# IT Work

Include raw transcripts / recordings in appendix to support your written component.

## 15-12 Marks

You have clearly described the kind of work done.

You have described and explored all of the interactions with other people.

You have described how most time is spent with a high standard of narrative flow.

You have succinctly included the challenging aspects of this work.

Developing a section substantially beyond the question set.

Purpose of interview is to answer these questions:

* What kind of work is done by the IT professional?
* What kinds of people does the IT professional interact with? Are they other IT professionals? Clients? Investors? The general public?
* Where does the IT professional spend most of their time?
* What aspect of their position is most challenging?

## Interview (draft work in progress):

Link to interview recording: <https://rmiteduau-my.sharepoint.com/:v:/g/personal/s3992802_student_rmit_edu_au/EbxWbICr9VJOjH9hnjkbglIBEfn1wNYkkxPv35g2H1dKJw?e=8neXvp>

Link to raw transcript: <https://rmiteduau-my.sharepoint.com/:w:/g/personal/s3992802_student_rmit_edu_au/EXHGsFSo77NHnhqQ76vrPKQB_vn4Lo83ZfXZxskyOuhjOA?e=8zgmzk>

**Interview Report**

To gain an insight into the practical experience of working as an IT professional, we interviewed Nathan Stewart. Nathan has had an extensive career in IT, working across many different areas of the sector – and is currently a manager within Cyber Security.

We asked Nathan a variety of questions concerning his job and the tasks and interactions involved; career and education; and the IT sector. Across the whole interview, one main theme was clear. To succeed anywhere within IT, you need to keep in mind what the purpose is of what you are doing, and what the purpose is of IT as a whole: to advance, to enhance, to develop, to simplify and to solve problems.

It was also apparent that the human aspect of IT was just as, if not more, important than the technical aspect. Communicating with others is key, to ensure that the right technology is implemented in the right way, for that specific client. There’s not much point in delivering an IT project that is unsuitable to the client’s needs.

One other important learning from this interview was how, as Nathan’s career progressed, the knowledge from his previous roles fed forward into how he could perform optimally in the next. Both the technical, and non-technical skills were used over and over, and improved upon, throughout his career. Culminating in a role where he has found his ideal balance of skillset, where Nathan can thrive while also satiating his hunger for IT.

Speaking with Nathan was informative and delivered an interesting insight into the everyday experience of working as an IT professional. We learned about the positive and negative aspects of working as an IT professional, and just how broad the definition of IT is. Nathan provided some fantastic advice that anyone considering a career in IT should keep in mind and explained why it is great timing to be joining the IT sector. We really appreciate Nathan’s time sharing his excitement and passion for IT, and look forward to seeing how his career continues to develop in the ever-changing world of IT.

**Interview (Question and Answer format chosen as opposed to Narrative Format, to include many good quotes given by interviewee, and because the answers were quite robust and didn’t need padding out).**

**What methods of learning have you found most useful in your career?**

Early on in my career, having a foundational knowledge of IT is really what helped me get started. I obtained that through a combination of on-the-job training as well as formal learning (e.g., TAFE diplomas, university degree).

As my career has progressed, and as IT has evolved, much more now there’s a value placed on certifications (depending on what part of IT you work in). Certifications you can achieve quickly, and you can obtain multiple certifications to build up your knowledge in a certain area.

**How do you keep your skills and knowledge up-to-date with an evolving IT environment?**

This is something that I’m confronted with on a regular basis, both for myself and for the people that I lead.

What we’re calling microcredentials is the way that I’m approaching that. For example, cloud – it’s a broad sphere within IT, to then break it down into microcredentials. So, I might say I’m going to do a microcredential on Azure Fundamentals, then follow that up with another microcredential diving into Azure Directory Services perhaps, or maybe containerisation. Those microservices help you take a small topic, and rapidly learn it. Then as the topic evolves, you can remain up-to-date. As opposed to taking a three- or four-year course – by the time you’ve finished, what you’ve learnt from a technical perspective may no longer be relevant.

**Would you please outline how your IT career has progressed up to this point?**

Throughout my school years I had a natural affinity towards IT. It came naturally and was something I really enjoyed doing, so I changed my hobby into a career.

My first job in my IT career was as a system administrator. This was doing high level tasks such as creating accounts in Active Directory, creating email addresses, taking and restoring backups… The kind of level 2 work you would expect. I spent a few years there gaining deeper technical experience, but more importantly gaining a customer engagement rapport as well. Even though we’re working in IT, on the end of that technology is a person. Having that at the forefront of my mind has held me in good stead. We are technologists at heart, but never forgetting that the technology that we’re delivering, building, and fixing is for a human on the other end.

I then moved on to a desktop support role, which was similar type of work, but also involved interacting with people face-to-face. For example, a colleague might have hardware issues and need some help on-site to resolve the issue. The role also involved providing server support when a server in a data centre has problems; switching out disks; disk arrays etc.

My next role was as a service desk team leader for an internal helpdesk of a desktop support team for a couple of years. The focus in that role was being able to demonstrate critical thinking. No longer just responding to tickets and queues but being able to coordinate the teams that were working for me. Being able to think ahead to get the best level of service to our customers. E.g., where do I need to have my people positioned, and how can I anticipate what might be coming next? This was bringing together the experience from my previous two roles.

