**EJERCICIO PASO A PASO**

**PAR 09**

* **Direccionamiento para el área A: 2001:ffff:a::/48**

2001:ffff:a::/52 para redes de distribución y Loopbacks

2001:ffff:a::/112 para Loopbacks

2001:ffff:a::a/128 para RA

2001:ffff:a::a1/128 para RA1

2001:ffff:a::a2/128 para RA2

2001:ffff:a::a11/128 para RA11

2001:ffff:a::a12/128 para RA12

2001:ffff:a::a:0/112 para red distribución SwA

2001:ffff:a::a111:0/112 para red distribución A1-A11

2001:ffff:a::a112:0/112 para red distribución A1-A12

2001:ffff:a:1000::/52 para el Pool en RA

* **Direccionamiento para el área B: 2001:ffff:b::/48**

2001:ffff:b::/52 para redes de distribución y Loopbacks

2001:ffff:b::/112 para Loopbacks

2001:ffff:b::b/128 para RB

2001:ffff:b::b1/128 para RB1

2001:ffff:b::b2/128 para RB2

2001:ffff:b::b:0/112 para red distribución SwB

2001:ffff:b:1000::/52 para el Pool en RB

* **Direccionamiento para el área C: 2001:ffff:c::/48**

2001:ffff:c::/52 para redes de distribución y Loopbacks

2001:ffff:c::/112 para Loopbacks

2001:ffff:c::c/128 para RC

2001:ffff:c::c1/128 para RC1

2001:ffff:c::c2/128 para RC2

2001:ffff:c::c11/128 para RC11

2001:ffff:c::c12/128 para RC12

2001:ffff:c::c21/128 para RC21

2001:ffff:c::c22/128 para RC22

2001:ffff:c::c1:0/112 para red distribución SwC1

2001:ffff:c::c2:0/112 para red distribución SwC2

2001:ffff:c::cc1:0/112 para red distribución C-C1

2001:ffff:c::cc2:0/112 para red distribución C-C2

2001:ffff:c:1000::/52 para el Pool en RC

* **Direccionamiento para el backbone: 2001:ffff:f::/48**

2001:ffff:f::a:0/112 para RA-RX

2001:ffff:f::b:0/112 para RB-RX

2001:ffff:f::c:0/112 para RC-RX

En cada una de dichas áreas, usa el siguiente plan de direccionamiento:

* Reserva un /52 para las redes de distribución y direcciones Loopback.
* Reserva el primer /112 para Loopbacks, que serán /128
* Usa /126 en redes PtP
* Utiliza redes /112 para redes de distribución de otro tipo
* Utiliza un /52 para el PoP (RA, RB y RC), distribuyendo el prefijo usando DHCPv6. Úsalos en las redes de acceso

**CONFIGURACIÓN EN EQUIPOS:**

* **RA:**

system/identity/set name=RA

interface/bridge/add name=loopback

ip/address/add address=10.255.255.1 interface=loopback

ipv6/address/add address=2001:ffff:a::a/128 interface=loopback

routing/id/add name=id\_ospf select-dynamic-id=only-loopback

routing/ospf/instance add version=3 name=ospf3 router-id=id\_ospf

routing/ospf/area/add instance=ospf3 name=backbone

routing/ospf/area/add instance=ospf3 name=A area-id=0.0.0.1 type=stub no-summaries default-cost=1

routing/ospf/area/range add area=A prefix=2001:ffff:a::/48

routing/ospf/interface-template/add area=A interface=loopback passive

routing/ospf/interface-template/add area=A interface=ether2

routing/ospf/interface-template/add area=backbone interface=ether1 type=ptp

**Ahora, configuramos las direcciones IPv6, el Pool y el servidor DHCP v3:**

ipv6/address/add eui-64=no advertise=no interface=ether1 address=2001:ffff:f::a:a/112

ipv6/address/add eui-64=no advertise=no interface=ether2 address=2001:ffff:a::a:a/112

ipv6/pool/add name=pool-ra prefix=2001:ffff:a:1000::/52 prefix-length=56

ipv6/dhcp-server/add name=dhcp-e2 interface=ether2 address-pool=pool-ra

* **RA1:**

interface/bridge/add name=loopback

ip/address/add address=10.255.255.11 interface=loopback

ipv6/address/add address=2001:ffff:a::a1/128 interface=loopback

routing/id/add name=id\_ospf select-dynamic-id=only-loopback

routing/ospf/instance add version=3 name=ospf3 router-id=id\_ospf

routing/ospf/area/add instance=ospf3 name=A area-id=0.0.0.1 type=stub

routing/ospf/interface-template/add area=A interface=loopback passive

routing/ospf/interface-template/add area=A interface=ether1

routing/ospf/interface-template/add area=A interface=ether2 type=ptp

routing/ospf/interface-template/add area=A interface=ether3 type=ptp

**Ahora, configuramos las direcciones IPv6, cliente y servidor DHCP v3:**

ipv6/address/add eui-64=no advertise=no interface=ether1 address=2001:ffff:a::a:a1/112

ipv6/address/add eui-64=no advertise=no interface=ether2 address=2001:ffff:a::a111:a1/112

ipv6/address/add eui-64=no advertise=no interface=ether3 address=2001:ffff:a::a112:a1/112

ipv6/dhcp-client/add interface=ether1 pool-name=pool-ra1 pool-prefix-length=60 request=prefix

