

Elven Island

```
enable
configure terminal
interface GigabitEthernet0/0
ip address 59.68.96.33 255.255.255.224
no shutdown
exit
ip dhcp pool Elven_Island
network 59.68.96.32 255.255.255.224
default-router 59.68.96.33
end
```

Domain of Holfort Royal Capital

```
enable
configure terminal
interface GigabitEthernet0/0
ip address 103.77.0.1 255.255.240.0
no shutdown
interface Serial0/2/0
ip address 20.0.0.1 255.255.255.252
no shutdown
interface Serial0/3/0
ip address 40.0.0.1 255.255.255.252
no shutdown
interface Serial0/3/1
ip address 30.0.0.1 255.255.255.252
no shutdown
interface Serial0/2/1
ip address 50.0.0.1 255.255.255.252
no shutdown
exit
router rip
version 2
no auto-summary
network 103.77.0.0
network 20.0.0.0
network 30.0.0.0
network 40.0.0.0
network 50.0.0.0
no auto-summary
exit
```

Domain of Redgrave

```
enable
configure terminal
interface GigabitEthernet0/0
ip address 103.77.16.1 255.255.252.0
no shutdown
interface Serial0/3/0
ip address 40.0.0.2 255.255.255.252
no shutdown
interface Serial0/3/1
```

```
ip address 60.0.0.1 255.255.255.252
no shutdown
exit
ip dhcp pool Redgrave
network 103.77.16.0 255.255.252.0
default-router 103.77.16.1
dns-server 103.77.19.254
exit
ip dhcp excluded-address 103.77.19.254 103.77.19.254
ip route 103.77.24.0 255.255.255.128 60.0.0.2
ip route 103.77.24.128 255.255.255.192 60.0.0.2
router rip
version 2
no auto-summary
network 103.77.16.0
network 40.0.0.0
no auto-summary
exit
```

Domain of Roseblade

```
enable
configure terminal
interface GigabitEthernet0/0
ip address 103.77.20.1 255.255.254.0
no shutdown
interface Serial0/3/1
ip address 30.0.0.2 255.255.255.252
no shutdown
exit
ip dhcp pool Roseblade
network 103.77.20.0 255.255.254.0
default-router 103.77.20.1
dns-server 103.77.19.254
exit
router rip
version 2
no auto-summary
network 103.77.20.0
network 30.0.0.0
no auto-summary
exit
```

Domain of Atlee

```
enable
configure terminal
interface GigabitEthernet0/0
ip address 103.77.22.1 255.255.254.0
no shutdown
exit
interface Serial0/2/0
ip address 20.0.0.2 255.255.255.252
no shutdown
interface Serial0/3/0
```

```
ip address 70.0.0.1 255.255.255.252
no shutdown
exit
ip dhcp pool Atlee
network 103.77.22.0 255.255.254.0
default-router 103.77.22.1
dns-server 103.77.19.254
exit
ip dhcp excluded-address 103.77.23.254 103.77.23.254
ip route 103.77.24.128 255.255.255.192 70.0.0.2
router rip
version 2
no auto-summary
network 103.77.22.0
network 20.0.0.0
no auto-summary
exit
```

Domain Bartford

```
enable
configure terminal
interface GigabitEthernet0/0
ip address 103.77.24.1 255.255.255.128
no shutdown
interface GigabitEthernet0/1
ip address 103.77.24.129 255.255.255.192
no shutdown
interface Serial0/2/1
ip address 50.0.0.2 255.255.255.252
no shutdown
interface Serial0/3/1
ip address 60.0.0.2 255.255.255.252
no shutdown
interface Serial0/3/0
ip address 70.0.0.2 255.255.255.252
no shutdown
exit
ip dhcp pool BartfordBarony
network 103.77.24.0 255.255.255.128
default-router 103.77.24.1
dns-server 103.77.19.254
exit
ip dhcp pool BartfordDutchy
network 103.77.24.128 255.255.255.192
default-router 103.77.24.129
dns-server 103.77.19.254
exit
ip dhcp excluded-address 103.77.24.190 103.77.24.190
ip route 103.77.16.0 255.255.252.0 60.0.0.1
router rip
version 2
no auto-summary
network 103.77.24.0
network 103.77.24.128
```

```
network 50.0.0.0  
no auto-summary  
exit
```