Up until this point my career had been predominantly IT operations, and support. I then pivoted into IT project management. Having the experience from IT operations made the transition into project management smooth and easy. The benefit of having that background is that every project you deliver will, at some point, land in the hands of an operations team. Having been in the operations team, I had felt the pain points of a project that’s been delivered without documentation, or one that requires support people that we don’t have the resources for. The project world is interesting – going from running things, to building things. Although the projects might change, the underlying ethos was very much the same, and I grew bored of that, and wanted to get back in the action.

I then moved internationally to the UK and took on an IT leadership role in an insurance company. This combined all the things I had done previously - leading both project management and operations. It was an exciting time because there was a huge amount of digitisation and modernisation going on – moving off old mainframe systems into the 21st century. It was a good time to be around.

Then I came back home to Australia. My roles had been transitioning into leadership roles at this point, so the mix of hands-on IT work and leadership started to shift dramatically. But critically, I wouldn’t have got to that point if I didn’t have that level of IT ability and hands-on experience.

My next role was at a major bank, leading a whole department called IT service operations. I owned a service from top to bottom – including the strategy of that service, what the technology stack would look like, the architecture, operations, support, SLAs – end to end. As well as leading the people that deliver that.

Into my current role now, where I lead an Asia-Pacific team in cyber security, which is a different flavour again of IT.

**Please tell us about your IT work. What exactly do you do?**

Cyber security role, which is a broad area within the even broader world of IT. I’ve been working in cyber security for 10 years. I lead an identity and access management department across Asia-Pacific. My team look after all aspects of what we call IAM – Identity and Access Management. Some services include:

* Directory management (e.g., Active Directory, Azure Active Directory)
* PKI - Primary Key Infrastructure (e.g., SSL certificates)
* Public Certificate Authority – we issue certificates internally to build a trust between an end-user’s device and the organisation
* Federated Single Sign-On - using industry standards that allows the applications we build to authenticate and authorise users with relevant levels of access
* Privileged Access Management – making sure that admin access for all servers within the organisation is kept tightly controlled. We provision just-in-time access to administrators so if their access is compromised, those credentials cannot be used to create an attack on the organisation.
* MFA (Multi Factor Authorisation) – deploying and managing MFA across the organisation. We have to ensure you are who you say you are, using a username and password is no longer enough. We need to have something you know (which is your password), and something you have (which is that second factor).

We run all services to industry standards – the main two are Agile and ITIL (Information Technology Infrastructure Library). ITIL includes practices and standardisations that organisations follow to align operations. For example, within ITIL there is:

* Incident Management – how does an incident go from start to finish?
* Change Management – how do you introduce change to an environment in a controlled way, to minimise interruptions to business. A change management framework and methodology is important.
* Problem Management – investigate root cause and implement permanent corrective action to ensure it never happens again.
* Configuration Management – a hierarchy of all assets in the full IT environment. All applications, what servers they run on, what IP addresses they are on, what infrastructure they’re on. Robust library of all the assets in the organisation.

The great thing about ITIL is that it’s widely adopted globally. When working in IT, standardisation in terminology is important.

**Please tell us about the industry you work in.**

Professional Services and Consulting Industry. Cyber Security and IT in general are important as clients are coming to us for help, and the solutions to the problem is often technology.

**What other kinds of work do you have to do?**

Technical component as before. Non-technical – people leadership, coaching of team, (technical – e.g. microcredentials, non-technical soft skills like rapport, strong communication skills, audit and compliance), SOC2 accredited organization, most large corporations are which takes a huge burder if you are the remain compliant.

SOC2 (Service Organisation Control 2) – independent way to evaluate controls an organization has relating to security, processing confidential information, availability of your service. What controls have you in place and how effective are those controls. High benchmark and need to continue to meet that benchmark to maintain compliance. A lot of organisations won’t work with you unless you have SOC2 compliance.

Strategy and Service Roadmapping – anticipating needs of business and customers ahead of time to devise strategy on where I need to be going in 12 months – 2 years – 3 years. Across the board is my service still fit for service, room for growth? Refreshing of hardware or software. Roadmap will define what the IT Service is today, and what it will look like in the future.

Budget Planning – to keep service running. A badly configured cloud environment can cost you way more than using a data centre, so a tight focus on finance, budget planning and tracking the actual spend.

Writing Business Cases – e.g. efficiencies through automation – less errors, improved throughput, financial saving.

Defect and Bug Tracking – servers have any defects or bugs?

Voice of the customer – meeting customer needs or not?

A broad range of other types of work. As career changes and progresses, from more technical and less leadership. Many things are in the scope of what’s called IT.

**Who are all the different people you interact with in your work? Please tell us about**

**them.** *(Explore all the interactions with other people. Are they other IT professionals? Clients? Investors? The general public?)*

Team members that I mentor and coach.

Finance and business partners.

Change management if I need to make a change in an environment I own to go through the change management process.