**Como estoy usando OSPF, no es necesario add-default-route**

ipv6/dhcp-server/add name=dhcp-e2 interface=ether2 address-pool=pool-ra1

ipv6/dhcp-server/add name=dhcp-e3 interface=ether3 address-pool=pool-ra1

* **RA11:**

system/identity/set name=RA11

interface/bridge/add name=loopback

ip/address/add address=10.255.255.111 interface=loopback

ipv6/address/add address=2001:ffff:a::a11/128 interface=loopback

routing/id/add name=id\_ospf select-dynamic-id=only-loopback

routing/ospf/instance add version=3 name=ospf3 router-id=id\_ospf

routing/ospf/area/add instance=ospf3 name=A area-id=0.0.0.1 type=stub

routing/ospf/interface-template/add area=A interface=loopback passive

routing/ospf/interface-template/add area=A interface=ether1 type=ptp

routing/ospf/interface-template/add area=A interface=ether2 passive

**Ahora, configuramos las direcciones IPv6, cliente y servidor DHCPv3:**

ipv6/address/add eui-64=no advertise=no interface=ether1 address=2001:ffff:a::a111:a11/112

ipv6/dhcp-client/add interface=ether1 pool-name=pool-ra11 pool-prefix-length=60 request=prefix

**Como estoy usando OSPF, no es necesario add-default-route**

ipv6/address/add eui-64=yes advertise=yes interface=ether2 from-pool=pool-ra11

* **BACKBONE Y RX:**

system/identity/set name=RX

interface/bridge/add name=loopback

ip/address/add address=10.255.255.255 interface=loopback

ipv6/address/add address=2001:ffff:f::255/128 interface=loopback

routing/id/add name=id\_ospf select-dynamic-id=only-loopback

routing/ospf/instance add version=3 name=ospf3 router-id=id\_ospf

routing/ospf/area/add instance=ospf3 name=backbone

routing/ospf/interface-template/add area=backbone interface=loopback passive

routing/ospf/interface-template/add area=backbone interface=ether1 type=ptp

routing/ospf/interface-template/add area=backbone interface=ether2 type=ptp

routing/ospf/interface-template/add area=backbone interface=ether3 type=ptp

ipv6/address/add eui-64=no advertise=no interface=ether1 address=2001:ffff:f::a:f/112

ipv6/address/add eui-64=no advertise=no interface=ether2 address=2001:ffff:f::b:f/112

ipv6/address/add eui-64=no advertise=no interface=ether3 address=2001:ffff:f::c:f/112

* **RB:**

system/identity/set name=RB

interface/bridge/add name=loopback

ip/address/add address=10.255.255.2 interface=loopback

ipv6/address/add address=2001:ffff:b::b/128 interface=loopback

routing/id/add name=id\_ospf select-dynamic-id=only-loopback

routing/ospf/instance add version=3 name=ospf3 router-id=id\_ospf

routing/ospf/area/add instance=ospf3 name=backbone

routing/ospf/area/add instance=ospf3 name=B area-id=0.0.0.2 type=stub no-summaries default-cost=1

routing/ospf/area/range add area=B prefix=2001:ffff:b::/48

routing/ospf/interface-template/add area=B interface=loopback passive

routing/ospf/interface-template/add area=B interface=ether2

routing/ospf/interface-template/add area=backbone interface=ether1 type=ptp

**Ahora, configuramos las direcciones IPv6, el Pool y el servidor DHCPv3:**

ipv6/address/add eui-64=no advertise=no interface=ether1 address=2001:ffff:f::b:b/112

ipv6/address/add eui-64=no advertise=no interface=ether2 address=2001:ffff:b::b:b/112

ipv6/pool/add name=pool-rb prefix=2001:ffff:b:1000::/52 prefix-length=56

ipv6/dhcp-server/add name=dhcp-e2 interface=ether2 address-pool=pool-rb

* **RB1:**

system/identity/set name=RB1

interface/bridge/add name=loopback

ip/address/add address=10.255.255.21 interface=loopback

ipv6/address/add address=2001:ffff:b::b1/128 interface=loopback

routing/id/add name=id\_ospf select-dynamic-id=only-loopback

routing/ospf/instance add version=3 name=ospf3 router-id=id\_ospf

routing/ospf/area/add instance=ospf3 name=B area-id=0.0.0.2 type=stub

routing/ospf/interface-template/add area=B interface=loopback passive

routing/ospf/interface-template/add area=B interface=ether1

routing/ospf/interface-template/add area=B interface=ether2 passive

Ahora, configuramos las direcciones IPv6 y cliente DHCPv3:

ipv6/address/add eui-64=no advertise=no interface=ether1 address=2001:ffff:b::b:b1/112

ipv6/dhcp-client/add interface=ether1 pool-name=pool-rb1 pool-prefix-length=60 request=prefix

**Como estoy usando OSPF, no es necesario add-default-route**

ipv6/address/add eui-64=yes advertise=yes interface=ether2 from-pool=pool-rb1

* **RC11:**

system/identity/set name=RC11

interface/bridge/add name=loopback

ip/address/add address=10.255.255.131 interface=loopback

ipv6/address/add address=2001:ffff:c::c11/128 interface=loopback

routing/id/add name=id\_ospf select-dynamic-id=only-loopback

routing/ospf/instance add version=3 name=ospf3 router-id=id\_ospf

routing/ospf/area/add instance=ospf3 name=C area-id=0.0.0.3 type=stub

routing/ospf/interface-template/add area=C interface=loopback passive

routing/ospf/interface-template/add area=C interface=ether1

routing/ospf/interface-template/add area=C interface=ether2 passive

**Ahora, configuramos las direcciones IPv6, cliente y servidor DHCPv3:**

ipv6/address/add eui-64=no advertise=no interface=ether1 address=2001:ffff:c::c1:c11/112

ipv6/dhcp-client/add interface=ether1 pool-name=pool-rc11 pool-prefix-length=64 request=prefix

**Como estoy usando OSPF, no es necesario add-default-route**

ipv6/address/add eui-64=yes advertise=yes interface=ether2 from-pool=pool-rc11

