



Mark Heemskerk

Freelance Linux & Automation Engineer

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ABOUT ME

Hey, I'm Mark. I've worked in IT for over 10 years, and I get my energy from automating tasks that would otherwise remain manual work. I'm certified as a **Red Hat Certified Architect in Ansible** and **Red Hat Certified Engineer**, and I work from a firm conviction: Infrastructure as Code.

In my current role as Linux systems administrator at a judicial IT organisation, I manage an environment running RHEL 6 through 10, migrate from Puppet to Ansible Automation Platform following GitOps principles, and handle HIGH/CRITICAL CVEs straight away through an automated emergency procedure.

For me, security is not an afterthought but a starting point: from enforcing CIS benchmarks to coordinating emergency procedures around vulnerabilities. I also consider knowledge transfer important — I coach and onboard new colleagues and have been an internship supervisor.

Outside working hours I keep my skills sharp in an extensive HomeLab: from Proxmox and Docker to local AI models and a fully automated smart home.

SKILLS

Linux (RHEL/Debian/Ubuntu/NixOS/Arch)

Automation (Ansible & AAP/Puppet)

Containers & Kubernetes (Docker/LXC/Podman/OpenShift)

GitLab / GitOps (IaC)

Hypervisors (VMware vSphere/Proxmox VE)

Security (CIS Hardening & CVE response)

Monitoring (Zabbix/Uptime Kuma)

Documentation (Markdown)

Coaching (Onboarding/Internship supervision)

Local AI (Ollama/OpenWebUI)

Networking (VLAN/DNS/Firewalls/VPN)

Scripting (Bash/Python/PowerShell)

WORK EXPERIENCE

Linux Systems Administrator · Judicial ICT Organisation (JIO)

Jun 2023 - present

700 employees · 20,000 users · Gouda · 36 hours/week

Management and maintenance of an extensive **Red Hat Enterprise Linux** environment (**RHEL 6** through **RHEL 10**). Actively phasing out RHEL 6/7 and replacing it with RHEL 8/9 through lifecycle management. Where applicable, in-place upgrades via **LEAPP** are used, which migrate existing servers to a newer RHEL version without reinstalling.

Applying monthly OS patches to RHEL servers using automated **Ansible** playbooks. Migration from **Puppet** to Ansible roles with **Ansible Automation Platform**, including full platform and configuration management. New RHEL servers are created fully automatically through an Ansible process that integrates with **VMware vSphere**, provisioning and configuring servers from scratch without manual intervention. In addition, a fully automated Ansible process runs monthly to build new RHEL images in VMware via Ansible Automation Platform. This automated approach ensures consistent configuration across all environments.

Using and managing **OpenShift** clusters and OpenShift Operators for Ansible Automation Platform. **GitLab** pipelines are used for automated commits and linting, and these pipelines run within the OpenShift platform.

Implementing and managing Ansible Automation Platform and **Red Hat Satellite** following **GitOps** principles, with full **Infrastructure as Code (IaC)** in GitLab and a weekly automated rebuild of Ansible Automation Platform to validate that the IaC works. Project and ticket management via **TopDesk** and **Jira/Confluence**. Also taking part in the on-call rotation as part of the wider service.

Within change projects in the areas of Linux, security and Ansible, I am closely involved in planning and testing. For changes like these, extensive documents are drawn up with the test points found, mapping out all scenarios. The change then goes through an approval process and must be approved by the customer before it can be implemented.

Monitoring and managing infrastructure with **Zabbix** and Red Hat Satellite. Writing and updating documentation and safeguarding the security of virtual servers (VMware vSphere). Enforcing **CIS** security benchmarks and handling priority 1 **CVEs** when they occur. When HIGH/Critical CVEs come in, I am part of the team that picks these up immediately, and I start and lead an emergency procedure when needed. I am also actively involved in improving security on the Linux platform, which I often achieve through Ansible roles and playbooks.

Own professional development through Red Hat certifications. **Coaching** and onboarding new colleagues and interns; acting as internship supervisor. I have also worked on a new documentation system and like to come up with new ideas for improvement.

SysOps Administrator · LiteBit

Jan 2022 - Jun 2023

60 employees · 1,000,000 users · Rotterdam · 24 hours/week

Carrying out ICT projects and automating ICT work within a 100% cloud environment, with a focus on scalability, security and efficiency.

Management and setup of **Microsoft 365**, including user and licence administration, and device management via **Microsoft Endpoint**. Recurring ICT processes are automated with **Microsoft Power Automate**, which reduces manual actions and streamlines workflows.

Device management for Apple hardware is handled through **Apple Business Manager**, combined with Microsoft Endpoint for a unified management solution across the entire device fleet. Secure access to company resources is ensured through **Cloudflare WARP VPN** based on the **WireGuard** protocol.

Implementation of **SAML**-based **Single Sign-On** for multiple platforms, which centralises user access and strengthens security. Project and ticket management runs through **Atlassian** tooling. Also acting as 2nd-line support for more complex ICT issues and supporting end users with escalations.

IT Administrator / Internet of Things Intern · Veolia Nederland B.V.

Jun 2020 - Jun 2023

215,000 employees worldwide · Schiphol-Rijk · 16-40 hours/week

IT administrator: Carrying out general IT administration tasks and automating work with **PowerShell** and **Google Scripts** (JavaScript), which simplified and digitised recurring administration tasks. Management of users and devices via **Google Admin** and **Active Directory**, supplemented with print management via PaperCut and telephony via VoIP. Tickets were handled through a ticketing system, providing 1st and 2nd line support to employees.

