# Overview

This lab is provided to allow you to most of the skills that were taught in this course. If you have questions about completing a step, search the Internet, ask one or more classmates.

# Prerequisites

None

# Setup

1. Remove all old virtual machines except those needed to complete any lab assignments.
2. Run the virtual machine setup script provided by your instructor or in the course assignment.
3. **NOTE: Read the entire exam before starting. Some steps may not be completed in the order provided.**

# Scenario

Wumart corporation has two locations, one in Bejing and one in Shanghai. They have contracted with you to configure their network infrastructure. The two locations have the following network addresses:

* Shanghai 10.1.3.0/24
* Bejing 10.1.2.0/24

The requirements for their network are listed below. Read all the instructions before completing the steps.

# Tasks

## Setup

**Create** an **external** **Virtual** **Switch** called **WAN**

## Network Setup

### CIS256-FR-DC1

1. Verify your virtual network adapter is connected to the **LAN2** virtual switch
2. Rename your adapter to **LAN**
3. Configure your TCP/IP settings as follows:
   1. IP address – 10.1.2.1/24
   2. Default Gateway – as required by the scenario
   3. DNS – as required by the scenario
4. Rename your computer to **WMDC1**

### CIS256-FR-DC2

1. Connect the virtual network adapter to the **LAN3** virtual switch
2. Rename your adapter to **LAN**
3. Configure your TCP/IP settings as follows:
   1. IP address – 10.1.3.1/24
   2. Default Gateway – as required by the scenario
   3. DNS – as required by the scenario
4. Rename your computer to **WMDC2**

### CIS256-FR-RTR

1. Add two additional network adapters
2. Connect a virtual network adapter to LAN2, LAN3, and WAN virtual switches
3. Rename your adapters to **LAN2, LAN3,** and **WAN**
4. Configure your TCP/IP settings as follows:
   1. LAN2 - Connection
      1. IP address – 10.1.2.254/24
      2. Default Gateway – as required by the scenario
      3. DNS – as required by the scenario
   2. LAN3 - Connection
      1. IP address – 10.1.3.254/24
      2. Default Gateway – as required by the scenario
      3. DNS – as required by the scenario
   3. WAN Connection
      1. IP address – provided by DHCP
      2. Default Gateway – provided by DHCP
      3. DNS – as required by the scenario
   4. Rename your computer to **WMRTR1**

### CIS256-FR-Client

1. Verify your virtual network adapter is connected to the LAN2 virtual switch
2. Rename your adapter to **LAN**
3. Rename your computer to **WMClient**

## Infrastructure setup

1. Install Active Directory on WMDC1 and WMDC2.
   1. Domain name - **wumart.com**
2. Transfer the Infrastructure Master role to WMDC2
3. Join the WMRTR1 to your domain
4. Configure DHCP and Routing on WMRTR1 so that your client machine can access the Internet
5. Join the WMClient to your domain
6. Create the OU structure as shown below:



1. **Wumart has the following user account creation policy**
   1. All users will have an initial password of Password1
   2. Usernames will be created by using the first letter of the first name followed by the surname.
   3. A list of users (wumart-employees.csv) has been provided for you.
   4. **Import the users from the wumart-employees.csv file**
   5. **All users will be configured to be members of their respective departmental groups (you will need to complete the next step before doing this)**
2. **Wumart has the following group account creation policy**
   1. Groups will be created in the OUs most closely associated with the members of the group. If a group contains members from multiple locations that group will be created in the users container
   2. Global groups will be created for all departments and their name will be based on their location and department e.g. Bejing\_IT.
   3. Global groups will be created to represent all geographic locations and their name will be the location e.g. Bejing.
   4. A Global group will be created for the entire organization and will be based on the name of the organization e.g. wumart.
3. **Create the groups necessary to support this policy**
   1. Groups should be configured such that when a user is added to their department group they are automatically members of the location group and the company group
4. **Configure the groups as necessary to support this policy**
   1. All permissions will be assigned to Domain Local groups
   2. Domain local groups will be named based on the Server, resource name, and the permissions assigned the group as illustrated below:
      1. Group has **read** access to a shared folder named **Data** on **Server1** – name the group **Server1**-**Data-R**
      2. Group has **prin**t access to a printer named **Canon1** on **Server1**– name the group **Server1-Canon1-P**
         1. Use the following guide for the permission names
            1. Read – **R**
            2. Full Control – **FC**
            3. Modify – **M**
            4. Read and Write – **RW**
            5. Print – **P**
            6. Manage Documents - **Manage**
      3. All domain local groups will be placed in an OU named **Permissions** in the root of the Domain
      4. Permissions will be assigned using the AGGUDLP strategy
5. Create and apply GPOs to meet the following requirements:
   1. A policy is required blacklist applications (prevent personnel from running these applications)
      1. Name – **Application Blacklist**
      2. Prevent users in Shanghai from running MS Paint (mspaint.exe)
   2. A policy is required to install common applications on all computers
      1. Name – **Corporate Computer Application Policy**
      2. Installs Putty on all the computers in the domain from the software share
6. Personnel in the Shanghai IT department are responsible for managing users in the Shanghai location. Delegate control to them so that they can perform all operations on user accounts in the Shanghai OU.
7. Create the following folder:



1. The folder must be accessible over the network. All permissions must be assigned to groups in accordance with (IAW) the group account creation policy. Permissions will be configured using NTFS permissions and the guidelines in the group creation policy.
   1. All users in the organization require read access to the Software folder.
   2. The members of the IT department in Bejing and members of the administrators group must have FC of the Software folder

## Replication Configuration

1. Rename the Default-First-Site-Name to Bejing
2. Create a new site for Shanghai
3. Move WMDC2 to the Shanghai site
4. Create subnet objects for each location
5. Create an IP site link object that includes the Bejing and Shanghai sites and configure replication with the following settings:
   1. Replicates every day except the weekends
   2. Replicates every 15 minutes