Elven Island

- NA: 59.68.96.32/27
- SM: 255.255.255.224

Name	Interface	IP address	Subnet Mask	Default Gateway
Elven Domain (Router)	G0/0	59.68.96.33	255.255.255.224	N/A
Elf-1	Fa0	Dynamic(59.68.96.34)	255.255.255.224	59.68.96.33
Elf-2	Fa0	Dynamic(59.68.96.35)	255.255.255.224	59.68.96.33

Holfort Royal Capital

- NA: 103.77.0.0
- SM: 255.255.240.0

Name	Interface	IP address	Subnet Mask	Default Gateway
Domain of HRC (Router)	Se0/2/0	20.0.0.1	255.255.255.252	N/A
Domain of HRC (Router)	Se0/3/1	30.0.0.1	255.255.255.252	N/A
Domain of HRC (Router)	Se0/3/0	40.0.0.1	255.255.255.252	N/A
Domain of HRC (Router)	Se0/2/1	50.0.0.1	255.255.255.252	N/A
Domain of HRC (Router)	G0/0	103.77.0.1	255.255.240.0	N/A
HRF DHCP Server	Fa0	103.77.0.2	255.255.240.0	103.77.0.1
HRF Web Server Capital	Fa0	103.77.0.3	255.255.240.0	103.77.0.1
HRF Web Server Royal	Fa0	103.77.0.4	255.255.240.0	103.77.0.1
Royal Court	Fa0	103.77.0.5	255.255.240.0	103.77.0.1
Lyria(vassal)	Fa0	103.77.0.6	255.255.240.0	103.77.0.1
Rivia(vassal)	Fa0	103.77.0.7	255.255.240.0	103.77.0.1
HRF Mail Server	Fa0	103.77.0.8	255.255.240.0	103.77.0.1
PC7	Fa0	Dynamic(103.77.0.27)	255.255.240.0	103.77.0.1
PC6	Fa0	Dynamic(103.77.0.28)	255.255.240.0	103.77.0.1

Redgrave Dutchy

- NA: 103.77.16.0
- SM: 255.255.252.0

Name	Interface	IP address	Subnet Mask	Default Gateway
Redgrave Domain(Router)	Se0/3/0	40.0.0.2	255.255.255.252	N/A
Redgrave Domain(Router)	Se0/3/1	60.0.0.1	255.255.255.252	N/A
Redgrave Domain(Router)	G0/0	103.77.16.1	255.255.252.0	N/A
PC0	Fa0	Dynamic(103.77.16.2)	255.255.252.0	103.77.16.1
PC1	Fa0	Dynamic(103.77.16.3)	255.255.252.0	103.77.16.1
DNS Server	Fa0	103.77.19.254	255.255.252.0	103.77.16.1

Roseblade House

- NA: 103.77.20.0
- SM: 255.255.254.0

Name	Interface	IP address	Subnet Mask	Default Gateway
Roseblade Domain(Router)	Se0/3/1	30.0.0.2	255.255.255.252	N/A
Roseblade Domain(Router)	G0/0	103.77.20.1	255.255.254.0	N/A
PC10	Fa0	Dynamic(103.77.20.2)	255.255.254.0	103.77.20.1
PC11	Fa0	Dynamic(103.77.20.3)	255.255.254.0	103.77.20.1

