



**A GUIDE TO
STARTING A CAREER
IN CYBER SECURITY**

STATIONX

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A Guide To Starting a Career in Cyber Security

Right now, there is a severe shortage of talent in the Cyber Security industry.

It has been predicted that there will be 3.5 million unfilled cyber security jobs globally by 2022, up from only 1 million positions in 2014. Not only is there a need for more talent, but these are for well-paid jobs with room for upward career growth.

This growing skills gap represents a great opportunity: By taking the right steps now, you can quickly gather the skills to qualify for one of these jobs and advance your career.

But with all of this opportunity, there comes a problem:

How do you know where to start? Fortunately, you're in the right place.

In this guide, you're going to learn a simple 5-step process for getting started in Cyber Security.

By reading through each of these 5 steps, you'll become educated and familiar with the requirements of a job in this industry.



About the Author

Hi, I'm **Nathan House**, a leading cyber security expert and founder of the Station X Cyber Security Career Development Platform, I have over 25 years of experience in cyber security and recently won the AI - Cyber Security Educator of the Year 2020.

Trust me, I understand how overwhelming this industry can be, which is why I launched Station X to help people just like you to study Cyber Security at their own pace, online.

The following 5 steps in this guide are my #1 recommendations for anyone getting started in this exciting and rewarding career.



1

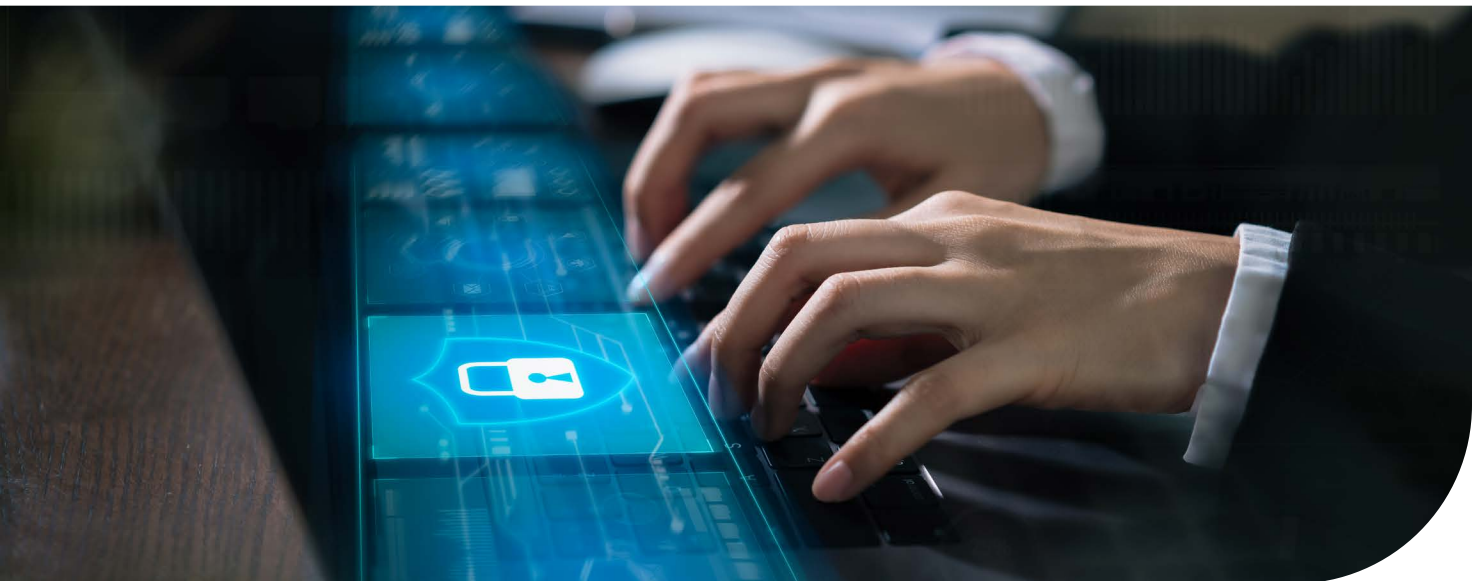
Step

Get to Know the Cyber Security Industry and What Jobs are on Offer

Often people believe that cyber security is all about technology and hacking. This is somewhat true, but cyber security is much more than that.

It is a discipline of managing risk, which might happen to have technology as a solution. This means roles in security can vary massively from simply managing a team or performing a basic audit, to computer forensics and other highly technical work like ethical hacking.

There are many types of jobs you could do within cyber security. If you look at the Cyber Security Domains diagram below you will see the many different domains that exist under the umbrella known as cyber security.



