

Redes de Computadores – Atividade Avaliada 3

Valor 3.0 pontos

Aluno Marcelo Silva email: marcelo.silva@aluno.riogrande.ifrs.edu.br

Tarefas:

1 Especificações do projeto da Rede.

- 1.1) Uma Instituição pretende dividir a sua rede em 10 sub redes, melhorando o tráfego e o compartilhamento de recursos.
- 1.2) A faixa de IP disponibilizada para empresa faz parte do endereçamento CIDR /24 (com 24 bits referente a rede e 8 bits para host). Utilize a faixa de endereço que melhor lhe convier para desenvolver o trabalho.

Informe os parâmetros da rede escolhida .

Endereço IP	Classe	Máscara	CIDR	N° Hosts	End. Broadcast
192.168.10.0	C	255.255.255.0	24	254	192.168.10.255

Tabela 1 - Parâmetros Iniciais

Calcule a máscara de sub rede para implementar no mínimo 10 sub redes e preencha a tabela a seguir:

Endereço IP	Máscara Sub Rede	CIDR	N° Máximo de sub redes válidas	N° de Host por sub Rede
192.168.10.0	255.255.255.240	28	16	14

Tabela 2 - Parâmetros para definição da sub rede.

1.3) Para cada uma das possíveis sub redes informe o endereço de sub rede, faixa de IPs(Mínimo e máximo), endereço de Broadcast; Informe também endereço Gateway da sub rede;

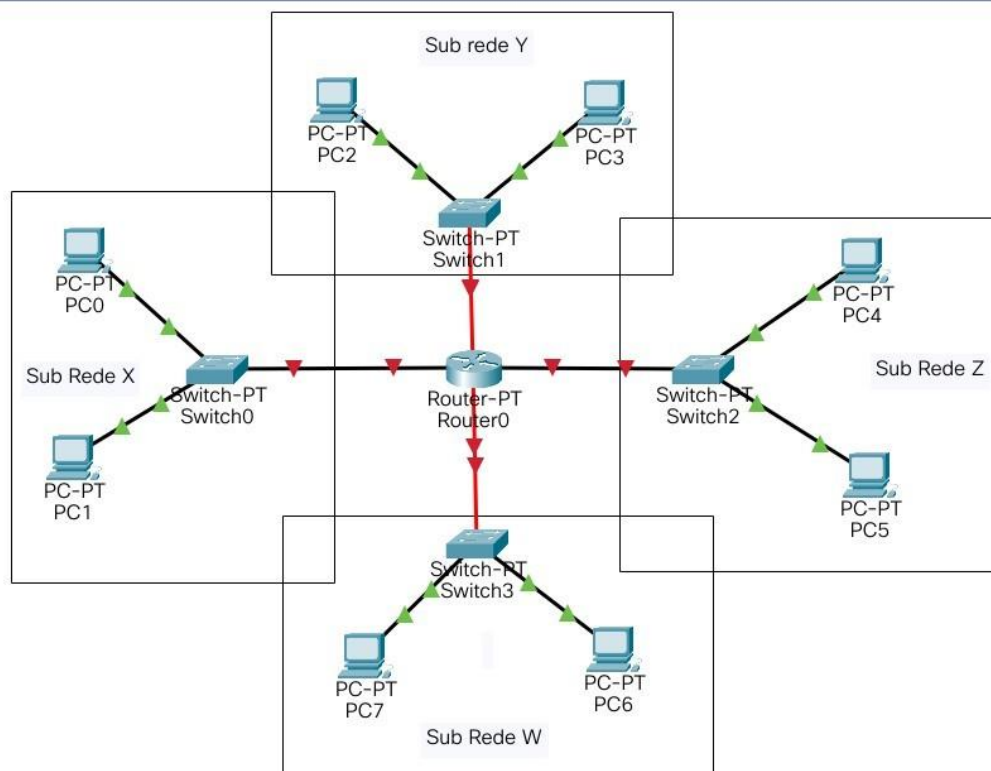
ID	End: Sub Rede	1° Host	Último Host	Broadcast	Gateway
1	192.168.0.0/28	192.168.0.1	192.168.0.13	192.168.0.15	192.168.0.14
2	192.168.0.16/28	192.168.0.17	192.168.0.29	192.168.0.31	192.168.0.30
3	192.168.0.32/28	192.168.0.33	192.168.0.45	192.168.0.47	192.168.0.46
4	192.168.0.48/28	192.168.0.49	192.168.0.61	192.168.0.63	192.168.0.62
5	192.168.0.64	192.168.0.65	192.168.0.77	192.168.0.79	192.168.0.78
6	192.168.0.80	192.168.0.81	192.168.0.93	192.168.0.95	192.168.0.94
7	192.168.0.96	192.168.0.97	192.168.0.109	192.168.0.111	192.168.0.110
8	192.168.0.112	192.168.0.113	192.168.0.125	192.168.0.127	192.168.0.126
9	192.168.0.128	192.168.0.129	192.168.0.141	192.168.0.143	192.168.0.142
10	192.168.0.144	192.168.0.145	192.168.0.157	192.168.0.159	192.168.0.158
11	192.168.0.160	192.168.0.161	192.168.0.173	192.168.0.175	192.168.0.174
12	192.168.0.176	192.168.0.177	192.168.0.189	192.168.0.191	192.168.0.190
13	192.168.0.192	192.168.0.193	192.168.0.205	192.168.0.207	192.168.0.206
14	192.168.0.208	192.168.0.209	192.168.0.221	192.168.0.223	192.168.0.222
15	192.168.0.224	192.168.0.225	192.168.0.237	192.168.0.239	192.168.0.238
16	192.168.0.240	192.168.0.241	192.168.0.253	192.168.0.255	192.168.0.254

