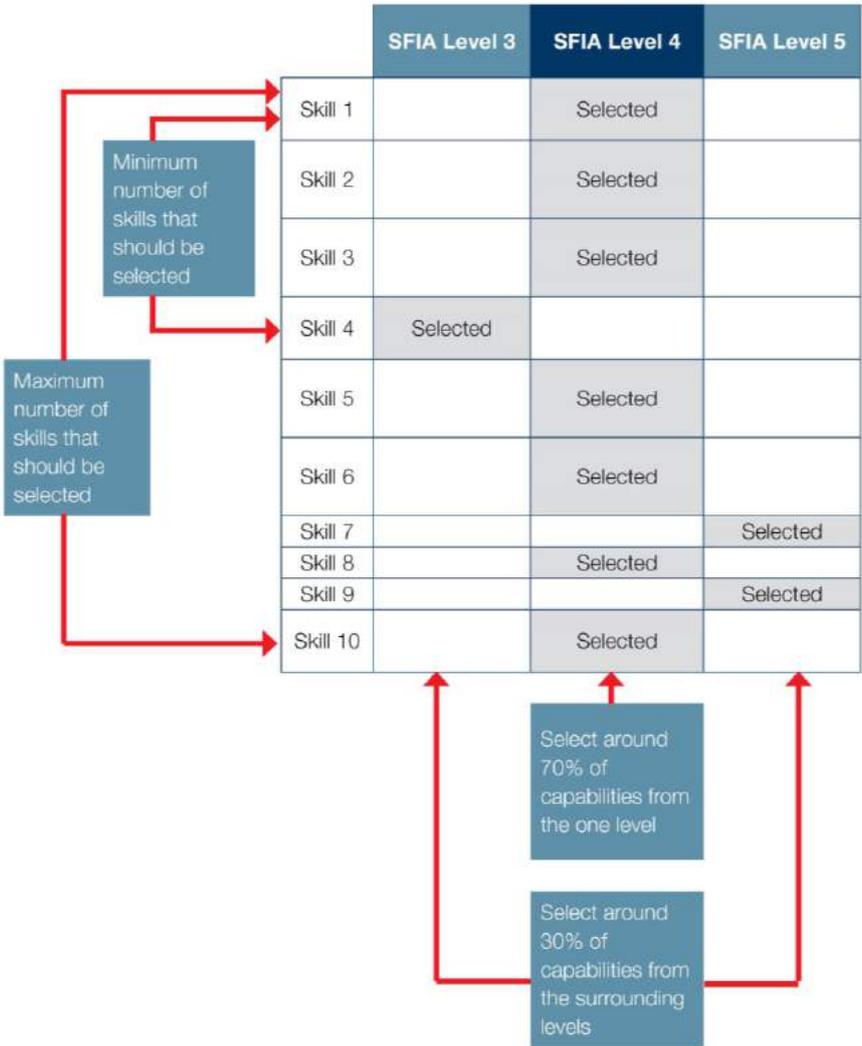


Figure 1: Selecting SFIA capabilities

## Step 2. Determine public sector capabilities

SFIA levels can be broadly aligned to public sector capabilities and classification levels.

Using the relevant document ([Public sector capability profile: Levels 1-6](#) or [Public sector leadership capability profile: Level 7 to Class 4](#)), find the appropriate level and identify the common 'work related' capabilities that apply to the role or individual. Agencies can select all or a subset of the capabilities listed.

To help guide this step, Table 1 below shows how SFIA levels align to government employment levels.

SFIA level	1	2	3	4	5	6	7
PSGOGA level (or equivalent)	1-4	3-5	4-6	5-7	6-8	7-9	8+

**Table 1: SFIA and the *Public Service and Government Officers General Agreement 2104* (PSGOGA) alignment table**

NOTE: The alignment table is to be used as a guide only. Agencies are encouraged to customise the table to suit their agency context and requirements.