Don't worry if you don't understand these domains yet. That is to be expected. The key point here is that there is a broad variety of entry points and job types in this industry. Use the Cyber Security Domains diagram as a reference for what roles exist, and what you might do in those positions. As you become more familiar with cyber security these domains will make more sense to you.

The cyber security industry is a huge umbrella of many different types of roles that need different skills and that cover different domains of knowledge.

Cyber Security Domains diagram



Most people will specialise in one or a number of domains within cyber security. Below is a list of example common roles within cyber security and possible domains the role might cover.

➤ **Penetration Tester & Ethical Hacker**

Trying to hack systems to find vulnerabilities. Reporting any weaknesses found so they can be mitigated.

Average Salary: \$102,000

A penetration tester might specialise in domains such as red team, infrastructure penetration testing, or application testing, exploit development and social engineering.

➤ **Security Analyst & Specialist**

Performs a variety of security analysis and defensive tasks to help prevent organizations from being compromised by attackers.

Average Salary: \$85,000

Security Analysts might work in a security operating centre (SOC) and specialise in the domain of security operations and vulnerability management. Or any of the other domains within security operations. The titles of security analyst & specialist are quite general so you might find roles with these titles involved in many different domains.

➤ **Cyber Crime Analyst & Investigator**

Examines digital components to determine if illegal actions have taken place. Also can respond to security incidents.

Average Salary: \$85,000

This role might cover some or all of the domains such as incident response, investigations, forensics, breach notifications and containment.

➤ **Security Consultant**

Advises organizations of their security posture.

Average Salary: \$85,000

A consulting role can be quite varied so it's possible they may specialise in something specific such as risk assessment or they might be more of a generalist advisor covering many domains.

➤ Security Engineer & Architect

Designs and implements secure systems.

Average Salary: \$108,000

These roles are generally within the domain of security architecture where you are designing and implementing some of the sub-domains within the architecture domain, like a secure network, access control, identity management and so on.

➤ Freelance Consultant & Contractor

Independently advises organizations of their security posture.

Average rate: \$1000 per day

A freelance consulting role can also be quite varied. The difference is you are working for yourself. Which means you will specialise in what is in demand.

➤ Chief Information Security Officer (CISO)

This senior-level executive is responsible for establishing and maintaining enterprise security.

Average Salary: \$108,000

The CISO is solidly in the domain of cyber security governance with oversight over all the other domains.

Consider what domains and roles you might be interested in, and what role you might ultimately move towards in the middle and the end of your career.

You may choose to specialise in domains such as network security, cloud, security architecture, management and governance, security operations, risk assessment, penetration testing, blue team or others. Where you specialise determines your training and certification needs.

If you were to look at the job boards in your local job market. You will notice the job specs and roles that will cover these domains.

If you are in the US you will see roles advertised on job boards such as [Dice](#), [Indeed](#), [Glassdoor](#), [LinkedIn](#) and others. In the UK [JobServe](#), [CyberSecurityJobsite](#), [CWJobs](#) and others. When you have the time, spend a few minutes looking at the jobs on these boards and you'll better understand what skills are required for certain job titles.

Key Takeaways

- *The cyber security industry is a huge umbrella of many different types of roles that need different skills and cover different domains of knowledge.*
- *Most people will specialise in one or a number of domains within cyber security.*
- *Consider what domains and roles you might be interested in, and what role you might ultimately move towards in the middle and the end of your career.*



2

Step

Get Educated

The [US Bureau of Labor Statistics reports](#) that the typical entry-level education for a cyber security job is a Bachelor's degree.

But if you don't have a degree - don't write off a career in cyber security. With a massive shortage of qualified cyber security talent, companies and government agencies are aggressively trying to fill their openings. If you lack a college education, that is no longer a problem. Online cyber security training can help you acquire the skills you need to secure a great high paying job.

The key is to find online training that teaches you the skills you want to learn. Although it's worth being methodical about your learning, I still recommend you begin with any course that you'll find interesting. It's important to develop a taste for cyber security first, before you systematically upskill.

If you want to know where to start with online training, then you are welcome to join the Station X Cyber Security School VIP membership.

Full disclosure - this is my cyber security career development platform. After noticing the lack of flexible education options for this industry, I have spent the past few years building out quality training with other cyber security professionals to help people just like you.

The [VIP Membership of StationX Cyber Security School](#) gives you unlimited access to over 1,000+ top cyber security classes, virtual labs, practice tests, and exam simulations. This gives you all the training material you need to fully educate yourself and become a highly paid cyber security professional.

If you aren't sure where to start, don't panic. The VIP membership also includes a detailed email consultation which produces a customised study roadmap for you of what courses and certificates you should take in what order based on your current skills and career goals.



