Enterprise Security and Automated Compliance Platform

My project focuses on establishing a robust, secure, and highly observable enterprise environment. It emphasizes DevSecOps principles, rigorous policy enforcement via Active Directory, and advanced data visualization to maintain system integrity and compliance.

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1. DevSecOps and Vulnerability Integration

This section defines how the project incorporates modern enterprise security tools to proactively maintain compliance, drawing on concepts of **DevSecOps** and **Advanced Security**.

Task	Detail
DevSecOps Integration	Focus on integrating security practices throughout the operational lifecycle. This aligns with modern IT use cases like **App Modernization** and **DevOps**
Vulnerability Management	Utilize platforms such as **GitHub Advanced Security** to identify and implement measures to **find and fix vulnerabilities** within the deployed systems and scripts
Enterprise Security Features	Demonstration of proficiency with **Enterprise-grade security features** and **security tools** applicable to both on-premises and cloud resources
Core Systems	The core platform remains the **Windows Server 2022** environment acting as the hub for policy and identity.

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2. Rigorous Group Policy Enforcement

This section details the implementation of **Group Policy Objects (GPOs)** to lock down system configurations and enforce mandatory security settings across the domain, ensuring **consistency and control**.

Policy Implementation Steps

1. **GPO Creation and Linking**: Policies must be created in the **Group Policy Management Console (GPMC)** and linked to the **Domain** or specific **Organizational Units (OUs)**.

2. **Password Policy Enforcement**: A mandatory GPO applied at the Domain level under **Computer Configuration > Windows Settings > Security Settings > Account Policies > Password Policy**. The policy must specify a minimum password length of **8 characters**.
3. **Client Restriction Policy**: Implement the policy to **Prohibit access to the Control Panel and Settings**, located under **User Configuration**. This prevents unauthorized system changes.
4. **Removable Storage Security**: Implement a GPO to **Deny read and write access to removable storage devices** to mitigate **data loss and malware introduction**.

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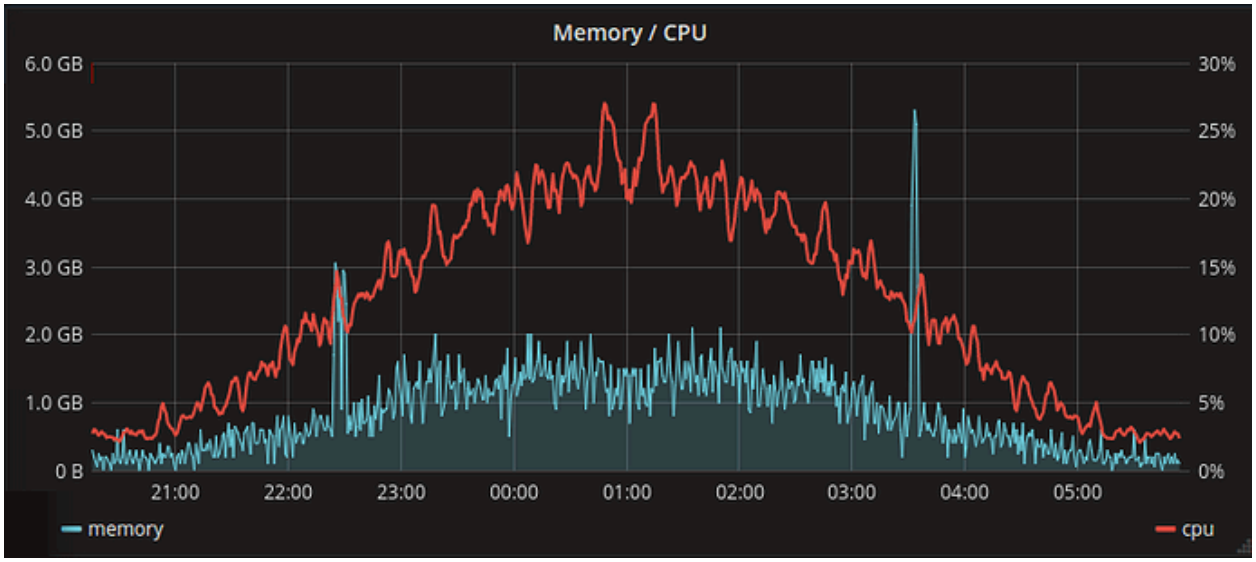
3. Advanced Monitoring and Visualization Platform

This section details the dedicated setup of the Linux VM (**MON01**) for **Proactive Issue Detection** and **Performance Optimization**, critical for maintaining a secure and compliant platform.