Tabela 3: divisão da faixa de endereço IP em Sub redes;

2 Simulação no Packet Tracer arquivo “.pkt” para simulação:

- 2.1) Implementar no PacketTracer um ambiente simulado de Rede, com no mínimo 4 Sub redes (X,Y,Z,W), conforme figura 1. Cada uma das sub redes utilizar as especificações tabela 3.

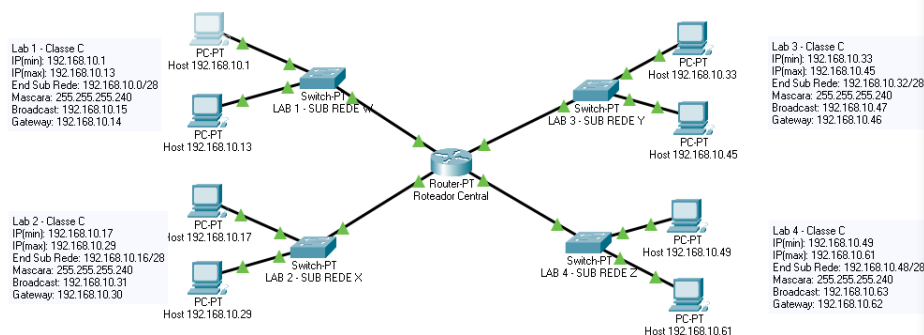
Figura 1: Estrutura da Rede, dividida em 4 sub redes



- 2.2) Realizar simulações com o comando Ping, enviando pacotes ICMP entre as sub redes e os equipamentos. Realizar testes de Broadcast dentro de cada sub rede. Apresentar Printscreen dos Testes.
- 3 Envie para AVA(Moodle) dois arquivos, um com a simulação no Packet Tracer (pkt), e um arquivo PDF com as especificações (Tabelas 1,2 e 3) e os testes dePing realizados (colar no mínimo 6 testes de ping, sendo dois deles de Broadcast)

TESTES

PING



```
Physical Config Desktop Programming Attributes
Command Prompt

Packet Tracer PC Command Line 1.0
C:\>ping 192.168.10.46

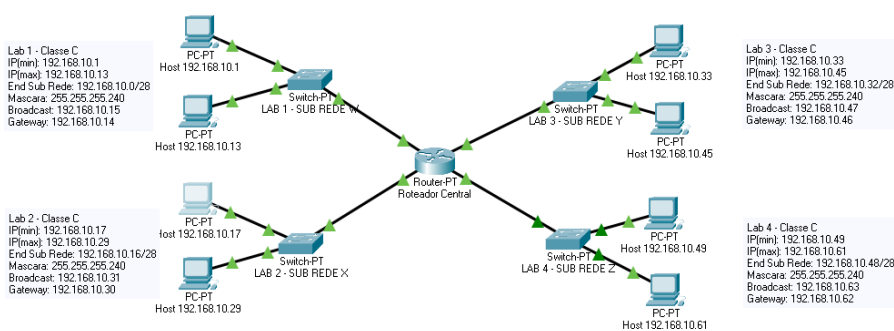
Pinging 192.168.10.46 with 32 bytes of data:

Reply from 192.168.10.46: bytes=32 time<1ms TTL=255
Reply from 192.168.10.46: bytes=32 time<1ms TTL=255
Reply from 192.168.10.46: bytes=32 time<1ms TTL=255
Reply from 192.168.10.46: bytes=32 time<1ms TTL=255

Ping statistics for 192.168.10.46:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 3ms, Average = 0ms

C:\>
```