## Step 3. Determine full capability set

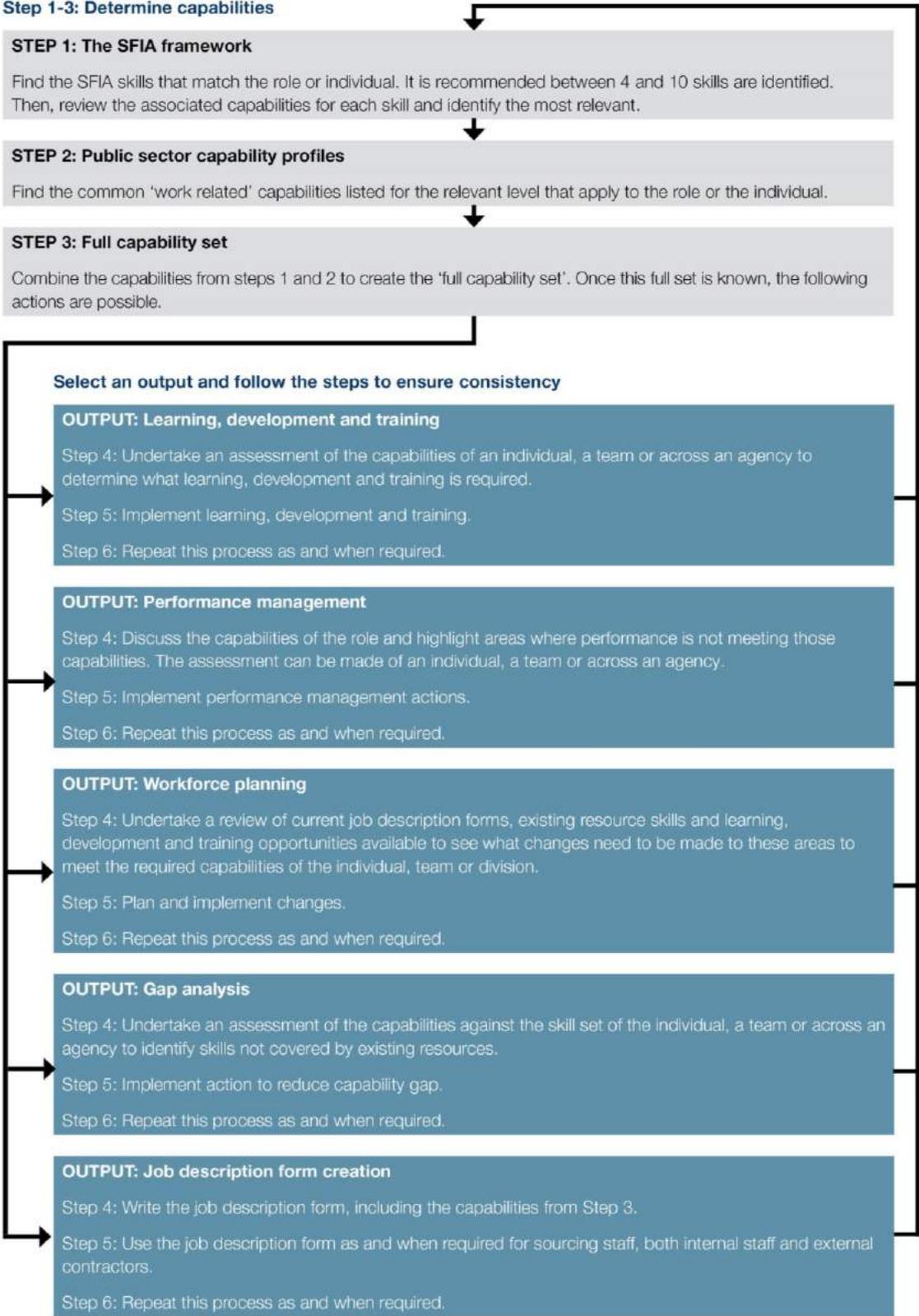
Integrate the results from steps 1 and 2 to form the full capability set for the role or individual.

Once determined, a full ICT capability set does not translate directly to a particular level but rather informs the capabilities:

- required to successfully undertake a role, or
- held by an individual.

An overview of the full process is detailed in Figure 2.

# ICT capability framework outputs



**Figure 2: Application of ICT capability framework**

## Case study one

This case study illustrates how the ICT capability framework has been used to determine the required skills and capabilities for an Enterprise Architecture role within an agency.

