

Simple Company – Branch Office Network Design

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Tool: *Cisco Packet Tracer*

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1. Project Objective

Simple Company is expanding to Bonalbo, Australia, and requires a secure, small-scale network for its branch office. The network must support three departments, provide wireless access, and allow dynamic IP addressing, while ensuring interdepartmental communication.

2. Network Requirements

✓ One router and one switch (Cisco devices)

✓ Three departments:

- Admin/IT
- Finance/HR
- Customer Service/Reception

✓ Each department placed in a unique VLAN

✓ Wireless access points in each department

✓ Hosts use DHCP for IP address assignment

✓ Devices across VLANs can communicate

✓ IP range provided by ISP: 192.168.1.0/24

3. VLAN Configuration

Department	VLAN ID	Subnet	Range
Admin/IT	10	192.168.1.0/26	.1 – .62
Finance/HR	20	192.168.1.64/26	.65 – .126
Customer Service	30	192.168.1.128/26	.129 – .190

4. Devices per Department

◆ Admin (VLAN 10)

- PC
- Tablet PC
- Laptop
- Printer

- Access Point

◆ Finance (VLAN 20)

- PC
- Laptop
- Smartphone
- Printer
- Access Point

◆ Customer Service (VLAN 30)

- PC
- Laptop
- Smartphone
- Printer
- Access Point

5. Configuration Highlights

- **Inter-VLAN routing** enabled on the router via sub interfaces (G0/0.10, .20, .30)
- **DHCP is configured per VLAN** on the router to provide dynamic IP addressing
- **Wireless** devices connect through access points mapped to VLANs
- **Trunk link** between switch and router (Fa0/1) to carry all VLANs
- **All switch ports** are assigned to the appropriate VLAN
- **VLAN tagging** applied for access points and host devices

6. Summary

This design provides a scalable, secure network setup for a small business branch office. With VLAN segmentation, dynamic IP configuration, and wireless support, it balances performance and security. The setup supports inter-department communication and is built using best practices in Cisco networking.