Key Takeaways

- *It is no longer necessary to have a college degree, but you will need to self-educate.*
- *Become a VIP Member of the StationX Cyber Security School.*
- *Request a customised study roadmap.*

3

Step

Get Certified and Qualified

One of the easiest ways to educate yourself, showcase your skills and improve your employability is to acquire certificates.

In the field of cyber security, there are a number of certificates you can get that will look great on your resume or portfolio. To acquire these certificates, all you need to do is sit an exam.

By identifying a certificate you would like to get, you can narrow the focus of your education on learning only the skills required for one certificate at a time. This makes your learning path much more linear while reaching valuable milestones along the way.

At StationX, we provide specific training and practice exams to help you prepare for and pass your certification exams.

But which certificate do you start with?

Beginners Certificates:

Cyber security is a highly-skilled career which requires a solid foundation in IT, operating systems and networking. If you are starting at zero with little to no basic IT knowledge, then you need to get up to speed with the basics first.

My recommendations for anyone starting at zero is to learn your IT fundamentals first. The topics and skills you need are covered well on the courses we have for the CompTIA IT Fundamentals certificate and CompTIA A+ Core 1 & 2 certificates.

Another cornerstone to security is an understanding of networking, the Internet, cloud, routers, switches and so on. My recommendations for this topic are the CompTIA Network+ and CompTIA Cloud+ certifications.

If you are not starting at zero, these courses and certificates may be too simple for you. Skip any that are too easy unless you want the certificate for your CV/Resume/LinkedIn.



Intermediate Certificates:

After you have your IT basics down, you want to get a solid overview of the important [Cyber Security Domains](#). To do this, I recommend you take [The Complete Cyber Security Course Volumes 1-4](#), a series of intermediate online courses we offer at Station X.

Then what certificates you should aim to get and skills to acquire will depend on the type of roles and specialisation that interests you. You need to choose training and certificates that cover the Cyber Security Domains that are required for the roles that interest you most.

For example, if you want to become a penetration tester you might look to get the OSCP - Offensive Security Certificate or as a Chief Information Security Officer (CISO) get the CISM - Certified Information Security Manager.

<p>Cyber Security</p> <p>CompTIA Security+ (Basic level)</p> <p>CompTIA CySA+ (Intermediate level)</p> <p>CISSP - Certified Information Systems Security Professional (Advanced level)</p>	<p>IT Basics</p> <p>CompTIA IT Fundamentals (Entry level)</p> <p>CompTIA A+ Core 1 and core 2 (Entry level)</p>
	<p>Security Management / CISO</p> <p>CISM - Certified Information Security Manager (Advanced level)</p> <p>ITIL & PRINCE 2 (Intermediate level)</p>
<p>Penetration Testing</p> <p>CEH - Certified Ethical Hacker (Intermediate level)</p> <p>CompTIA Pentest+ (Intermediate level)</p> <p>OSCP - Offensive Security Certified Professional (Advanced level)</p> <p>GPEN - GIAC Certified Penetration Tester (Advanced level)</p> <p>GWAPT - GIAC Web Application Penetration Tester (Advanced level)</p> <p>Offensive Security Exploitation Expert (OSEE) (Expert level)</p>	<p>Cloud</p> <p>CompTIA Cloud+ (Basic level)</p> <p>Microsoft Azure (Intermediate level)</p> <p>Amazon Web Services (AWS) (Intermediate level)</p>
	<p>Networking</p> <p>CompTIA Network+ (Basic level)</p> <p>Cisco CCNA (Intermediate level)</p> <p>Cisco CCNP Security (Intermediate level)</p>

Certificates increase your job opportunities, demonstrate knowledge and skills and are often even required just to secure an interview.

Advanced Certificates:

Long term, you should aim to pass the Certified Information Systems Security Professional (CISSP) certification. The CISSP is the closest the security industry has to a standard in certification.

CISSP requires five years of experience to achieve. But, you can take the CISSP exam without any experience (after doing CISSP training), and then you'll have six years to complete your five years of industry experience. After that, you officially submit your endorsement to become an official CISSP, and then you can start using those letters after your name. In the meantime, you can put on your resume/CV/LinkedIn you have passed the CISSP exam. This will help secure a role.

According to Zip Recruiter, the average annual pay for a CISSP Job in the US is \$125,470 a year.

I recommend you to do your CISA shortly after as there is a lot of shared content, so it is easy to do both exams close together. Finally, follow those two with the CISM certificate for security management.

According to Zip Recruiter, the average annual pay for a CISM Job in the US is \$137,058 a year.