Monitoring Infrastructure (MON01)

Step	Detail
OS Selection	Deployment of the Linux server (named **MON01**) using the **Debian 12.5 distro** with **3GB (3072MB) of RAM** allocated
Zabbix Server Setup	Installation of the **Zabbix Server, Frontend, and Agent**. Configuration uses **MariaDB** (a MySQL fork) for the database and **Apache** as the web server
Agent Deployment	The Zabbix agent is manually installed on Windows hosts (like **DC01** and **SV02**) or deployed via **PDQ Deploy**. The agent points to the Zabbix server's IP address
Grafana Integration	**Grafana** is installed using the **apt package manager** and integrated as a data source using the Zabbix API
Visualization Goal	Creation of visualization dashboards using the **Time Series** graph type to analyze metrics like **CPU Utilization** and **Disk Write Rate** for security and performance tracking.



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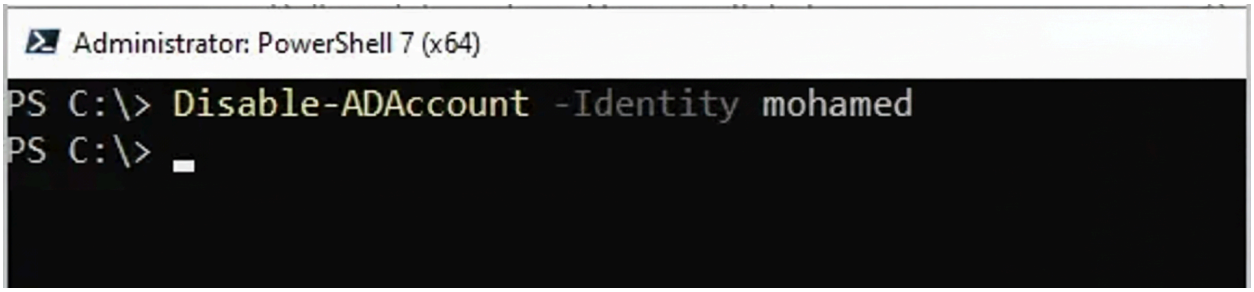
4. Automated Security Response and Compliance

This section demonstrates the use of **PowerShell** for enforcing security and managing compliance consistently.

Task	Detail
Bulk User Management	PowerShell scripts are used to perform tasks that affect multiple users quickly, ensuring **efficiency and consistency**
Automated Security Action	Use the `Disable-ADAccount` command to rapidly suspend user access, such as disabling all users belonging to the 'IT' department. This is critical for security incidents or compliance breaches.
Configuration Consistency	Scripts ensure the **same accurate result every time**, reducing human error when managing large numbers of objects or settings in Active Directory
Centralized Software Control	**PDQ Deploy** (installed on SV02) is used to silently distribute software (e.g., **7zip** using the `/S` parameter) to maintain a uniform and secure software baseline across client machines (JMFSOFT-PC01/02)



