

# Milestone 1: System Design

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## Objective:

Given a list of requirements, your team will design a network and choose the software solution(s) that you will use to achieve your objectives.

## Requirments

You are the new IT department for Spicy Cluck Co. which is a company that has a chain of fried chicken stores across the United States and Europe. Your team has been tasked with setting up a new regional office in Provo, Utah. The office needs to have the following service and systems:

- An Email server for internal communication
- A DNS server to resolve internal and external requests
- A web server that hosts the official website on the public internet
- A database server for use by the website
- A file server for central file storage
- Active Directory to manage users
- A backup active directory
- A Desktop Linux machine to access any critical systems and services
- General workstations for employees to use
- At least 1 Linux machine for general use

As a minimum, you should use:

- 2x Windows servers 2022
- 4x Windows 10 or 11
- 1x CentOS-7 or CentOS 8
- 1x Debian Desktop 10.0.0 or later
- 2x Desktop Linux of your choice, at least two different flavors
- 4x Linux Servers

## Instructions:

This will just be an initial design and you will be expected to make changes to it throughout the semester as you learn more about these systems.

### Step 1: Network Diagram

1. Create a network diagram that meets the above requirements
2. Justify your design decisions and state any assumptions that you have made
3. Include what IP address, VLANs, etc. you will use

### Step 2: Firewall rules

1. Create a list of firewall rules for the network diagram you have created
2. Make sure to apply the principle of least privilege

## Step 3: Other Design Considerations

1. AD and Group Policy
2. DNS
3. Back up and Restore solutions
4. IDS, IPS & General security
5. Policies, frameworks, and laws that need to be followed

## Step 4: Presentation

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1. Create a 5-10 minute presentation on your design that will be presented to the board of directors. Make sure to include your network diagram, justifications for your decisions and any assumptions that you have made.

At the end of the semester, you will give another presentation with any updates and improvements you have made.

### Submission Requirements

You will be graded on the quality and professionalism of your written and verbal presentation. Upload your presentation to Learning Suite before you present it in class.