Crie uma topologia de rede com os principais componentes para dar suporte ao seguinte

1.Dispositivos

- Router principal - Campus
- L3 campus principal - Switch
- Admin - Switch
- Admin - PC
- Admin - Printer
- Hr - Switch
- Hr - PC
- Hr - Printer
- Finance - Switch
- Finance - PC
- Finance - Printer
- Business - Switch
- Business - PC
- Business - Printer
- E&C - Switch
- E&C - PC
- E&C - Printer
- A&D - Switch
- A&D - PC
- A&D - Printer
- IT dep - Switch
- IT dep - PC
- IT dep - Printer
- FTP - Server
- WEB - Server
- Stud lab - Switch
- Stud lab - Printer

- Stud lab - PC
- CLOUD Router
- EMAIL - Server
- H&S Router
- L3 Switch - H&S
- Staff - Switch
- Staff - PC
- Staff - Printer
- Stud lab 2 - Switch
- Stud lab 2 - PC
- Stud lab 2 - Printer

2.Configuração de infraestrutura

Campus principal

- **prédio A:** equipe administrativa nos departamentos de gestão, RH e finanças. Os PCs da equipe administrativa são distribuídos nos escritórios do prédio e espera-se que eles compartilhem alguns equipamentos de rede (o uso de VLAN é esperado). A Faculdade de Negócios também está situada neste prédio
- **Prédio B:** Faculdade de Engenharia e Computação e Faculdade de Arte e Design
- **Prédio C:** laboratórios dos alunos e departamento de TI. O departamento de TI hospeda o University Web Server e outros servidores
- Há também um servidor de e-mail hospedado externamente na nuvem

Campus menor

- Faculdade de Saúde e Ciências

Outras configurações

- Você deverá configurar os dispositivos principais e alguns dispositivos finais para fornecer conectividade de ponta a ponta e acesso aos servidores internos e ao servidor externo.
- Cada departamento/faculdade deverá estar em sua própria rede IP separada
- Os switches devem ser configurados com VLANs apropriadas
- RIPv2 será usado para fornecer roteamento para os roteadores na rede interna e roteamento estático para o servidor externo

- Os dispositivos no edifício A deverão adquirir endereço IP dinâmico de um servidor DHCP baseado em roteador

