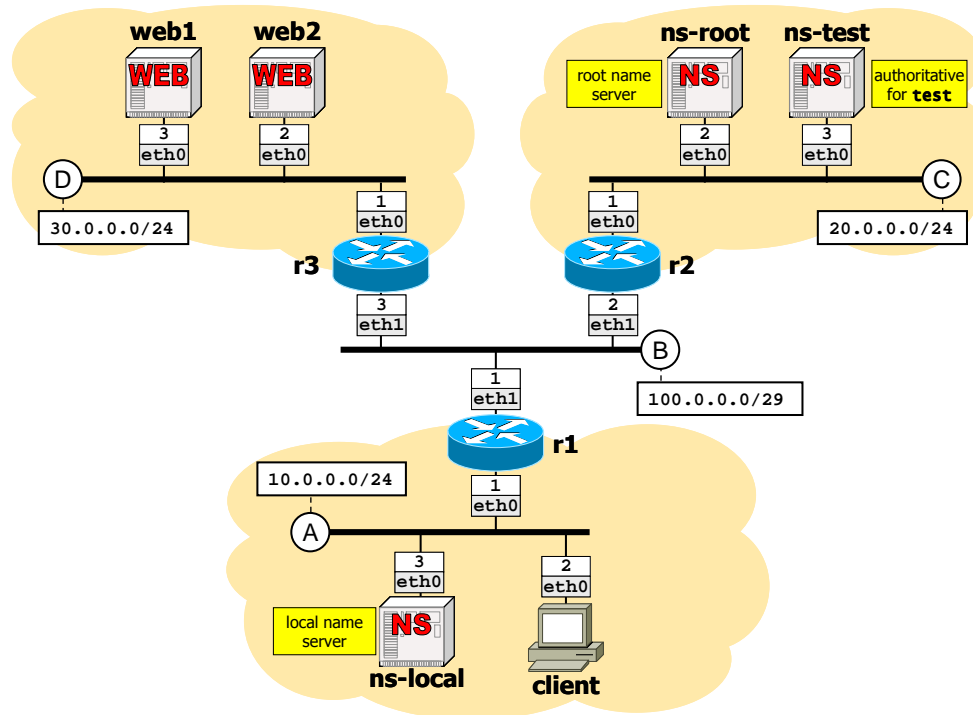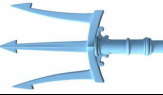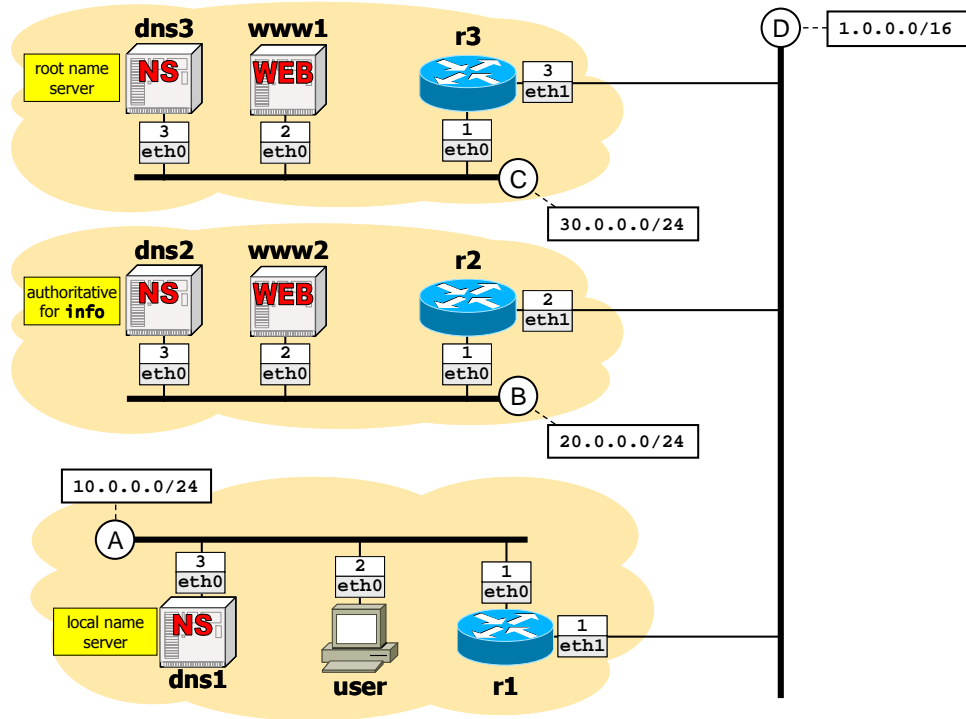**Available time: 120 minutes.**

Using Netkit, implement the network shown in the figure and described below.