PING



```
Physical Config Desktop Programming Attributes
Command Prompt

Packet Tracer PC Command Line 1.0
C:\>ping 192.168.10.62

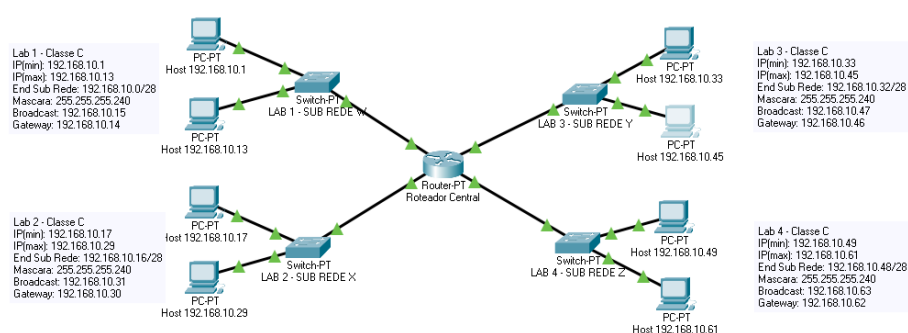
Pinging 192.168.10.62 with 32 bytes of data:

Reply from 192.168.10.62: bytes=32 time<1ms TTL=255
Reply from 192.168.10.62: bytes=32 time<1ms TTL=255
Reply from 192.168.10.62: bytes=32 time<1ms TTL=255
Reply from 192.168.10.62: bytes=32 time<1ms TTL=255

Ping statistics for 192.168.10.62:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms

C:\>
```

PING



```
Host 192.168.10.45
Physical Config Desktop Programming Attributes
Command Prompt

Packet Tracer PC Command Line 1.0
C:\>ping 192.168.10.29

Pinging 192.168.10.29 with 32 bytes of data:

Request timed out.
Reply from 192.168.10.29: bytes=32 time<1ms TTL=127
Reply from 192.168.10.29: bytes=32 time<1ms TTL=127
Reply from 192.168.10.29: bytes=32 time<1ms TTL=127

Ping statistics for 192.168.10.29:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>ping 192.168.10.29

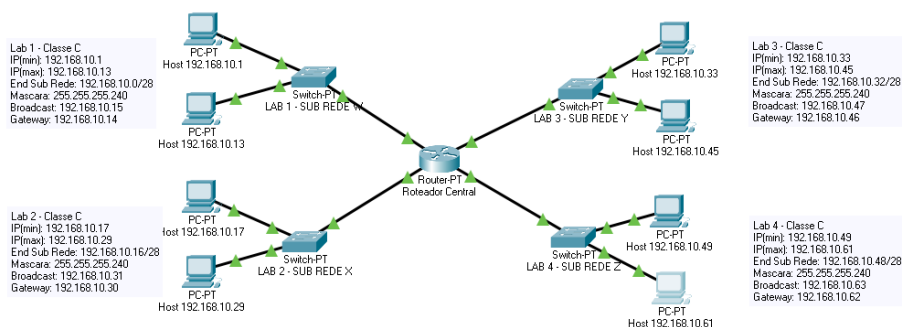
Pinging 192.168.10.29 with 32 bytes of data:

Reply from 192.168.10.29: bytes=32 time=13ms TTL=127
Reply from 192.168.10.29: bytes=32 time<1ms TTL=127
Reply from 192.168.10.29: bytes=32 time<1ms TTL=127
Reply from 192.168.10.29: bytes=32 time<1ms TTL=127

Ping statistics for 192.168.10.29:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 13ms, Average = 3ms

C:\>
```

