|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Communications** | | **Commande** | **Depuis le poste** | **Résultats de la commande** |
| PC0 | PC1 | Ping PC1 | PC0 | Succesful |
| PC0 | PC2 | Ping PC2 | PC0 | Succesful |
| PC0 | PC3 | Ping PC3 | PC0 | Failed |
| PC1 | PC2 | Ping PC2 | PC1 | Succesful |
| PC1 | PC3 | Ping PC3 | PC1 | Failed |
| PC2 | PC3 | Ping PC3 | PC2 | Failed |

Exercice 2

3)

4)L’adresse IP diffère au niveau du troisième élément(PC3) et son masque n’autorise pas le changement du troisième élément pour conformer avec l’adresse des autres PC.

5)Adresse IP :192.168.0.1

Masque de sous-réseau :255.255.255.0

6)a)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Exp**  **No** | **PC1** | | **PC2** | | **Communication possible?** |
| **Adresse IP** | **Masque** | **Adresse IP** | **Masque** |
| 1 | 10.12.130.21 | 255.0.0.0 | 10.33.33.33 | 255.0.0.0 | ✔ |
| 2 | 111.111.222.222 | 255.255.0.0 | 111.111.111.111 | 255.255.0.0 | ✔ |
| 3 | 180.12.200.1 | 255.255.240.0 | 180.12.100.2 | 255.255.240.0 | **X** |
| 4 | 1.2.3.4 | 255.0.0.0 | 1.33.3.4 | 255.0.0.0 | ✔ |
| 5 | 172.30.0.25 | 255.255.255.128 | 172.30.0.1 | 255.255.255.128 | ✔ |
| 6 | 126.1.1.1 | 255.192.0.0 | 12 6.111.111.111 | 255.192.0.0 | **X** |