### Stage 1: Identify capabilities required for the Enterprise Architecture role

The Government Enterprise Architecture Workgroup (GEAW) was established by the OGCIO to develop an *Enterprise architecture framework* for the WA public sector and to define an 'enterprise architecture' capability set.

To identify the capability set required for the Enterprise Architecture role, the GEAW followed the steps outlined in the ICT capability framework.

**Step 1:** The GEAW consulted with relevant public sector stakeholders to identify the general skills required for the Enterprise Architecture role as being:

- communication
- presentation and public speaking
- rapport building and networking
- innovation and creativity
- art of influencing (trusted advisor)
- leadership
- decision making
- negotiating research
- managing time and competing deadlines
- assertiveness.

The GEAW then mapped these general skills to SFIA, with the following SFIA skills identified:

- Strategy and Architecture - Business strategy and planning
- Strategy and Architecture - Advice and guidance
- Strategy and Architecture - Information strategy
- Strategy and Architecture - Technical strategy and planning.

The GEAW then identified the SFIA capabilities required for the role—which correlated to SFIA level 6—as outlined in Table 1.1 below. These are considered the minimum number of capabilities to be incorporated into all JDFs that describe the Enterprise Architecture role within the public sector.

## Case study one

SFIA skill	SFIA Level and Code	Capability
Strategy and Architecture - Business Strategy and Planning	Level 6 STPL	Enterprise and Business Architecture Development
Strategy and Architecture - Information Strategy	Level 6 ISCO	Information Systems Coordination
Strategy and Architecture - Advice and Guidance	Level 6 CNSL	Consultancy
Strategy and Architecture - Technical Strategy and Planning	Level 6 EMRG	Emerging Technology Monitoring

**Table 1.1: Map of SFIA skills and capabilities**

**Step 2:** Referring to the classification alignment table, SFIA level 6 broadly aligns with PSGOGA levels 7-9. This is consistent with the GEAW's findings that Enterprise Architecture capability is commensurate with a leadership role within an agency, such as Chief Information Officer, Chief Technical Officer or Corporate Services Director.

### **Stage 2: Identify full capability set for the Enterprise Architecture role**

Agencies should complete the work description for an Enterprise Architecture role by referring to the Commission's capability profiles for [levels 7-9](#) and selecting the relevant capabilities listed under 'Skill descriptions and behavioural indicators' in the Behavioural Indicators column. These can be combined with the minimum set of SFIA capabilities (and any additional capabilities the agency deems suitable) to create the full capability set for the Enterprise Architecture role.

Agencies can then proceed to classify the Enterprise Architecture role.

## Case study two

This case study illustrates how the ICT capability framework can be used to map the capabilities of existing ICT staff and provide the basis for professional development and workplace capability building.

### Stage 1: Identify capability set required for the role

Madeline is the manager of a team of six ICT staff in a medium sized agency covered by the PSGOGA.

Using the capability framework, Madeline works with her agency's Chief Human Resources Officer (CHRO) to commence the process of mapping the capabilities of each of her team. In the case of her Level 4 Database Administrator position, Madeline identifies the capability set required for the role and follows the three steps described in the framework.

**Step 1:** Madeline identifies the SFIA skills applicable to the Database Administrator role, which includes:

- database administration
- database/repository design
- security administration
- data management.

Using these levels as a guide, Madeline then reviews the SFIA capabilities for each skill and selects the appropriate SFIA capabilities for the role. Applying the 70:30 rule (see Fig.1, p9), Madeline selects three level 2 and one level 3 capabilities, to describe the technical capabilities of the role and meet her agency specific requirements.

Referring to the classification alignment table, Madeline notes that SFIA level 2 broadly aligns with a level 3-5 classification. This confirms the classification is correct in light of organisational context and work requirements.

**Step 2:** Madeline refers to the [Public sector capability profile: Levels 1-6](#) document, goes to page seven and selects all the capabilities listed in the 'Behavioural Indicators' column for Level 4.

**Step 3:** Madeline combines the capabilities from Steps 1 and 2 to form the capability set for the Level 4 Database Administrator role.

### Stage 2: Map occupant capabilities against the role's capability set

Having completed the process of identifying the capabilities of each ICT role, Madeline now maps the capabilities of her team.