PING



```
Host 192.168.10.1
Physical Config Desktop Programming Attributes
Command Prompt
Packet Tracer PC Command Line 1.0
C:\>ping 192.168.10.13

Pinging 192.168.10.13 with 32 bytes of data:

Request timed out.
Reply from 192.168.10.13: bytes=32 time<1ms TTL=127
Reply from 192.168.10.13: bytes=32 time<1ms TTL=127
Reply from 192.168.10.13: bytes=32 time<1ms TTL=127

Ping statistics for 192.168.10.13:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>ping 192.168.10.13

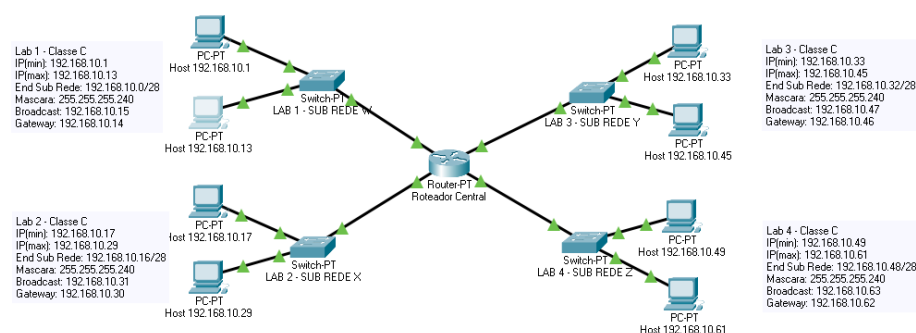
Pinging 192.168.10.13 with 32 bytes of data:

Reply from 192.168.10.13: bytes=32 time<1ms TTL=127
Reply from 192.168.10.13: bytes=32 time<1ms TTL=127
Reply from 192.168.10.13: bytes=32 time<1ms TTL=127
Reply from 192.168.10.13: bytes=32 time<1ms TTL=127

Ping statistics for 192.168.10.13:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>
```

BROADCAST



```
Host 192.168.10.13
Physical Config Desktop Programming Attributes
Command Prompt
Packet Tracer PC Command Line 1.0
C:\>ping 192.168.10.47

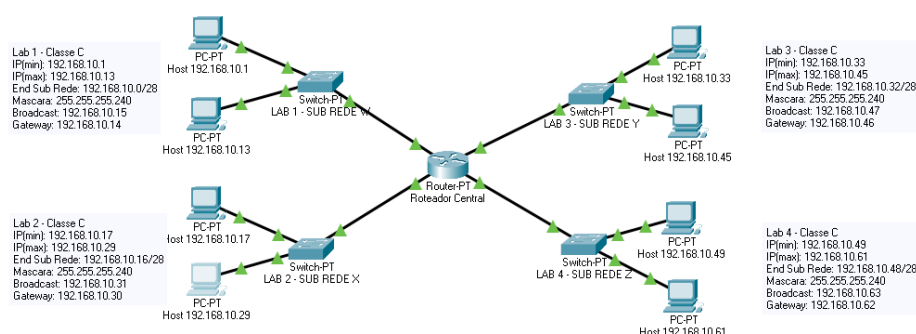
Pinging 192.168.10.47 with 32 bytes of data:

Reply from 192.168.10.14: bytes=32 time<1ms TTL=255
Reply from 192.168.10.14: bytes=32 time<1ms TTL=255
Reply from 192.168.10.14: bytes=32 time<1ms TTL=255
Reply from 192.168.10.14: bytes=32 time<1ms TTL=255

Ping statistics for 192.168.10.47:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>
```

BROADCAST



```
Host 192.168.10.29
Physical Config Desktop Programming Attributes
Command Prompt
Packet Tracer PC Command Line 1.0
C:\>ping 192.168.10.62

Pinging 192.168.10.62 with 32 bytes of data:

Reply from 192.168.10.62: bytes=32 time<1ms TTL=255
Reply from 192.168.10.62: bytes=32 time<1ms TTL=255
Reply from 192.168.10.62: bytes=32 time<1ms TTL=255
Reply from 192.168.10.62: bytes=32 time<1ms TTL=255

Ping statistics for 192.168.10.62:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms

C:\>
```