Atlee Earldom

- NA: 103.77.22.0
- SM: 255.255.254.0

Name	Interface	IP address	Subnet Mask	Default Gateway
House of Atlee Earldom(Router)	Se0/2/0	20.0.0.2	255.255.255.252	N/A
House of Atlee Earldom(Router)	Se0/3/0	70.0.0.1	255.255.255.252	N/A
House of Atlee Earldom(Router)	G0/0	103.77.22.1	255.255.254.0	N/A
PC8	Fa0	Dynamic(103.77.22.2)	255.255.254.0	103.77.22.1
PC9	Fa0	Dynamic(103.77.22.3)	255.255.254.0	103.77.22.1
Royal Court Minister	Fa0	Dynamic(103.77.22.4)	255.255.254.0	103.77.22.1

Name	Interface	IP address	Subnet Mask	Default Gateway
Atlee Mail Server	Fa0	103.77.23.254	255.255.254.0	103.77.22.1

Bartford Dutchy and Barony

Name	Interface	IP address	Subnet Mask	Default Gateway
Domain of Bartford(Router)	Se0/2/1	50.0.0.2	255.255.255.252	N/A
Domain of Bartford(Router)	Se0/3/1	60.0.0.2	255.255.255.252	N/A
Domain of Bartford(Router)	Se0/3/0	70.0.0.2	255.255.255.252	N/A

Bartford Barony

- NA: 103.77.24.0
- SM: 255.255.255.128

Name	Interface	IP address	Subnet Mask	Default Gateway
Domain of Bartford(Router)	G0/0	103.77.24.1	255.255.255.128	N/A
PC3	Fa0	Dynamic(103.77.24.2)	255.255.255.128	103.77.24.1
PC2	Fa0	Dynamic(103.77.24.3)	255.255.255.128	103.77.24.1

Bartford Dutchy

- NA: 103.77.24.128
- SM: 255.255.255.192

Name	Interface	IP address	Subnet Mask	Default Gateway
Domain of Bartford(Router)	G0/1	103.77.24.129	255.255.255.192	N/A
PC4	Fa0	Dynamic(103.77.24.130)	255.255.255.192	103.77.24.129
PC5	Fa0	Dynamic(103.77.24.131)	255.255.255.192	103.77.24.129
Bartford Dutchy Web Server	Fa0	103.77.24.190	255.255.255.192	103.77.24.129

Place	Name	Host Available	Host Needed	Unused Host	Network Address	Prefix Mask	Mask	Usable Range	Broadcast
Royal Capital	Host 1	4094	2790	1304	103.77.0.0	/20	255.255.240.0	103.77.0.1 - 103.77.15.254	103.77.15.255
Redgreve	Host 2	1022	1001	21	103.77.16.0	/22	255.255.252.0	103.77.16.1 - 103.77.19.254	103.77.19.255
Roseblade	Host 3	510	412	98	103.77.20.0	/23	255.255.254.0	103.77.20.1 - 103.77.21.254	103.77.21.255
Altee	Host 4	510	412	98	103.77.22.0	/23	255.255.254.0	103.77.22.1- 103.77.23.254	103.77.23.255
Bartford Barony	Host 5	126	121	5	103.77.24.0	/25	255.255.255.128	103.77.24.1- 103.77.24.126	103.77.24.127
Bartford Dutchy	Host 6	62	51	11	103.77.24.128	/26	255.255.255.192	103.77.24.129- 103.77.24.190	103.77.24.191

Assumptions

- Lyria and Rivia are placed as two vassal families in the royal capital. They have static IPs which is included in the 20 reserved IPs for vassal families
- Serial Connections between routers were given IPs in network 20-70.0.0.**.0 with mask 255.255.255.252 which can provide 2 usable hosts per subnet
- Dynamic Routing is done using Routing Information Protocol (RIP)

Packet Tracer Limitations

- Web server does not support subdomains hence capital.holfort.kingdom and royal.holfort.kingdom cannot be hosted in the same server
- Mail client does not accept domain suffix that is more than 4 character. That's why user@holfort.kingdom or user@atlee.kingdom do not work
- Mail server domain cannot be mail.domain.ext where email is user@domain.ext. So mail server is configured as domain.ext e.g. holfort.kgdm or atlee.kgdm. The above limitation also play a role in this one
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