### ***Case study continued.***

In reference to the Level 4 Database Administrator position:

- Madeline compares the capabilities of the role with those of the current occupant (Huan). Madeline also advises Huan to 'self-assess' and document his capabilities.
- Huan reviews the capability set for the position mapped by Madeline. In doing so, Huan refers to the SFIA skills for database administration, database/repository design, security administration and data management against the 'Behavioural Indicators' for level 4 within the [Public sector capability profile: Levels 1-6](#).
- Huan and Madeline meet to discuss and compare Huan's existing capabilities against the role's capability set. Huan has the opportunity to comment on the capability set Madeline identified, based on his understanding of the SFIA skills documentation and the public sector capability profile.
- Once Huan and Madeline agree, the capability set is agreed to, endorsed and finalised by HR. If Huan and Madeline cannot agree, the agency may employ the services of a third party to make an impartial assessment.

### **Stage 3: Professional development**

Once the mapping of capability sets is complete for the roles and the individuals in her team, Madeline can:

- identify professional development opportunities for her staff
- address any skill gaps
- identify future workforce planning needs.

In addition, Madeline's staff will be able to review their capabilities against their own roles and other roles within the team to identify their career path and plan their development accordingly.

## Case study three

This case study illustrates how at an agency level a relationship can be built between SFIA and PSGOGA.

### Stage 1: Identify capability sets for roles

David is the Chief Information Officer within a large public sector agency under the PSGOGA. David has been directed by the Chief Executive Officer to adopt the ICT capability framework, and to review the JDFs for the 12 ICT positions under his responsibility.

Before meeting with the agency's CHRO, David reviews the required capabilities of each ICT role in his team. He starts the process with the Web Developer and Database Administrator roles.

**Step 1:** David reviews the SFIA framework and identifies the skills required for both the Web Developer and Database Administrator. He then reviews the SFIA capabilities for each skill, and identifies those that are relevant to each role. Applying the 70:30 rule (see Fig. 1, p9), David selects the majority of capabilities from one SFIA level, and the remaining capabilities from surrounding levels. He selects between four and 10 capabilities for each role. Based on this assessment an overall SFIA level is assigned, as indicated in the Table 3.1 below.

	Database Administrator	Web Developer
SFIA Skills	<ul style="list-style-type: none"> <li>• Database administrator</li> <li>• Database/repository design</li> <li>• Security administration</li> <li>• Data management</li> </ul>	<ul style="list-style-type: none"> <li>• Information content publishing</li> <li>• Testing</li> <li>• Consultancy</li> <li>• Technical specialism</li> </ul>
Capability levels	<ul style="list-style-type: none"> <li>• five capabilities from SFIA level 2</li> <li>• one capability from SFIA level 3</li> </ul>	<ul style="list-style-type: none"> <li>• seven capabilities from SFIA level 5</li> <li>• two capabilities from SFIA level 4</li> <li>• one capability from SFIA level 6</li> </ul>
Predominant SFIA level	Level 2	Level 5

**Table 3.1: Map of SFIA Skills and Capabilities**

### **Case study continued**

**Step 2:** David refers to the [Capability Profile: Levels 1 to 6](#) and the [Public sector leadership capability profile: Level 7 to Class 4](#), and selects the capabilities listed in the 'Behavioural Indicators' column that are relevant to the roles.

**Step 3:** David then creates the full capability sets and work descriptions for the roles by combining the SFIA and Commission capabilities. The JDFs are updated accordingly.

### **Stage 2: Classification of roles**

David takes the updated JDFs to the agency's CHRO. David and the CHRO reach an agreement on the classification levels, taking into consideration the organisational context, the specific work requirements and work value for each role. To verify the assessment, David and the CHRO check the classification levels against the alignment table (Table 1, p10) detailed in the ICT capability framework. The determined SFIA levels (2 and 5 respectively) fit within the range of PSGOGA classifications (Levels 3 and 6 respectively) within the alignment table.

The outcome of this assessment is demonstrated in the Table 3.2 below.

	Database Administrator	Web Developer
Predominant SFIA level	Level 2	Level 5
Agency level classification	Level 3	Level 6

Table 3.2: Alignment of SFIA Levels and PSGOGA Classification