Portfolio

Nathan BRANGE, Cybersecurity Expert

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Preface - whoami

- I'm Nathan, 22yo and I'm from Metz, FRANCE
- I studied up to a Master's degree in France, and I worked in multiple companies in the bordering country of Luxembourg
- I've worked and experimented with ICT a lot in the past years
- In this portfolio, you will find a few projects and general concept I've either implemented, used, learned about or tried
- Some of them are being used in production for some companies I've worked for, other are from projects I've worked on my own time

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Hard skills

Both theory and practice accumulated along the years

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Windows & Active Directory

End devices

- I have always used Windows on my end devices, and I am familiar with the way it works.
- I have worked in IT Support in Windows environments for some time, and I am used to fixing problems related to it.
- For example, I used and troubleshooted Windows Hello, passkeys, file shares and network connectivity issues.

Active Directory

- During my studies, I deployed and used several Active Directory environments, using GUI as well as PowerShell.
- I used Active Directory daily to manage computers, user and service accounts.
- I have a good knowledge on what is Active Directory and how it works.

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Microsoft 365 & Azure

Intune, Entra ID, Exchange…

- I worked with hybrid Microsoft environments before, and I am used to using tools such as Intune, Entra ID or Exchange to administrate and troubleshoot IT.
- I know how access is managed in such environments, for example through RBAC groups or Entra ID roles.
- I know how policies are deployed through Intune to install, manage and update software or configurations on end users' computers.

Defender, Sentinel

- In a hybrid Microsoft environment, Defender & Sentinel are as powerful as they are essential.
- I have written playbooks and KQL queries to monitor different events, alerting the related persons when needed.
- I also have looked through logs using such queries to find more information about problems in an environment (Threat Hunting, general IT Troubleshooting),

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Networking

Switching, Routing

- I learned how to use, configured, and managed multiple networking equipment like switches or routers, from multiple vendors.
- I have mainly worked with Cisco (CLI) and Meraki (Cloud based), but I also have knowledge with HPE, Aruba, Ubiquiti, TP-Link and Netgear appliances.
- Sometimes working alone, and sometimes working with suppliers.

Firewalling

- I have mainly worked with Fortinet firewalls my whole career, but I also used OPNsense, and Stormshield appliances during my studies.
- I configured routing, VLANs, firewall rules, proxies, VPNs…

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Linux and Virtualization

Virtual Machines, Linux and Open-Source Software

- I enjoy managing my « homelab ». I own multiple servers I run either at home or in datacenters, where I can experiment with new tools and automate my life.
- Doing this, as well as during my studies, I have worked a lot with Virtual Machines, networking between them, and tried many different ways of doing things.
- Although I have tried many Linux distributions, I am more familiar with Debian and Ubuntu. About virtualization, I am the most comfortable using Proxmox VE, but I also know VMware (and vCenter, vSphere etc).
- Projects I worked on include, file sharing, container deployment, VPN networking, reverse proxies, automation and scripting (shell, bash & powershell), CCTV, file downloading, permissions management, hardening, etc…

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Projects

Because action speaks louder than words

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New office networking

- A client is building a new office. I managed the deployment of the IT Infrastructure of this office, which later served as a template for all new offices. This office had multiple networks from multiple providers and companies, that needed to interact with each other (think CCTV, Business specific network, and Corporate)
- Only the cabling was done when I got here. I configured the Fortinet firewall, the different subnets and VLANs needed, as well as the firewall rules and IPv4 filtering.
- I also troubleshooted the switches configuration which wasn’t working on multiple Cisco Catalyst appliances.
- When I left, connectivity was achieved and the client could go on to installing computers, servers and VoIP.

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Physical security audit

- Physical security is often overlooked in IT, but it is as important – sometimes even more important – than logical security, especially in fields where data theft is a huge risk.
- I assessed the physical security of a company by trying to access every part of the building without necessarily using my access badge.
- I found out that doors could be opened without a badge with a simple trick, but more importantly the human factor was too big of a risk : tailgating, people leaving access card and unlocked devices at the view of everyone, and lack of CCTV.
- Thanks to this audit, most issues have been fixed and end users get regular training about such issues.

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Service accounts audit

- Although necessary for most on-premises applications to run, and progressively replaced by gMSAs, most companies still have dozens, if not hundreds, of service accounts in their environment.
- I performed an audit to find all service accounts in the domain, along with their owner and the last time their password was changed. Some of the accounts came back with password as old as 15 years !
- I notified every account owner to update their service accounts password, or to decommission them, to get back in compliance.
- I also designed and implemented a monitoring solution, alerting the account owners when a service account password was considered too old, hoping for the company to never run into such an issue in the future.

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Access rights monitoring

- A company uses a single suite of software for most of its operations. This suite covers accounting, client billing, expenses report etc, and is considered critical in the environment.
- The different access rights of this application are managed with RBAC groups, dozens of those groups exists in the Active Directory domain, some of them giving full root access on the applications management.
- Using Microsoft Sentinel and some carefully crafted KQL queries, I was able to create a way to monitor those accounts. Each time someone was added a critical group, the IT Service Desk – as well as the cybersecurity team – would get an email containing the user that was added, the user who added them, and the group to which they were added. By cross referencing this with approved Change Requests, we could know if this action was authorized or potentially malicious.

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Certifications

Expertise backed by industry-recognized credentials

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Certifications

- **CCNA** 1 – Introduction to Networks
- **CCNA** 2 – Switching, Routing and Wireless Essentials
- **CCNA** 3 – Enterprise Networking, Security and Automation
- **Introduction to Cybersecurity**

CSNA – Certified Stormshield Network Administrator

FCA – Fortinet Certified Associate in Cybersecurity

Work in Progress

AZ-500 – Azure Security Engineer Associate

Work in Progress

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Conclusion

Despite being considered a junior in my field, I provide experience and efficiency to any company I work with. I am thirsty for knowledge and am always ready for a new challenge. I stay up to date with new technologies and their implication cybersecurity-wise, and am overall thrilled to contribute to the protection of digital assets and information of the world.

Let's talk about it ! Please find my contact information on the next slide.

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Let’s have a chat !

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I speak French (C2) and English (C1)