Major Incident team if there’s an outage to manage communications to affected customers.

Business stakeholders – business leaders which is main customer as it’s a mainly internally focused role.

**Please tell us about your interactions with other IT professionals.**

Upstream and downstream dependencies – relationships with other IT teams that consume and rely on his services that he runs, and likewise he consumes other services. For example his services are running on the network so he has a dependency on the network team so he has a very good relationship with the owner of all the network services.

Left and right IT services that make up the organization – deep relationship with those professionals.

Externally, networking at industry events. Form a community, move from vendor to vendor as technologies evolve. So mostly industry events and vendors.

Doesn’t really use the phone or email to communicate with other professionals. Usually Slack or Teams for real-time communication. Get together semi-regularly for strategic planning in person to work on IT strategy.

**What about your interactions with clients or investors?**

Engagement with clients when they have a problem that they need help with. They come for consulting help, he’ll get engaged and see what the problem is and how IT can be a solution to that.

Internal customers monthly service review, SLA reports on how achieve against SLAs, how they are achieving against strategic targets that we may have agreed on at the beginning of the year. And a dialogue for my customers to tell me what’s happening in their business so he can remain in the best position to deliver IT to enable that. Important to ensure the solution is fit for purpose and what the customer needs.

**What aspects of your work do you spend most time on? Please tell us about these.** *(This needs to be described with a high standard of narrative flow.)*

Has changed over career. Early in career 90% problems coming in, tickets coming in, resolving – and 10% learning.

Whereas today split between management activities (e.g. coaching team, budgeting, monitoring how service is performing, looking for vulnerabilities in service, always being mindful of what’s on the horizon 3, 6, 9, 12 months away.)

**Which aspects of your work do you find most challenging?** *(Succinctly include these.)*

Organisation is global, and the IT services need to be available 24/7 – having a geographically distributed team and achieving consistency across those geographies, time zones, and cultures. Spends a lot of time on team cohesion to ensure technology is executed in a consistent way without being able to be physically present with all team members. Technology helps, using technology to collaborate, using asynchronous communications so not having to have a conversation in real time.

Rapid pace of change is another challenge. Higher education is typically a multi year thing, which is still required to provide the foundations across the broad spectrum of IT but the facets within it are changing so rapidly. As soon as caught up to speed with something there’s another development. Finding time to stay on top of that is critical. Tries to set himself a goal 1 microcredential per quarter (personal goal) read some journals and see what’s interesting and pick a topic. For his team he sets a target of 1 microcredential per month as he thinks it is important to invest in learning and development to help keep our teams skilled and help them do the best job they possibly could.

**Can you share an example of the work you do that best captures the essence of the IT industry?**

IT exists to enhance and develop our lives. Might be sitting behind the keyboard, coding or providing support or delivering a project, but the purpose is always to advance society. From a security perspective our work helps keep the bad guys out and if the bad guys were to get in, to make sure we’re prepared for that.

“If we were to think of what would life be like without the IT that we take for granted today, it would be much different so having a part in that is really exciting.”

**Where do you spend most of your time?**

Geographically often travelling as the team is spread around Asia Pacific and being part of a global team. Based in Sydney – primary focus. But responsibilities across the region leads him to all corners of the globe.

Hands-on sense – split time evenly between in-the-day reacting to stuff, and planning for what’s coming next.

**What part of your position do you personally find most rewarding?**

2 parts. Seeing people that I’m coaching and leading grow and achieve great things.

When presented with a problem or challenge. Can either build or deploy technology to solve that and make someone’s life easier. See the effect of what you’ve done never gets old, is still so satisfying.

**What would be your ideal position in the IT sector?**

At heart I’m a technologist and have an affinity for IT. As career progresses from a leadership point of view the type of work changes.

“I’m in a really sweet spot now where I still do hands-on IT work to be in the trenches with my team when we’ve got a major incident going on – it’s kind of all hands on deck. To be able to coach my team I need to have those technical skills. But also I really thrive in the leadership space so where I am now is really quite satisfying because I get the best of both worlds.”

Previous roles was loving the technical aspect but was yearning for leadership responsibility. Then if he went further he’d take on more leadership and not really have much exposure at all to the technology.

**Do you think that the demand for IT professionals in your position will increase/decrease/remain the same over the next 5 years?**

Increase dramatically. Already happening. Being a leader, the demand for hiring is growing. Consistent across all industry peers that he talks to. Different pockets of demand. Strong pocket of demand in Cyber Security, and in Cloud while organisations are still migrating from on-prem to cloud, and for good quality software developers, and for project professionals to deploy all that IT.

**What would be the most important piece of advice you would give to someone beginning a career in IT?**

Firstly, maintain a level of intrigue and interest and constant asking of questions. Remain interest and continue to learn. Keep hunger for new information and learning. Remain relevant “by maintaining that hunger and that passion.”

Secondly, remember the purpose of IT is to advance and simplify and solve problems. Seen many people come with technical blinkers on just thinking about the technology and not the human aspect. Once you widen your scope and think about the implications of technology, the reason, the who, the how, the why, that will give you an advantage over other people who are just focusing on the technology.