**TP1 : Découverte de Packet Tracer**

DUPONT Corentin

CLAUSSE Nathan

**Exercice 1 : (Premiers pas avec Packet Tracer )**

**Exercice 2 : (Maquette d’un réseau simple)**

1. Réalisez le réseau suivant sous Packet Tracer (figure 2) :

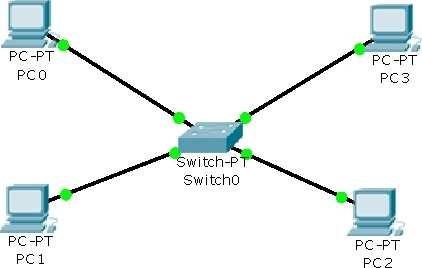


Figure 2 – Maquette d’un réseau simple dans Packet Tracer

1. Réalisez l’adressage IP suivant le plan d’adressage suivant (table 3) :

|  |  |  |
| --- | --- | --- |
| **Poste** | **Adresse IP** | **Masque de sous-réseau** |
| PC0 | 192.168.0.2 | 255.255.255.0 |
| PC1 | 192.168.0.5 | 255.255.255.0 |
| PC2 | 192.168.0.9 | 255.255.255.0 |
| PC3 | 192.168.1.2 | 255.255.255.0 |

Table 3 – Exemple de plan d’adressage

1. Réalisez les tests nécessaires pour valider la communication ou non entre 2 postes comme décrit dans la table

4)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Communications** | | **Commande** | **Depuis le poste** | **Résultats de la commande** |
| PC0 | PC1 | **ping 192.168.0.5** | **PC0** | **OK : Packets: Sent = 4, Received = 4, Lost = 0 (0% loss)** |
| PC0 | PC2 | **ping 192.168.0.9** | **PC0** | **OK : Packets: Sent = 4, Received = 4, Lost = 0 (0% loss)** |
| PC0 | PC3 | **ping 192.168.1.2** | **PC0** | **Time out : Packets: Sent = 4, Received = 0, Lost = 4 (100% loss)** |
| PC1 | PC2 | **ping 192.168.0.9** | **PC1** | **OK : Packets: Sent = 4, Received = 4, Lost = 0 (0% loss)** |
| PC1 | PC3 | **ping 192.168.1.2** | **PC1** | **Time out : Packets: Sent = 4, Received = 0, Lost = 4 (100% loss)** |
| PC2 | PC3 | **ping 192.168.1.2** | **PC2** | **Time out : Packets: Sent = 4, Received = 0, Lost = 4 (100% loss)** |

Table 4 – Tests de communication entre deux postes

1. Pourquoi la communication avec le poste PC3 est-elle impossible ?

**Elle est impossible car d’après l’adressage IP, toutes les adresses en 192.168.0.0 peuvent communiquer entre elles mais pas celle en 192.168.1.0 parce qu’elle ne fait pas partie du même sous réseau.**

1. Proposez et tester l’utilisation d’autres "adresses IP/Masque de sous réseau" pour permettre la communication entre le poste PC3 et les autres postes.

**J’ai testé 192.168.0.69 et le ping est OK car il fait partie de même plan d’adressage que les autre**

1. Dans la suite de cet exercice, nous allons travailler uniquement avec PC1 et PC2.
2. Modifiez et notez la possibilité de communications ou non pour les adresses IP et masque de sous réseau des PC1 et PC2 en suivant les paramètres de la table 5 :

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **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 | **OK : Packets: Sent = 4, Received = 4, Lost = 0 (0% loss)** |
| 2 | 111.111.222.222 | 255.255.0.0 | 111.111.111.111 | 255.255.0.0 | **Time out : Packets: Sent = 4, Received = 0, Lost = 4 (100% loss)** |
| 3 | 180.12.200.1 | 255.255.240.0 | 180.12.100.2 | 255.255.240.0 | **OK : Packets: Sent = 4, Received = 4, Lost = 0 (0% loss)** |
| 4 | 1.2.3.4 | 255.0.0.0 | 1.33.3.4 | 255.0.0.0 | **OK : Packets: Sent = 4, Received = 4, Lost = 0 (0% loss)** |
| 5 | 172.30.0.25 | 255.255.255.128 | 172.30.0.1 | 255.255.255.128 | **OK : Packets: Sent = 4, Received = 4, Lost = 0 (0% loss)** |
| 6 | 126.1.1.1 | 255.192.0.0 | 12 6.111.111.111 | 255.192.0.0 | **Time out : Packets: Sent = 4, Received = 0, Lost = 4 (100% loss)** |