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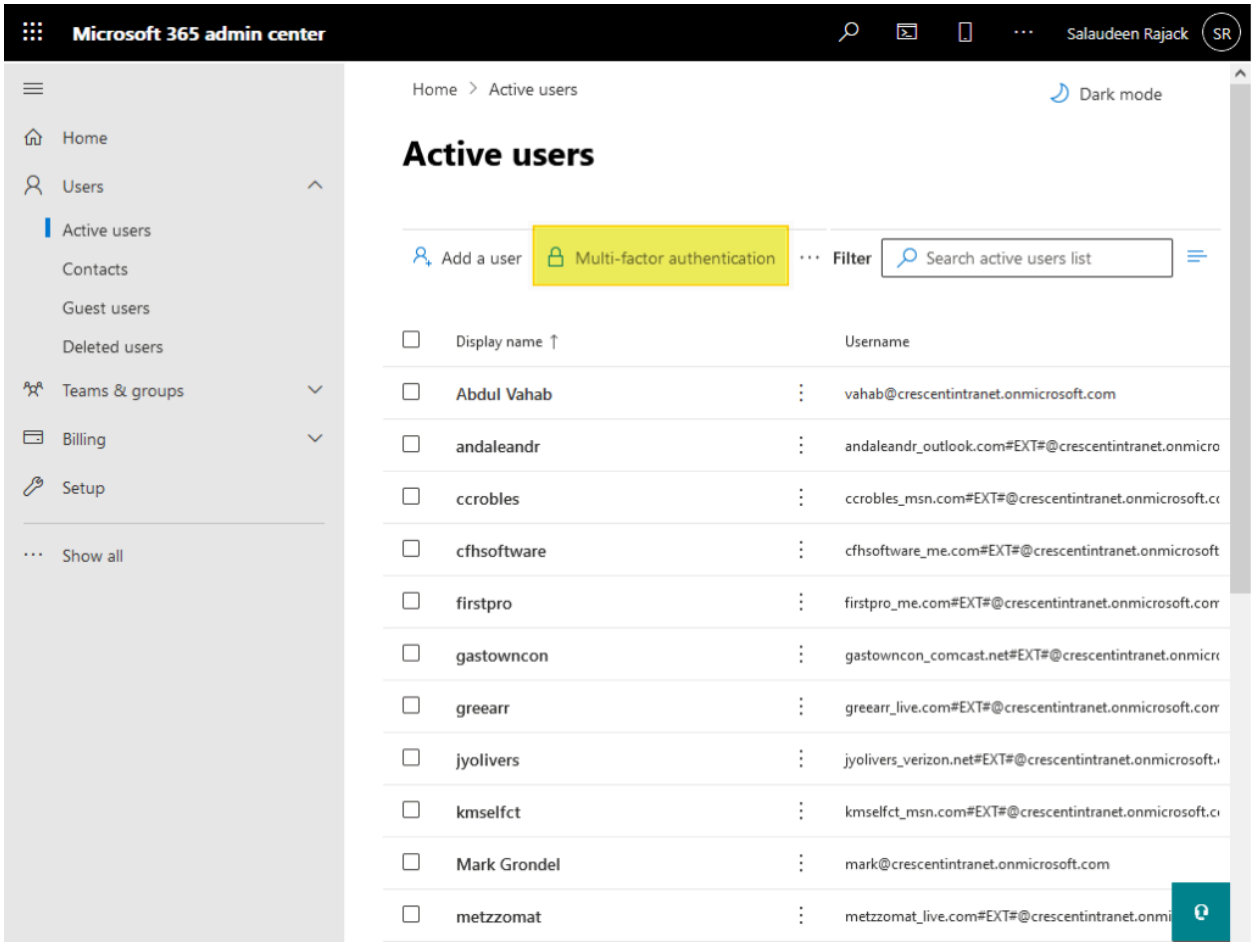
5. Cloud Identity Security

This final section focuses on securing the cloud identity perimeter, leveraging **Microsoft 365** and **Azure Active Directory (Microsoft Entra ID)**.

Feature	Implementation Detail
Multi-Factor Authentication (MFA)	MFA is enabled via the **Azure portal** by navigating to Users and selecting **"MFA per user"**. This **significantly enhances security** against phishing and theft
Azure AD Management	Creation and management of users/groups within **Microsoft Entra ID** via the **Azure portal** or through bulk creation using a **.csv file**.
Security Groups	Management involves creating **Security Groups** to control access to resources via roles and permissions, distinct from Distribution Lists
User Recovery	Demonstrated ability to handle standard IT support tasks, such as **password reset** in Azure AD, which automatically generates a temporary password


Microsoft 365 admin center
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Active users
Contacts
Guest users
Deleted users
Teams & groups
Billing
Setup
Show all
Home > Active users
Dark mode
Active users
Add a user
Multi-factor authentication
Filter
Search active users list
Display name
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