3.Configuração de rede

Administração → VLAN 10

Endereço de rede: 192.168.1.0

Máscara de rede: 255.255.255.0

HR → VLAN 20

Endereço de rede: 192.168.2.0

Máscara de rede: 255.255.255.0

Financeiro → VLAN 30

Endereço de rede: 192.168.3.0

Máscara de rede: 255.255.255.0

Negócios → VLAN 40

Endereço de rede: 192.168.4.0

Máscara de rede: 255.255.255.0

E&C → VLAN 50

Endereço de rede: 192.168.5.0

Máscara de rede: 255.255.255.0

A&D → VLAN 60

Endereço de rede: 192.168.6.0

Máscara de rede: 255.255.255.0

Stud lab → VLAN 70

Endereço de rede: 192.168.7.0

Máscara de rede: 255.255.255.0

IT dep → VLAN 80

Endereço de rede: 192.168.8.0

Máscara de rede: 255.255.255.0

Staff → VLAN 90

Endereço de rede: 192.168.9.0

Máscara de rede: 255.255.255.0

Stud lab2 → VLAN 100

Endereço de rede: 192.168.10.0

Máscara de rede: 255.255.255.0

Router principal <-> H&S Router

Endereço de rede: 10.10.10.0

Máscara de rede: 255.255.255.252

Router principal <-> CLOUD Router

Endereço de rede: 10.10.10.4

Máscara de rede: 255.255.255.252

CLOUD Router <-> EMAIL server

Endereço de rede: 20.0.0.0

Máscara de rede: 255.255.255.252

4.Comandos de configurações

4.1 Configuração inicial de Routers

Router principal

enable

configure terminal

interface gig0/0

no shutdown

interface se0/2/0

no shutdown

ip address 10.10.10.5 255.255.255.252

clock rate 64000

interface se0/2/1

no shutdown

ip address 10.10.10.1 255.255.255.252

clock rate 64000

do wr

exit

CLOUD Router

enable

configure terminal

interface gig0/0

ip address 20.0.0.1 255.255.255.252

no shutdown

interface se0/2/0

ip address 10.10.10.6 255.255.255.252

no shutdown

do wr

exit

H&S Router

enable

configure terminal

interface gig0/0

no shutdown

interface se0/2/1

ip address 10.10.10.2 255.255.255.252

no shutdown

do wr

exit

4.2 Configuração inicial de Switches

Admin - Switch

enable

configure terminal

vlan 10

name Admin

interface range fa0/1-24

switchport mode access

switchport access vlan 10

do wr

ex

RH - Switch

enable

configure terminal

vlan 20

name RH

interface range fa0/1-24

switchport mode access

switchport access vlan 20

do wr

exit

Finance - Switch

enable

configure terminal

vlan 30

name Finance

interface range fa0/1-24

switchport mode access

switchport access vlan 30

do wr

exit

Business - Switch

enable

configure terminal

vlan 40

name Business

interface range fa0/1-24

switchport mode access

switchport access vlan 40

do wr

exit

E&C - Switch

enable

configure terminal

vlan 50

name E&C

interface range fa0/1-24

switchport mode access

switchport access vlan 50

do wr

exit

A&E - Switch

enable

configure terminal

vlan 60

name A&E

interface range fa0/1-24

switchport mode access

switchport access vlan 60

do wr

exit

Stud lab - Switch

enable

configure terminal

vlan 70

name Stud-lab

interface range fa0/1-24

switchport mode access

switchport access vlan 70

do wr

exit

TI dep - Switch

enable

configure terminal

vlan 80

name TI-dep

interface range fa0/1-24

switchport mode access

switchport access vlan 80

do wr

exit

Staff - Switch

enable

configure terminal

vlan 90

name Staff

interface range fa0/1-24

switchport mode access

switchport access vlan 90

do wr

exit

Stud lab2 - Switch

enable

configure terminal

vlan 100

name Stud-lab2

interface range fa0/1-24

switchport mode access

switchport access vlan 100

do wr

exit

4.3 L3 Switches

4.3.1 L3 campus principal - Switch

enable

configure terminal

interface gig1/0/2

switchport mode access

switchport access vlan10

interface gig1/0/3

switchport mode access

switchport access vlan20

interface gig1/0/4

switchport mode access

switchport access vlan30

interface gig1/0/5

switchport mode access

switchport access vlan40

interface gig1/0/6

switchport mode access

switchport access vlan50

interface gig1/0/7

switchport mode access

switchport access vlan60

interface gig1/0/8

switchport mode access

switchport access vlan70

interface gig1/0/9

switchport mode access

switchport access vlan80