Table 5 – Nouveau plan d’adressage

1. Pour comprendre pourquoi la communication se fait ou non, remplissez pour chacune des expérimentations

le tableau représentée dans la figure 3.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **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 ET**  **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 ET**  **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'a­t­il communication entre PC1 et PC2 ?** **Oui** | | | | | | |  |  |  |  |  | |  |  |  |  |  | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **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** | | | | | |  |  | **255** | |  | |  |  |  |  | **0** | |  |  |  |  |  |  | **0** | |  |  |  |  |  |  |
| **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** | **0** | **0** | **0** | **0** |
| **Adresse réseau = IP ET**  **Masque** | **111** | | | | | |  |  | **111** | |  | |  |  |  |  | **0** | |  |  |  |  |  |  | **0** | |  |  |  |  |  |  |
| **0** | **1** | **1** | **0** | **1** | **1** | **1** | **1** | **0** | **1** | **1** | **0** | **1** | **1** | **1** | **1** | **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** | | | | | |  |  | **255** | |  | |  |  |  |  | **0** | |  |  |  |  |  |  | **0** | |  |  |  |  |  |  |
| **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** | **0** | **0** | **0** | **0** |
| **Adresse réseau = IP ET**  **Masque** | **111** | | | | | |  |  | **111** | |  | |  |  |  |  | **0** | |  |  |  |  |  |  | **0** | |  |  |  |  |  |  |
| **0** | **1** | **1** | **0** | **1** | **1** | **1** | **1** | **0** | **1** | **1** | **0** | **1** | **1** | **1** | **1** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** |
| **Y'a-t-il communication entre PC1 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 ET**  **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 ET**  **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 PC1 et PC2 ? Non** | | | | | | |  |  |  | |  | |  |  |  |  |  | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **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 ET**  **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 ET**  **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 PC1 et PC2 ? Oui** | | | | | |  |  |  |  |  |  | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **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 ET**  **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** | | **00** | | **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** | | **00** | | **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 ET**  **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 PC1 et PC2 ? Oui** | | | | | | |  | |  | |  | | |  | | |  | |  | |  | |  | |  | | |  | |  | |  | |  | |  | |  | |  | | |  | |  | |  | |  | |  | |  |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Expérimentation n°6** | | | | | | |  |  |  | |  | |  |  |  |  |  | |  |  |  |  |  |  |  | |  |  |  |  |  |  |
|  | | | | | | |  |  |  | | **PC1** | |  |  |  |  |  | |  |  |  |  |  |  |  | |  |  |  |  |  |  |
| **Adresse IP** | **126** | | | | | |  |  | **1** | |  | |  |  |  |  | **1** | |  |  |  |  |  |  | **1** | |  |  |  |  |  |  |
| **1** | **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 ET**  **Masque** | **126** | | | | | |  |  | **0** | |  | |  |  |  |  | **0** | |  |  |  |  |  |  | **0** | |  |  |  |  |  |  |
| **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** | **0** |
|  | | | | | | |  |  |  | | **PC2** | |  |  |  |  |  | |  |  |  |  |  |  |  | |  |  |  |  |  |  |
| **Adresse IP** | **126** | | | | | |  |  | **111** | |  | |  |  |  |  | **111** | |  |  |  |  |  |  | **111** | |  |  |  |  |  |  |
| **1** | **1** | **1** | **1** | **1** | **1** | **1** | **0** | **1** | **1** | **0** | **1** | **1** | **1** | **1** | **1** | **1** | **1** | **0** | **1** | **1** | **1** | **1** | **1** | **1** | **1** | **0** | **1** | **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 ET**  **Masque** | **126** | | | | | |  |  | **192** | |  | |  |  |  |  | **0** | |  |  |  |  |  |  | **0** | |  |  |  |  |  |  |
| **1** | **1** | **1** | **1** | **1** | **1** | **1** | **0** | **1** | **1** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** |
| **Y'a­t­il communication entre PC1 et PC2 ? Non** | | | | | | |  |  |  | |  | |  |  |  |  |  | |  |  |  |  |  |  |  | |  |  |  |  |  |  |

1. Donnez la condition pour laquelle, il y a communication entre les 2 stations.

**Ils doivent être sur le même réseau.**

**Exercice 3 : (Utilisation de concentrateurs/hubs et commutateurs/switchs)**

1) Réalisez le montage réseau de la figure 4.

1. Configurez les stations pour qu’elles aient toutes des adresses IP contenu dans le réseau 192.168.3.0 (masque : 255.255.255.0).
2. Utilisez le mode simulation pour visualiser le trajet d’une information entre PC1 et PC2.
3. Donnez la principale différence de fonctionnement entre un concentrateur (hub) et un commutateur (switch).

**Quand le hub reçoit une information il l'envoi "partout", alors que le switch qui reçoit une information la redirige uniquement vers le bon destinataire**

**Exercice 4 : (Utilisation d’un point d’accès Wifi)**

1) Réalisez le montage réseau de la figure 5.