- Routing in this network is to be implemented statically (remember to set a default route on all the machines that are internal to each LAN).
- **ns-root**, **ns-test**, and **ns-local** are name servers:
    - **ns-root** is the root name server;
    - **ns-test** is the authority for **test**;
    - **ns-local** is a local name server that serves requests from machines within **10.0.0.0/24**.
- **web1** and **web2** are Web servers that run apache2:
    - both servers are assigned the DNS name **server.test**; a suitable DNS-based policy is set up to dispatch web page requests to **web1** and **web2** in a balanced way; in order to implement such policy, add to the applicable name servers two records with type **A** for the same name **server.test** and with the IP addresses of the two servers;
    - both servers offer a single web page **http://server.test/~guest/prova.html**, which can have arbitrary contents.

<mark>**Goal**: **client** must be able to access the Web page exposed by user guest on **server.test** by using **links**. Moreover, it must be verified that the Web page is alternately served by each one of the two Web servers (this may require restarting **links**).</mark>
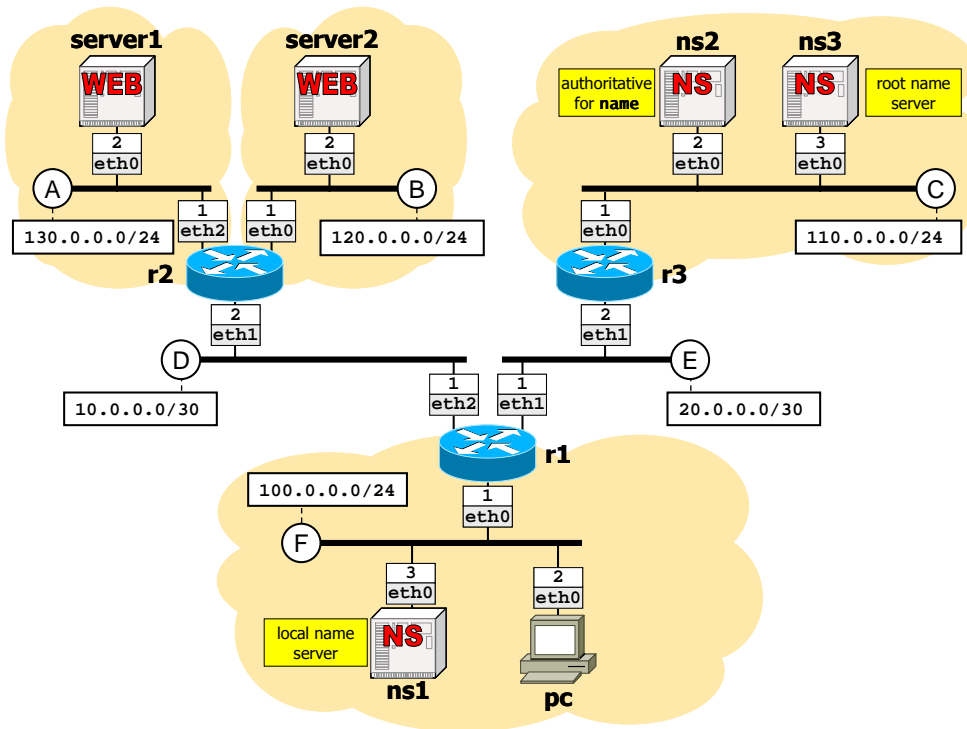
Available time: 120 minutes.

Using Netkit, implement the network shown in the figure and described below.

- Routing in this network is to be implemented statically (remember to set a default route on all the machines that are internal to each LAN).
- **dns1**, **dns2**, and **dns3** are name servers:
    - **dns1** is a local name server that serves requests from machines within **10.0.0.0/24**;
    - **dns2** is the authority for **info**;
    - **dns3** is the root name server.
- **www1** and **www2** are Web servers that run apache2:
    - both servers are assigned the DNS name **server.info**; a suitable DNS-based policy is set up to dispatch web page requests to **www1** and **www2** in a balanced way; in order to implement such policy, add to the applicable name servers two records with type **A** for the same name **server.info** and with the IP addresses of the two servers;
    - both servers offer a single web page **http://server.info/~guest/prova.html**, which can have arbitrary contents.