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| **Expérimentation n°1** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **PC1** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Adresse IP | 10 | | | | | | | | 12 | | | | | | | | | 130 | | | | | | | | | 21 | | | | | | | | |
| 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | |
| Masque de sous réseau | 255 | | | | | | | | 0 | | | | | | | | | 0 | | | | | | | | | 0 | | | | | | | | |
| 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Adresse réseau= ‘IP’ AND ‘Masque’ | 10 | | | | | | | | 0 | | | | | | | | | 0 | | | | | | | | | 0 | | | | | | | | |
| 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| **PC2** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Adresse IP | 10 | | | | | | | | 33 | | | | | | | | | 33 | | | | | | | | | 33 | | | | | | | | |
| 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | |
| Masque de sous réseau | 255 | | | | | | | | 0 | | | | | | | | | 0 | | | | | | | | | 0 | | | | | | | | |
| 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Adresse réseau= ‘IP’ AND ‘Masque’ | 10 | | | | | | | | 0 | | | | | | | | | 0 | | | | | | | | | 0 | | | | | | | | |
| 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| **Y’a-t-il Communication entre PC et PC2 Oui** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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| **Expérimentation n°2** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **PC1** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Adresse IP | 111 | | | | | | | | 111 | | | | | | | | 222 | | | | | | | | 222 | | | | | | | |
| 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 |
| Masque de sous réseau | 255 | | | | | | | | 0 | | | | | | | | 0 | | | | | | | | 0 | | | | | | | |
| 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Adresse réseau= ‘IP’ AND ‘Masque’ | 111 | | | | | | | | 0 | | | | | | | | 0 | | | | | | | | 0 | | | | | | | |
| 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **PC2** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Adresse IP | 111 | | | | | | | | 111 | | | | | | | | 111 | | | | | | | | 111 | | | | | | | |
| 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1 |
| Masque de sous réseau | 255 | | | | | | | | 0 | | | | | | | | 0 | | | | | | | | 0 | | | | | | | |
| 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Adresse réseau= ‘IP’ AND ‘Masque’ | 111 | | | | | | | | 0 | | | | | | | | 0 | | | | | | | | 0 | | | | | | | |
| 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Y’a-t-il Communication entre PC et PC2 Oui** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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| **Expérimentation n°3** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **PC1** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Adresse IP | 180 | | | | | | | | 12 | | | | | | | | 200 | | | | | | | | 1 | | | | | | | |
| 1 | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Masque de sous réseau | 255 | | | | | | | | 255 | | | | | | | | 240 | | | | | | | | 0 | | | | | | | |
| 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Adresse réseau= ‘IP’ AND ‘Masque’ | 180 | | | | | | | | 12 | | | | | | | | 192 | | | | | | | | 0 | | | | | | | |
| 1 | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **PC2** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Adresse IP | 180 | | | | | | | | 12 | | | | | | | | 100 | | | | | | | | 2 | | | | | | | |
| 1 | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| Masque de sous réseau | 255 | | | | | | | | 255 | | | | | | | | 240 | | | | | | | | 0 | | | | | | | |
| 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Adresse réseau= ‘IP’ AND ‘Masque’ | 180 | | | | | | | | 12 | | | | | | | | 96 | | | | | | | | 0 | | | | | | | |
| 1 | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Y’a-t-il Communication entre PC et PC2 ? Non** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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| **Expérimentation n°4** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **PC1** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Adresse IP | 1 | | | | | | | | 2 | | | | | | | | 3 | | | | | | | | 4 | | | | | | | |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| Masque de sous réseau | 255 | | | | | | | | 0 | | | | | | | | 0 | | | | | | | | 0 | | | | | | | |
| 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Adresse réseau= ‘IP’ AND ‘Masque’ | 1 | | | | | | | | 0 | | | | | | | | 0 | | | | | | | | 0 | | | | | | | |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **PC2** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Adresse IP | 1 | | | | | | | | 33 | | | | | | | | 3 | | | | | | | | 4 | | | | | | | |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| Masque de sous réseau | 255 | | | | | | | | 0 | | | | | | | | 0 | | | | | | | | 0 | | | | | | | |
| 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Adresse réseau= ‘IP’ AND ‘Masque’ | 1 | | | | | | | | 0 | | | | | | | | 0 | | | | | | | | 0 | | | | | | | |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Y’a-t-il Communication entre PC et PC2 ? Oui** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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| **Expérimentation n°5** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **PC1** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Adresse IP | 172 | | | | | | | | 30 | | | | | | | | 0 | | | | | | | | 25 | | | | | | | |
| 1 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 |
| Masque de sous réseau | 255 | | | | | | | | 255 | | | | | | | | 255 | | | | | | | | 128 | | | | | | | |
| 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Adresse réseau= ‘IP’ AND ‘Masque’ | 172 | | | | | | | | 30 | | | | | | | | 0 | | | | | | | | 0 | | | | | | | |
| 1 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **PC2** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Adresse IP | 172 | | | | | | | | 30 | | | | | | | | 0 | | | | | | | | 1 | | | | | | | |
| 1 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Masque de sous réseau | 255 | | | | | | | | 255 | | | | | | | | 255 | | | | | | | | 128 | | | | | | | |
| 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Adresse réseau= ‘IP’ AND ‘Masque’ | 172 | | | | | | | | 30 | | | | | | | | 0 | | | | | | | | 0 | | | | | | | |
| 1 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Y’a-t-il Communication entre PC et PC2 ? Oui** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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| **Expérimentation n°6** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **PC1** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Adresse IP | 126 | | | | | | | | 1 | | | | | | | | 1 | | | | | | | | 1 | | | | | | | |
| 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Masque de sous réseau | 255 | | | | | | | | 192 | | | | | | | | 0 | | | | | | | | 0 | | | | | | | |
| 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Adresse réseau= ‘IP’ AND ‘Masque’ | 126 | | | | | | | | 0 | | | | | | | | 0 | | | | | | | | 0 | | | | | | | |
| 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **PC2** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Adresse IP | 126 | | | | | | | | 111 | | | | | | | | 111 | | | | | | | | 111 | | | | | | | |
| 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1 |
| Masque de sous réseau | 255 | | | | | | | | 192 | | | | | | | | 0 | | | | | | | | 0 | | | | | | | |
| 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Adresse réseau= ‘IP’ AND ‘Masque’ | 126 | | | | | | | | 64 | | | | | | | | 0 | | | | | | | | 0 | | | | | | | |
| 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Y’a-t-il Communication entre PC et PC2 ? Non** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Exercice 3

4)Un hub envoie le PDU à toutes les PC connectés à celui-ci, un switch envoie le PDU à toutes les machines connectées à ce dernier.

Exercice 4

5)

|  |  |  |
| --- | --- | --- |
| **Poste** | **Adresse IP** | **Masque de sous-réseau** |
| Laptop1 | 10.2.2.2 | 255.0.0.0 |
| Laptop2 | 10.2.2.3 | 255.0.0.0 |
| Laptop3 | 10.2.2.4 | 255.0.0.0 |