interface gig1/0/1

switchport trunk encapsulation dot1Q

switchport mode trunk

exit

do wr

4.3.2 L3 H&S - Switch

enable

configure terminal

interface gig1/0/2

switchport mode access

switchport access vlan 90

interface gig1/0/3

switchport mode access

switchport access vlan 100

interface gig1/0/1

switchport trunk encapsulation dot1Q

switchport mode trunk

exit

do wr

4.4 Configuração de encapsulamento e DHCP

4.4.1 Router principal

en

conf t

int gig0/0.10

encapsulation dot1Q 10

ip address 192.168.1.1 255.255.255.0

ex

int gig0/0.20

encapsulation dot1Q 20

ip address 192.168.2.1 255.255.255.0

ex

int gig0/0.30

encapsulation dot1Q 30

ip address 192.168.3.1 255.255.255.0

ex

int gig0/0.40

encapsulation dot1Q 40

ip address 192.168.4.1 255.255.255.0

ex

int gig0/0.50

encapsulation dot1Q 50

ip address 192.168.5.1 255.255.255.0

ex

int gig0/0.60

encapsulation dot1Q 60

ip address 192.168.6.1 255.255.255.0

ex

int gig0/0.70

encapsulation dot1Q 70

ip address 192.168.7.1 255.255.255.0

ex

int gig0/0.80

encapsulation dot1Q 80

ip address 192.168.8.1 255.255.255.0

ex

do wr

service dhcp

ip dhcp pool admin-pool

network 192.168.1.0 255.255.255.0

default-router 192.168.1.1

dns-server 192.168.1.1

ip dhcp excluded-address 192.168.1.1

ip dhcp pool hr-pool

network 192.168.2.0 255.255.255.0

default-router 192.168.2.1

dns-server 192.168.2.1

ip dhcp excluded-address 192.168.2.1

ip dhcp pool finance-pool

network 192.168.3.0 255.255.255.0

default-router 192.168.3.1

dns-server 192.168.3.1

ip dhcp excluded-address 192.168.3.1

ip dhcp pool business-pool

network 192.168.4.0 255.255.255.0

default-router 192.168.4.1

dns-server 192.168.4.1

ip dhcp excluded-address 192.168.4.1

ip dhcp pool e&c-pool

network 192.168.5.0 255.255.255.0

default-router 192.168.5.1

dns-server 192.168.5.1

ip dhcp excluded-address 192.168.5.1

ex

ip dhcp pool a&e-pool

network 192.168.6.0 255.255.255.0

default-router 192.168.6.1

dns-server 192.168.6.1

ip dhcp excluded-address 192.168.6.1

ex

ip dhcp pool stud_lab-pool

network 192.168.7.0 255.255.255.0

default-router 192.168.7.1

dns-server 192.168.7.1

ip dhcp excluded-address 192.168.7.1

ex

ip dhcp pool it_dep-pool

network 192.168.8.0 255.255.255.0

default-router 192.168.8.1

dns-server 192.168.8.1

ip dhcp excluded-address 192.168.8.1

ex

4.4.2 H&S Router

en

conf t

int gig0/0.90

encapsulation dot1Q 90

ip address 192.168.9.1 255.255.255.0

ex

int gig0/0.100

encapsulation dot1Q 100

ip address 192.168.10.1 255.255.255.0

ex

do wr

service dhcp

ip dhcp pool Staff-pool

network 192.168.9.0 255.255.255.0

default-router 192.168.9.1

dns-server 192.168.9.1

ip dhcp excluded-address 192.168.9.1

ex

do wr

ip dhcp pool Stud_Lab2-pool

network 192.168.10.0 255.255.255.0

default-router 192.168.10.1

dns-server 192.168.10.1

ip dhcp excluded-address 192.168.10.1

ex

do wr

4.5 Configuração de RIPv2

4.5.1 H&S Router

en

conf t

router rip

version 2

network 192.168.9.0

network 192.168.10.0

network 10.10.10.0

do wr

exit

4.5.2 Router principal

router rip

version 2

network 10.10.10.0

network 10.10.10.4

network 192.168.1.0

network 192.168.2.0

network 192.168.3.0

network 192.168.4.0

network 192.168.5.0

network 192.168.6.0

network 192.168.7.0

network 192.168.8.0

exit

do wr

4.5.3 CLOUD Router

en

conf t

router rip

version 2

network 20.0.0.0

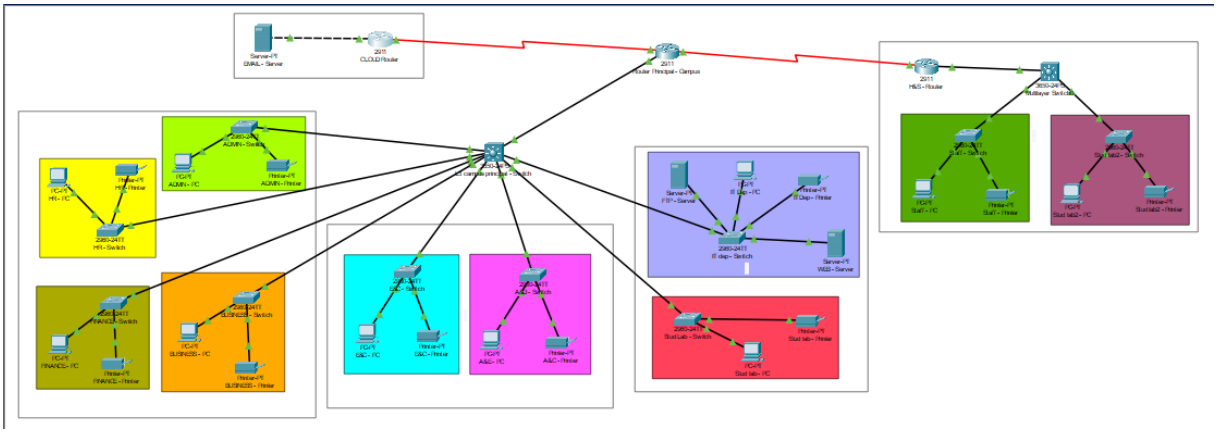
network 10.10.10.4

exit

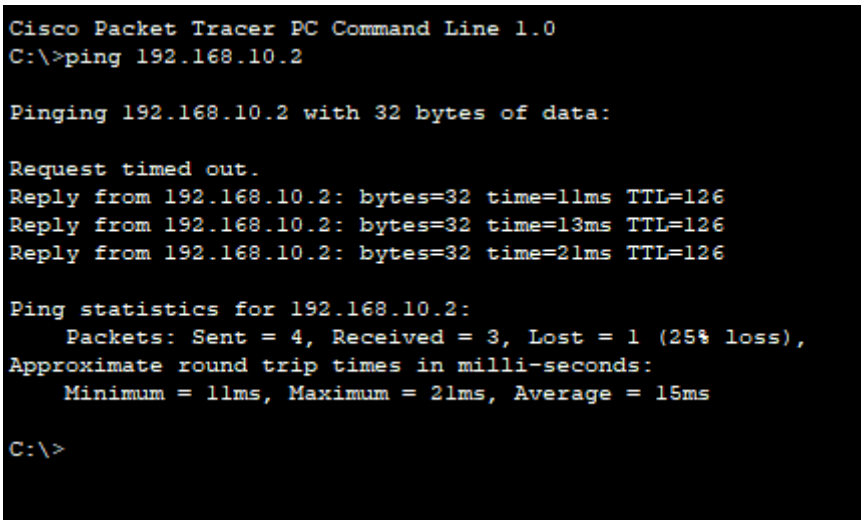
do wr

5.Images

5.1 Configuração final



5.2 Ping de Admin - PC em Stud lab2 - PC


Cisco Packet Tracer PC Command Line 1.0
C:\>ping 192.168.10.2
Pinging 192.168.10.2 with 32 bytes of data:
Request timed out.
Reply from 192.168.10.2: bytes=32 time=11ms TTL=126
Reply from 192.168.10.2: bytes=32 time=13ms TTL=126
Reply from 192.168.10.2: bytes=32 time=21ms TTL=126
Ping statistics for 192.168.10.2:
Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
Approximate round trip times in milli-seconds:
Minimum = 11ms, Maximum = 21ms, Average = 15ms
C:\>