Goal: **user** must be able to access the Web page exposed by user guest on **server.info** by using **links**. Moreover, it must be verified that the Web page is alternately served by each one of the two Web servers (this may require restarting **links**).
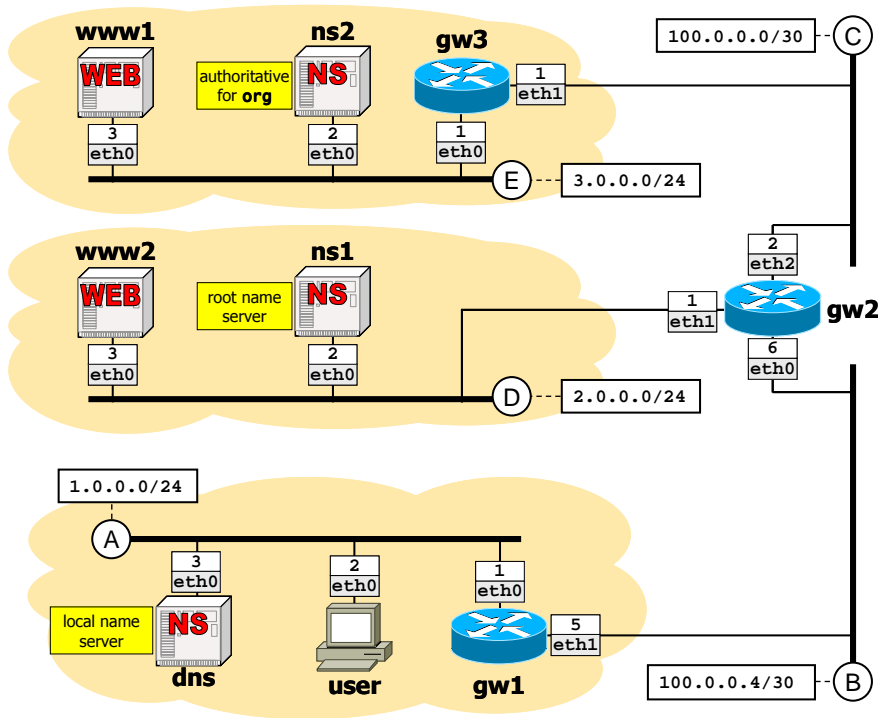
Using Netkit, implement the network shown in the figure and described below.

- Routing in this network is to be implemented statically (remember to set a default route on all the machines that are internal to each LAN).
- **ns1**, **ns2**, and **ns3** are name servers:
  - **ns1** is a local name server that serves requests from machines within **100.0.0.0/24**;
  - **ns2** is the authority for **name**;
  - **ns3** is the root name server.
- **server1** and **server2** are Web servers that run apache2:
  - both servers are assigned the DNS name **server.name**; a suitable DNS-based policy is set up to dispatch web page requests to **server1** and **server2** in a balanced way; in order to implement such policy, add to the applicable name servers two records with type **A** for the same name **server.name** and with the IP addresses of the two servers;
  - both servers offer a single web page **http://server.name/~guest/prova.html**, which can have arbitrary contents.

Goal: **pc** must be able to access the Web page exposed by user guest on **server.name** by using **links**. Moreover, it must be verified that the Web page is alternately served by each one of the two Web servers (this may require restarting **links**).

Available time: 120 minutes.

Using Netkit, implement the network shown in the figure and described below.

- Routing in this network is to be implemented statically (remember to set a default route on all the machines that are internal to each LAN).
- **dns**, **ns1**, and **ns2** are name servers:
  - **ns1** is the root name server;
  - **ns2** is the authority for **org**;
  - **dns** is a local name server that serves requests from machines within **1.0.0.0/24**.
- **www1** and **www2** are Web servers that run apache2:
  - both servers are assigned the DNS name **server.org**; a suitable DNS-based policy is set up to dispatch web page requests to **www1** and **www2** in a balanced way; in order to implement such policy, add to the applicable name servers two records with type **A** for the same name **server.org** and with the IP addresses of the two servers;
  - both servers offer a single web page **http://server.org/~guest/prova.html**, which can have arbitrary contents.

Goal: **user** must be able to access the Web page exposed by user guest on **server.org** by using **links**. Moreover, it must be verified that the Web page is alternately served by each one of the two Web servers (this may require restarting **links**).