Supporting the migration from **Microsoft Office 365** to **Google Workspace**, including guiding users through the transition and managing the Document Management System (DMS). Network management via **Cisco Meraki** and setup and management of narrowcasting solutions for digital information displays and kiosk screens based on **Linux**.

IoT intern (graduation internship): Collecting, automating and visualising data using **Python**, **Node-RED**, PowerShell, Bash, Google Scripts and **Home Assistant**. Managing virtual and physical machines (Linux). Data was made insightful through **Grafana** and Google Data Studio. Also management and monitoring of building management systems via Priva.

Graduation project: development of a system for measuring indoor air quality with sensors connected to a public **LoRa** network, with measurement data sent via the **MQTT** protocol and processed for further analysis and visualisation.

IT Administrator Intern · Think4 IT Management Group

Feb 2021 - Jun 2021

25 employees · 5,000 users · Bodegraven · 40 hours/week

All-round IT support for SME customers from an IT outsourcing environment, working broadly and independently on a wide variety of ICT issues.

Management of users, devices and cloud services via **Microsoft 365**, **Microsoft Intune/Endpoint Manager** and **Microsoft Azure**, with user management via **Azure Active Directory**. Automation of administration tasks and configurations was done with **PowerShell**.

Actively deployed as service desk for 1st and 2nd line support, supplemented with remote monitoring and management of customer environments. Also carried out work under a secondment arrangement, providing on-site ICT support at various customers.

Supporting employees with IT and managing the IT infrastructure within an international company, where user support was also provided in English.

Handling tickets and managing equipment through a ticketing system linked to a **CMDB** (configuration management database), supplemented with asset registration and an **RFID** door-tag system. Management of users and services via **Microsoft Office 365**, **Google Workspace** and **Windows Server Active Directory** on **Windows Server 2012**.

Carrying out hardware upgrades and repairs on PCs and laptops, including (re)installing Windows and macOS via **Windows Deployment Services (WDS)**. Also basic network management (**Fortinet**), including setting up and configuring firewalls, switches and routers.

Personal project alongside paid work · Independent — HomeLab

Jan 2020 - present

Zoetermeer

Alongside my professional work experience I maintain an active homelab in which I continuously try out new technologies, self-host and experiment. It is a valuable complement to my daily work and lets me stay broadly and hands-on engaged with a wide range of technologies.

For virtualisation I use **Proxmox VE** with **KVM**, running various Linux distributions including Debian, Ubuntu, CentOS, **RHEL**, NixOS and Arch Linux. I apply containerisation with **Docker**, **LXC**, **Kubernetes**, Portainer and Rancher, managing and rolling out self-hosted services in a structured way.

In AI and machine learning I experiment locally with Large Language Models via **Ollama**, image generation with **Stable Diffusion** and speech recognition, all running on my own hardware without depending on external cloud providers.

My network is set up with **VLANs**, a correct TCP/IP and OSI design, **Unifi** equipment, DNS, firewalls and IDS/IPS. For secure remote access I use VPN solutions such as **WireGuard**, OpenVPN, Cloudflared and Tailscale.

I do automation and configuration management with **Ansible**, supported by Bash, **Python** and **PowerShell** scripts. Monitoring and logging are set up with Uptime Kuma, **Grafana**, Prometheus and Loki, combined with InfluxDB, MySQL and MariaDB as database solutions.

In addition, I run a complete home-automation environment based on **Home Assistant**, extended with Node-RED, Zigbee2MQTT, MQTT and ESPHome for integrating smart devices and my own ESP microcontrollers. Security is central: SSL, MFA, SSO and hardware-based authentication with **YubiKey**. Finally, I host various services such as websites, game servers, a NAS and a self-hosted office environment with **Nextcloud**.

EDUCATION

Associate degree, ICT Internet of Things · Rotterdam University of Applied Sciences

2021 - 2023

Two-year higher professional education (HBO) associate degree focused on designing, developing and managing Internet of Things solutions, with a broad technical foundation and a practice-oriented approach.

Programming in **Python** and **C++** to control microcontrollers and process sensor data, using platforms such as **Arduino**, ESP microcontrollers and **Raspberry Pi**. Working with a wide range of sensors for measuring temperature, motion, humidity, air quality, light, pressure and more.

Communication between devices and systems via various data protocols, including **WiFi**, **LoRa**, **NB-IoT**, LTE, **MQTT**, HTTP and **Bluetooth**. Data storage and processing via **SQL** and **NoSQL** databases, supplemented with cloud services for scalable IoT applications. Also experience with edge computing for local data processing close to the source.

Network and security knowledge gained through Cisco certifications in Internet of Things, Networking (**CCNA**) and Cyber Security. Working with **Linux** as an operating system for embedded and server applications, and applying automation within IoT environments.

CERTIFICATIONS



RHCA in Ansible

Architect · obtained 8 Jul 2026 ·
expires 8 Jul 2029



EX374 – Developing Automation

Specialist · AAP 2.6 · obtained 8
Jul 2026



EX417 – Windows Automation

Specialist · AAP 2.4 · obtained 13
May 2026



EX467 – Managing Automation

Specialist · AAP 2.2 · obtained 8
Aug 2025



RHCE

Professional · EX294 (V9) ·
obtained 22 Jan 2025



RHCSA

Associate · EX200 (V9) · obtained
11 Jun 2024

Credential ID (all): 240-101-642 · verify at rhtapps.redhat.com/verify?certId=240-101-642

OTHER CERTIFICATIONS

Cisco CCNA (200-301)

IoT Fundamentals (Cisco, 3x)

Introduction to Cybersecurity

LANGUAGES

Dutch — native

English — professional

Full, up-to-date CV · www.heemit.nl · KVK 84095504