

Informative Topology Table

Component	Device/Element	Interface	IP Address/Subnet	VLANs/Subnet	Role/Function	Notes
Headquarters	HQ-Router	GigabitEthernet0/0	110.0.0.1/24 120.0.0.1/24 130.0.0.1/24	N/A	BGP Peer with Building Routers	Interface to Building A, B, and C routers (10.0.0.0/30 subnets for each link).
		GigabitEthernet0/1		N/A	Connection to HQ Layer 3 Switch	Connects internal HQ network with inter-VLAN routing.
	HQ-Switch	VLAN 10 (Management)	80.0.0.1/24	8.0.0.0/24	Management VLAN	Handles management devices (e.g., IT staff workstations).
		VLAN 20 (Sales)	70.0.0.1/24	70.0.0.0/24	Sales Department VLAN	Segment for sales staff devices.
		VLAN 30 (IT)	90.0.0.1/24	90.0.0.0/24	IT Department VLAN	Segment for IT department devices.
		VLAN 40 (HR)	100.0.0.1/24	100.0.0.0/24	HR Department VLAN	Segment for HR department devices.
	DHCP on HQ-Router	N/A		VLAN 70,80,90.100	DHCP Server for HQ VLANs	Configured to assign IP addresses dynamically

						ly to each VLAN.
	SSH on HQ-Router	N/A	N/A	N/A	Secure Remote Management	SSH is configured to access the HQ router remotely for secure management.
Building A	BuildingA-Router	Sa0/0/0	130.0.0.1/24	N/A	BGP Peer with HQ-Router	External routing using BGP (ASN 65001).
	BuildingA-Switch	VLAN 60 (Engineering)	60.0.0.1/24	60.0.0.0/24	Engineering Department VLAN	Handles traffic for Engineering department devices.
		VLAN 50 (Support)	50.0.0.1/24	50.0.0.0/24	Support Department VLAN	Handles traffic for Support department devices.
	DHCP on BuildingA-Router	N/A		VLAN 50, 60	DHCP Server for Building A VLANs	Configured to assign IP addresses dynamically to each VLAN in Building A.
	SSH on BuildingA-Router	N/A	N/A	N/A	Secure Remote Management	SSH is configured to access the router remotely for secure management.

Building B	BuildingB-Router	GigabitEthernet0/1	120.0.0.1/24	N/A	BGP Peer with HQ-Router	External routing using BGP (ASN 65002).
	BuildingB-Switch	VLAN 40 (Operations)	40.0.0.1/24	40.0.0.0/24	Operations Department VLAN	Handles traffic for Operations department devices.
		VLAN 30 (Finance)	30.0.0.1/24	30.0.0.0/24	Finance Department VLAN	Handles traffic for Finance department devices.
	DHCP on BuildingB-Router	N/A		VLAN 70, 80	DHCP Server for Building B VLANs	Configured to assign IP addresses dynamically to each VLAN in Building B.
	SSH on BuildingB-Router	N/A	N/A	N/A	Secure Remote Management	SSH is configured to access the router remotely for secure management.
Building C	BuildingC-Router	Sa0/0/0	110.0.0.1/24	N/A	BGP Peer with HQ-Router	External routing using BGP (ASN 65003).
	BuildingC-Switch	VLAN 10 (Marketing)	10.0.0.1/24	10.0.0.0/24	Marketing Department VLAN	Handles traffic for Marketing department devices.

		VLAN 20 (Logistics)	20.0.0.1/24	20.0.0.0/24	Logistics Department VLAN	Handles traffic for Logistics departmen t devices.
	DHCP on BuildingC- Router	N/A		VLAN 90, 100	DHCP Server for Building C VLANs	Configure d to assign IP addresses dynamical ly to each VLAN in Building C.
	SSH on BuildingC- Router	N/A	N/A	N/A	Secure Remote Manageme nt	SSH is configured to access the router remotely for secure manageme nt.
BGP External	eBGP Routing	Sa0/0/0 on all Routers	N/A	N/A	External Border Gateway Protocol (BGP)	BGP routing between HQ and all building routers using eBGP sessions.
Inter- VLAN Routing	Layer 3 Switches at HQ, Building A, B, C	Multiple VLAN interfaces	N/A	VLAN Segmentati on and Routing	Enables communica tion between different VLANs in each building and HQ.	