

# Networking

U3L2 Lab: Fix WAN Configuration



# Fix WAN Configuration

Guiding Question: How can we identify and resolve common WAN configuration issues to restore secure and reliable connectivity between remote networks?

Students will:

- Identify configuration errors in a topology of 3 LANs connected into a WAN.
- Inspect and correct IP addressing, subnet masks and gateway information on all devices.
- Use ping to confirm connectivity on LANs and across the WAN.



# Fix WAN Configuration Materials

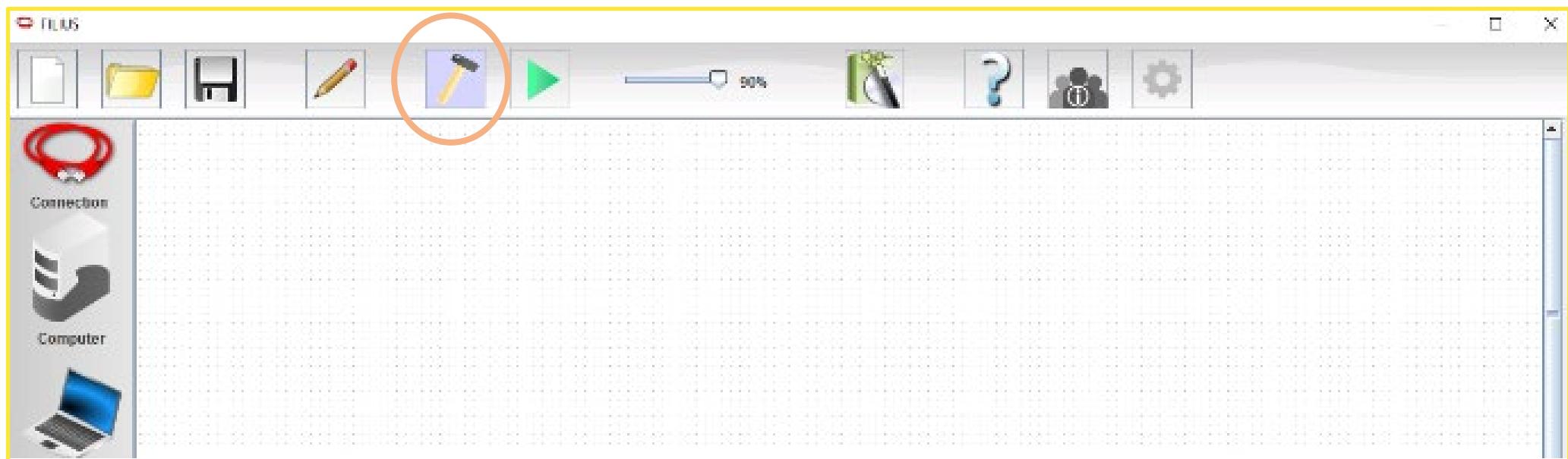
- Materials Needed
  - Windows Server 2022 Machine
- Software Tools Used
  - Filius Network Simulator
- Filius Files
  - *FixWANConfig.flx*

**Required knowledge:** how to configure addressing on devices and confirm connectivity in Filius. Refer to *U1L3 Lab Filius Simple Network Creation* if needed.



