Lab objective: make machine on N1 able to ping one on N3

Assign network and host addresses

- Select an IP network (net addr & netmask combo) for N1, another for N3
- Select from those networks addresses for R1’s eth0 and R2’s eth1
- Select an appropriate address for R1’s eth1
- Write these all (2 networks and 3 addresses) down at right

Write R1’s route table

<table>
<thead>
<tr>
<th>Destination</th>
<th>Next hop (gateway entry)</th>
<th>Direct delivery (interface entry)</th>
</tr>
</thead>
<tbody>
<tr>
<td>N1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>N2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>N3</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Write R2’s route table

<table>
<thead>
<tr>
<th>Destination</th>
<th>Next hop (gateway entry)</th>
<th>Direct delivery (interface entry)</th>
</tr>
</thead>
<tbody>
<tr>
<td>N1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>N2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>N3</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Write the linux syntax for each route table entry

From R1
- to N1:
- to N2:
- to N3:

From R2
- to N1:
- to N2:
- to N3:

Reference – linux syntax

- host route - to a single machine
  - route add -host 192.168.4.2 eth0
- network route, local - to a group of machines
  - route add -net 192.168.4.0 netmask 255.255.255.0 eth0
- network route, thru gateway - to a group of machines
  - route add -net 192.168.5.0 netmask 255.255.255.0 gw 192.168.4.1
- default route - to “any and all” else
  - route add default gw 192.168.4.1