Using Netkit, implement the network scenario depicted in the above figure and described below (you can use the following items as a checklist).

- Remember to configure a default route where required.
- No routers announce the default route 0.0.0.0/0 or any IPv6 subnets.
- Routing within AS100 is implemented by using OSPF. All the interfaces belong to area 0.0.0.0, and the indicated costs are assigned to the interfaces of r101 and r103.
- AS20 is a transit AS that uses RIP. Therefore, r21 and r23 redistribute eBGP as well as loopback addresses within RIP.
- Every border router announces the peering subnets besides the subnets of the AS it belongs to (indicated in the AS number e.g. 200.0.0.0/24).
- AS20’s border routers establish an iBGP peering using loopback interfaces (use update-source IPADDRESS).
- AS50 is a customer of AS100 and AS200. As such, it forbids transit traffic.
- AS200 prefers using link R for outgoing traffic.

- w1, w2, and w3 are Web servers running Apache; they serve a default Web page, different for each server.
- balancer is a layer-4 switch having VIP 10.0.12.2, which realizes a round-robin policy implemented by the following configuration:
  ```sh
  iptables -t nat -A PREROUTING -d 10.0.12.2 -m statistic --mode nth --every 2 --jump DNAT --to-destination 10.0.20.1
  ```
- r101 is p1’s local name server (reached over IPv6 - remember to bind the server on IPv6); r201 is p2’s local name server.
- rootns1 and rootns2 are root name servers with anycast address 8.8.4.4; infons is the authority for info. r102 is the authority for cloud.info (pick one of its IP addresses as the name server’s address).
- p1.cl0ud.info is associated with p1’s IPv6 address; p2.cl0ud.info is associated with p2’s IPv4 address; a DNS-based round-robin load balancing is implemented on www.cloud.info, between AS100’s server farm (10.0.12.2) and AS50’s server farm (10.0.30.2).

- Enable IPv6 forwarding on network nodes that act as IPv6 routers.
- IPv6 routing is implemented using static routes.
- An IPv6-in-IPv4 tunnel is established between r103’s eth0 interface and r201’s eth3 interface.