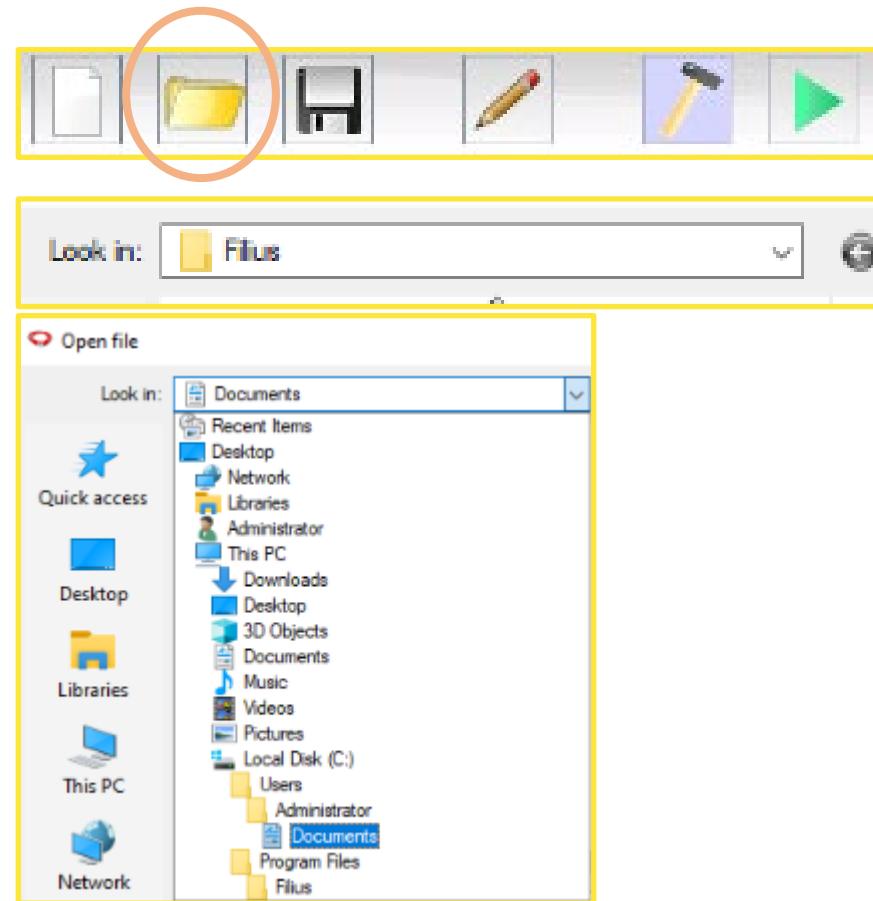
# Opening Filius

- Connect to the WinServer 2022 machine and open Filius.
  - Click the Search bar, type "Filius," and select Filius
- Click the **“Design Mode”** button in the top toolbar (The hammer icon)



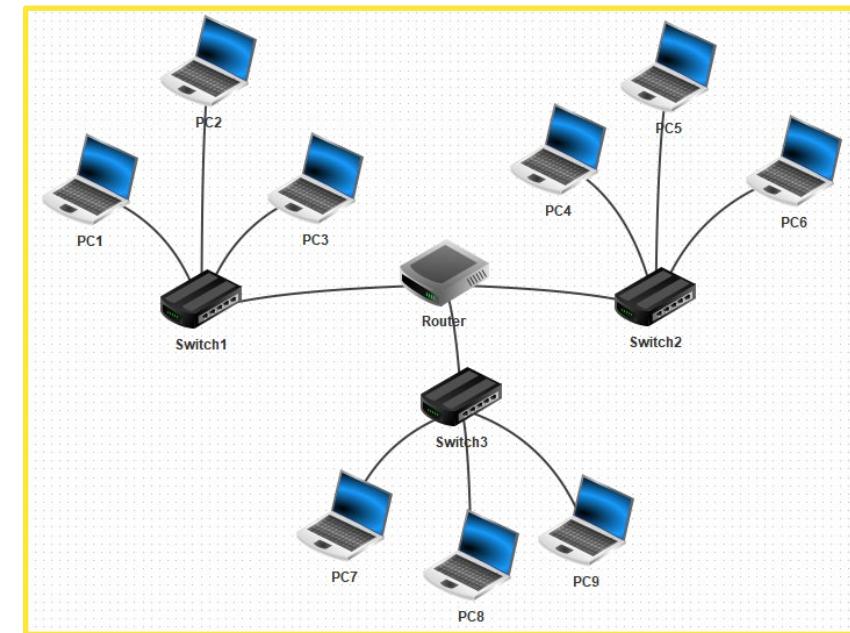
# Opening Files in Filius

- Click the folder icon
- Click on the dropdown arrow next to *Look In*
- Navigate to *C:\Users\Administrator\Documents\Networking Files*
- **Select FixWANConfig.fl**



# Examine the Network

- The network contains 3 Local Area Networks (LANs) each with a different IP address scheme.
- The LANs are connected into a Wide Area Network (WAN) through a router.
- Click on each device to examine the addressing information:
  - IP Address
  - Subnet Mask (Netmask)
  - Gateway



# Correct the Configuration & Test

- There are **8 errors** in the configuration of the devices which must be corrected.
- There are NO errors in the Router configuration.
- Once all errors have been corrected, click the Green Arrow in the toolbar to go into Simulation mode.
- Use **ping** to confirm communication:

## Test the LANs

- From PC1 to PC2 & PC3
- From PC4 to PC5 & PC6
- From PC7 to PC8 & PC9

## Test the WAN

- From PC1 to PC6
- From PC4 to PC9
- From PC7 to PC2



# Answer Key

Device Name	Error Type	Incorrect info	Correct Info
PC 4	Wrong IP address		
PC 7	Wrong Gateway		
PC 1	Wrong subnet mask		
PC 9	IP from other LAN		
PC 3	Duplicate IP		
PC 8	Gateway of other LAN		
PC 2	CIDR subnet mask		
PC 6	No Gateway		

