

## TEAM #1

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# Scenario

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Your team is tasked with updating the core IT infrastructure of a recent GlobeX acquisition. This young, innovative startup aligns well with the mission of GlobeX; unfortunately, its IT systems do not.

Your team believes that trying to integrate the acquisition's existing intranet directly into the rest of GlobeX will result in technical debt. Since the acquisition is still a small startup, your team believes it will be better to simply build out new infrastructure and organization which is in line with the rest of GlobeX's holdings.

However, you still need to convince your leadership by demonstrating that your team is up to the challenge and can perform this kind of task in a repeatable, efficient manner.

### **The operations chosen for this demonstration are:**

- Develop a repeatable means of standing up a DC to oversee the new acquisition's network. The AD will need to automatically populate users and OUs in accordance with the organizational chart.

- Objective: as a team, develop a Powershell script to be executed on a new installation of Windows Server.

- This should be written as a single script, though it can be organized into different files.
- The VM will need to reboot at least once while the script is performing its tasks:
- How will you make sure the script completes its operations? Is there a way to avoid manually restarting/continuing the script after a reboot?
- Each individual of the team is to contribute their share of the overall script and document their individual contribution. The final script should reflect an equal effort from all team members.
- Minimum operations this script should perform:
  - Fully stand up all requisite services to make the server into a DC
  - Assign the Windows Server VM a static IPv4 address and a DNS
    - > Note: in class we assigned a \*reserved IP\* in pfSense, but this script is to assign the VM a \*static IP\*.
  - Rename the Windows Server VM
  - Installs AD-Domain-Services
  - Create an AD Forest, Organizational Units (OU), and users

- Develop a secure solution for data transmission between two networks, and demonstrate successful resource access in your upcoming presentation to the executive team.
  - Objective:
    - Build a site-to-site VPN tunnel
    - Alter at least one parameter compared to what was performed in class (e.g. router used, VPN protocol used, introducing a cloud component, etc.)
    - Demonstrate successful access to a file server, Active Directory, or other network resource on the other end of the tunnel
- Leadership has concerns about the local network security of the new company, if the acquisition's intranet is going to be joined to GlobeX. You will need to demonstrate implementation of some form of network access control that provides a healthy level of AAA security management.
  - Objective: Deploy a RADIUS system that raises a captive portal for new network users and authenticates them using AD credentials.

## Prepare for Projects: Systems Selection Document

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This project will require you to demonstrate skills you've learned so far in the course.

### Deliverable

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Start a new Google Doc, and include the following components in your system selection submission.

- Name the doc "ops-201d# Team# System Selection"
  - Replace "#" with your cohort number and team number/name.
- Add team members to the "People with access" category with "Editor" privileges, using their gmail address.
- Format your Google Doc to be pageless.
  - File > Page Setup > Pageless > OK
  - Click on the margin's bar top/left side
  - Hover over Text Width
  - Select Full
- List all team members full names at the top of the doc.
- Copy and paste your team's scenario into the doc with a header.

# Project Requirements

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Check out the [project guidelines](#) for requirements.

Your instructor will send you the scenario unique to your team. Some aspects of the project are left up to you to decide how to approach.

## Systems Selection

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Review the project guidelines and scenarios. Meet as a team and decide what systems, platforms, or tools you'll be using this project. Each should represent a clear, logical solution to a problem the client company is facing.

Create a high-level list of systems, platforms, or tools you're going to implement for your client. For each, explain:

### **Windows Server:**

- Windows Server provides a powerful and stable operating system platform for hosting critical services and applications.
- It adds value by enabling centralized management and control of network resources, as well as providing enhanced security features.
- MVP definition: A minimum viable product for Windows Server would be a fully configured domain controller with basic user and group management capabilities.

### **Active Directory:**

- Active Directory is a centralized database for managing users, computers, and other network resources in a domain.
- It adds value by simplifying administration and providing a single sign-on solution for network users.
- MVP definition: A minimum viable product for Active Directory would be a fully functional domain controller with basic user and group management capabilities.

### **pfSense (RADIUS, Captive Portal, VPN):**

- pfSense is an open-source firewall and routing platform that provides advanced networking features such as RADIUS authentication, captive portal, and VPN connectivity.
- It adds value by providing enhanced security, authentication, and access control for network users and devices.
- MVP definition: A minimum viable product for pfSense would be a basic firewall and routing configuration with RADIUS authentication and VPN connectivity.

**Domain Control:**

- Domain control refers to the ability to manage and control network resources, such as users and computers, through a centralized domain controller.
- It adds value by simplifying administration and providing a single point of management for network resources.
- MVP definition: A minimum viable product for domain control would be a fully functional domain controller with basic user and group management capabilities.

**PowerShell Script:**

- PowerShell is a powerful scripting language for automating administrative tasks and managing Windows Server and Active Directory environments.
- It adds value by simplifying administration and enabling automation of repetitive tasks.
- MVP definition: A minimum viable product for PowerShell would be a script to automate the installation and configuration of a domain controller with basic user and group management capabilities.

During your pitch, your instructor will help you scope your project. Some features may become MVP and some may become stretch goals.

Once you are ready, find your instructor and pitch your solution ideas.

## Submitting your work

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This is a group submission. Only one person must submit for group credit.

Please have everyone's name at the top of the Google Doc.

Share your Google Doc so that "Anyone with the link can comment" in the submission field below.

This step must be completed and approved before proceeding with any project work. Notify your instructor when this is ready for review.