Key Takeaways

- **Certificates increase your job opportunities, demonstrate knowledge and skills and are often even required just to secure an interview.**
- **Where you choose to specialise determines what training you should do and what certificates you should get.**
- **Long term, you should aim to pass the Certified Information Systems Security Professional (CISSP) certification.**

4

Step

Gain Hands-on Practical Experience

It's easy to gain hands-on practical experience if you go about it the right way. The first thing you must do is to set up a virtual lab. A virtual lab is a simulation of a real environment and can be used for gaining hands-on practical experience. It has never been easier and cheaper to set up a virtual lab than it is today.

Here are your options in order of least expensive to most expensive for setting up your lab.

- 1 *VirtualBox or VMware or similar on a laptop or desktop.*
- 2 *VirtualBox or VMware or XCP-ng or similar on a local server.*
- 3 *VPS or cloud server hosted online using services such as AWS, Turnkey Linux, Linode, Digital Ocean and others.*
- 4 *A dedicated server with XCP-ng or VMware or similar running on it.*

If you want to learn how to set up a lab and virtual server, I recommend [The Complete Cyber Security Course Volumes 1-4](#). Section 5 - "Setting up a Testing Environment Using Virtual Machines."

In order to sharpen your hands-on practical skills, it's best to study an online course while practising techniques inside of your [Virtual Lab](#).

In your current job (if you have one) you want to ask to take on any security tasks you can, to gain experience and to have something to put on your resume. Anything at all is better than nothing, even simply changing people's passwords is worth doing to gain the experience!

Attend local [hackerspaces](#) and [cyber security community groups](#). There is an active and passionate community who I guarantee would love to meet you. Talk and network with existing security professionals. Learn about the industry.

Consider [internships](#), volunteering, and offer to do free work for businesses and charities.

Key Takeaways

- Setup a virtual lab to get hands-on experience.
- Attend meetups and network actively.
- Take on any cyber security related work you can to gain experience.



5

Step

Demonstrate your Abilities and Passion

To secure your first job, you MUST be able to demonstrate your abilities and passion for the work. To do this, I recommend you to create a public profile and use this as a vehicle to showcase your talent and demonstrate your passion for the industry.

Try doing security research, respond to Call for Papers (CFP), bug bounties (get paid for finding security errors in other systems), answer questions on Q&A boards, and write security posts and papers. Contribute to open-source projects and network with the developers.

Create a public profile by writing a blog, Twitter, LinkedIn and other social media accounts and fully document all of your work.

If you're unsure about how this all looks, you can connect with me on [LinkedIn](#) and [Twitter](#) to share with my network. Chat to experts over social media. Comment on the latest security news. Attend security conferences like [DEFCON](#), [Black Hat](#), [RSA conference](#), [ShmooCon](#), [InfoSec](#) and see if you can contribute. Network with the attendants.

Place everything relevant on your resume/CV/LinkedIn when you apply for jobs. Employers do read through all of it and maintaining a professional profile does matter.

Your resume/CV/LinkedIn demonstrates your ability, enthusiasm and passion, which will get you hired very quickly in a market that is desperate for talented individuals!

Key Takeaways

- **Create a public profile documenting your skills, knowledge & passion.**
- **Connect and network with people at events and conferences.**
- **Interact with the online community. It really does make a difference.**

What Next?

Throughout this guide, I've shown you 5 core steps to starting a career in Cyber Security. To repeat those steps, they are:

1. **Get to know the cyber security industry and what jobs are on offer.**
2. **Get educated with online cyber security training and courses.**
3. **Gain certificates by studying for and completing exams.**
4. **Get hands-on practical skills by setting up a virtual lab.**
5. **Demonstrate your abilities and your passion.**

This really is a fascinating and exciting industry. I've been working in this field now for 25 years and ever-changing technology presents new and interesting challenges every day.

I hope this is a career that interests you too. Cyber security is a very rewarding and respected occupation with an increasing skills gap and the world needs new people with an interest in cyber security more than it ever has before.

What now? I have 3 tasks that I recommend.

First, [follow me on LinkedIn](#). This will allow you to connect with my network.

Second, be sure to sign up for my [Weekly Threat Intelligence Report](#). Cyber security is all about immersing yourself in knowledge and this weekly report will keep you notified of important security news, threats, vulnerabilities, guides, how-to's and tools to help you start and really grow your career.

Lastly, remember that when you feel ready to learn more, you are welcome to join the [Station X Cyber Security School VIP membership](#) where you will get unlimited access to over 1,000+ top cyber security classes, virtual labs, practice tests, and exam simulations that you can study at your own pace.

Thank you for reading and I look forward to connecting with you.

Kind regards,

Nathan House