

KPN

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01 | KPN PPPoE - IPv4

Deze instructie neemt je stap voor stap mee door de configuratie van KPN PPPoE op je FortiGate.

Stap 1 - VLAN 6 aanmaken

Bij onderstaand voorbeeld word wan1 gebruikt, let er op dat je het juiste interface koppelt.

```
config system interface
  edit "KPN-INET-VL6"
    set vdom "root"
    set role wan
    set interface "wan1"
    set mtu-override enable
    set mtu 1506
    set vlanid 6
  next
end
```

Stap 2 - PPPoE interface aanmaken

```
config system pppoe-interface
  edit "KPN-PPPoE"
    set device "KPN-INET-VL6"
    set username "internet"
    set password "internet"
  next
end
```

Stap 3 - PPPoE interface configureren

```
config system interface
  edit "KPN-PPPoE"
    set vdom "root"
```

```
set mode pppoe
set type tunnel
set external enable
set role wan
set dns-server-override disable
set interface "KPN-INET-VL6"
next
end
```

Stap 4 - Statische route aanmaken

```
config router static
edit 0
set device KPN-PPPoE
next
end
```

Stap 5 - Policy aanmaken

```
config firewall policy
edit 0
set name "any to internet - IPv4"
set srcintf "any"
set dstintf "KPN-PPPoE"
set action accept
set srcaddr "all"
set dstaddr "all"
set schedule "always"
set service "ALL"
set logtraffic all
set nat enable
next
end
```

Stap 6 - Internet connectiviteit testen

```
execute ping google.com
```


02 | KPN PPPoE - IPv6

Deze instructie gaat er vanuit dat je [01 | KPN PPPoE - IPv4](#) al gevolgd hebt.

Stap 1 - PPPoE interface voorzien van IPv6 flag

```
config system pppoe-interface
  edit "KPN-PPPoE"
    set ipv6 enable
  next
end
```

Stap 2 - PPPoE interface configureren met IPv6 adres

```
config system interface
  edit "KPN-PPPoE"
    config ipv6
      set ip6-address 2a02:xxxx:yyyy::ffff/128 ## Controleer je IPv6 prefix in de KPN app
    end
  next
end
```

Stap 3 - Statische route aanmaken

```
config router static6
  edit 0
    set device "KPN-PPPoE"
  next
end
```

Stap 4 - LAN interface configureren met IPv6 adres

```
config system interface
  edit "VLAN2001"
    config ipv6
      set ip6-address 2a02:xxxx:yyyy:2001::1/64
      set ip6-send-adv enable ## Verstuurd router advertisements
      set ip6-manage-flag enable ## Geeft aan dat je DHCP wil gebruiken in plaats van SLAAC
      set ip6-other-flag enable ## Geeft aan dat je middels DHCP de DNS servers mee wil geven
    end
  next
end
```

Stap 5 - DHCP server aanmaken

```
config system dhcp6 server
  edit 0
    set lease-time 86400
    set dns-service default
    set domain "domain.local"
    set subnet 2a02:xxxx:yyyy:2001::/64
    set interface "VLAN2001"
    config ip-range
      edit 1
        set start-ip 2a02:xxxx:yyyy:2001::1000
        set end-ip 2a02:xxxx:yyyy:2001::2000
      next
    end
  next
end
```

Stap 6 - Policy aanmaken

```
config firewall policy
  edit 0
```

```
set name "any to internet - IPv6"  
set srcintf "any"  
set dstintf "KPN-PPPoE"  
set action accept  
set srcaddr6 "all"  
set dstaddr6 "all"  
set schedule "always"  
set service "ALL"  
set logtraffic all  
next  
end
```

Stap 7 - Internet connectiviteit testen

```
execute ping6 google.com
```

03 | KPN - IPTV

In deze instructie maken we gebruik van VLAN1003 als IPTV VLAN

Stap 1 - VLAN 4 aanmaken

```
config system interface
  edit "KPN-IPTV-VL4"
    set vdom "root"
    set mode dhcp
    config client-options
      edit 1
        set code 60
        set type string
        set value "IPTV_RG"
      next
      edit 2
        set code 55
        set value "79"
      next
    end
  set distance 10
  set role wan
  set dns-server-override disable
  set interface "wan1"
  set vlanid 4
next
end
```

Stap 2 - Statische route aanmaken

```
config router static
  edit 0
    set dst 213.75.112.0 255.255.248.0
    set device "KPN-IPTV-VL4"
```

```
set dynamic-gateway enable
next
end
```

Stap 3 - IPTV VLAN aanmaken

```
config system interface
edit VLAN1003
set vdom "root"
set ip 10.10.3.6 255.255.255.248
set role lan
set interface "LACP" ## Replace with physical interface
set vlanid 1003
next
end
```

Stap 4 - DHCP server aanmaken

```
config system dhcp server
edit 0
set ntp-service local
set default-gateway 10.10.3.6
set netmask 255.255.255.248
set interface "VLAN1003"
config ip-range
edit 1
set start-ip 10.10.3.1
set end-ip 10.10.3.5
next
end
set dns-server1 195.121.1.34
set dns-server2 195.121.1.66
next
end
```

Stap 5 - Multicast policies aanmaken

```
config firewall multicast-policy
edit 0
    set name "iTv > KPN"
    set logtraffic enable
    set srcintf "VLAN1003" ## Replace with IPTV VLAN
    set dstintf "KPN-IPTV-VL4"
    set srcaddr "all"
    set dstaddr "all"
    set snat enable
next
edit 0
    set name "KPN > iTv"
    set logtraffic enable
    set srcintf "KPN-IPTV-VL4"
    set dstintf "VLAN1003" ## Replace with IPTV VLAN
    set srcaddr "all"
    set dstaddr "all"
next
end
```

Stap 6 - IPTV policy maken richting KPN

```
config firewall policy
edit 0
    set name "IPTV to KPN"
    set srcintf "VLAN1003" ## Replace with IPTV VLAN
    set dstintf "KPN-IPTV-VL4"
    set srcaddr "all"
    set dstaddr "all"
    set action accept
    set schedule "always"
    set service "ALL"
    set logtraffic all
    set nat enable
next
end
```

Stap 7 - Internet policy maken voor TV ontvanger

Deze stap is bedoeld om streamingsdiensten zoals Netflix of Spotify te laten werken

```
config firewall policy
  edit 0
    set name "IPTV to internet"
    set srcintf "VLAN1003" ## Replace with IPTV VLAN
    set dstintf "KPN-INET-VL6"
    set srcaddr "all"
    set dstaddr "all"
    set action accept
    set schedule "always"
    set service "ALL"
    set logtraffic all
    set nat enable
  next
end
```