1. Configurez les 2 stations et le point d’accès sans-fil à l’aide de la table 6.

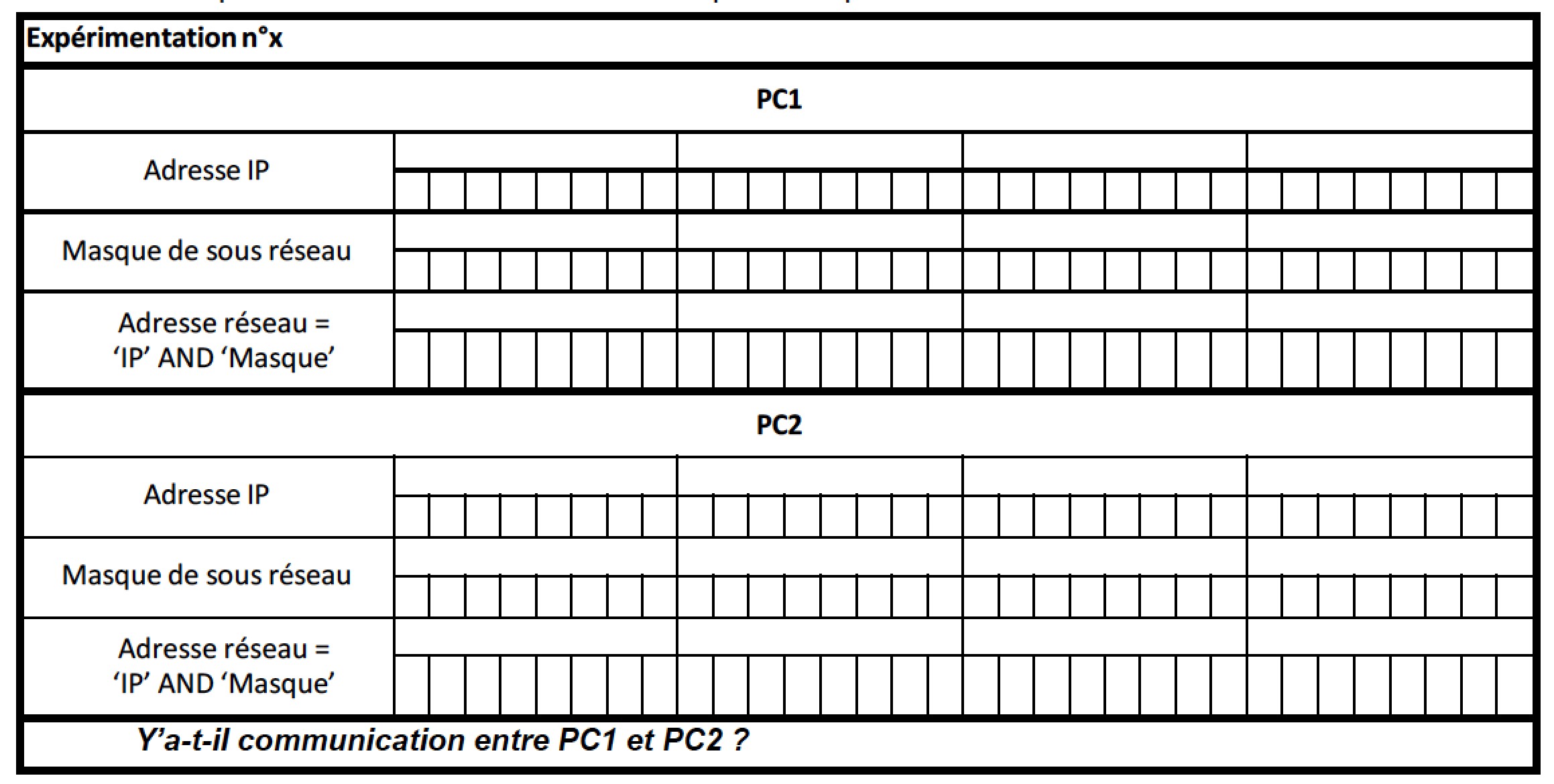


Figure 3 – Table de test du masque réseau

|  |  |  |
| --- | --- | --- |
|  | **Configuration IP** | |
| **Poste** | **Adresse IP** | **Masque de sous-réseau** |
| PC0 | 10.1.1.1 | 255.0.0.0 |
| Laptop0 | 10.2.2.2 | 255.0.0.0 |
|  | **Configuration Wifi** | |
| SSID | PacketWifi | |
| Canal | 8 | |
| Type de cryptage | WEP | |
| Clé WEP | ABCDEABCDE | |

Table 6 – Configuration de l’adressage

1. Testez la bonne communication entre les 2 stations.
2. Ajoutez plusieurs portables et configurez-les pour qu’ils puissent communiquer ensemble.
3. Complétez le plan d’adressage ci-dessous (table 7).

|  |  |  |
| --- | --- | --- |
| **Poste** | **Adresse IP** | **Masque de sous-réseau** |
| Laptop1 | **10.3.3.3** | **255.0.0.0** |
| Laptop2 | **10.4.4.4** | **255.0.0.0** |
| Laptop3 | **10.5.5.5** | **255.0.0.0** |

Table 7 – Plan d’adressage réseau sans fil

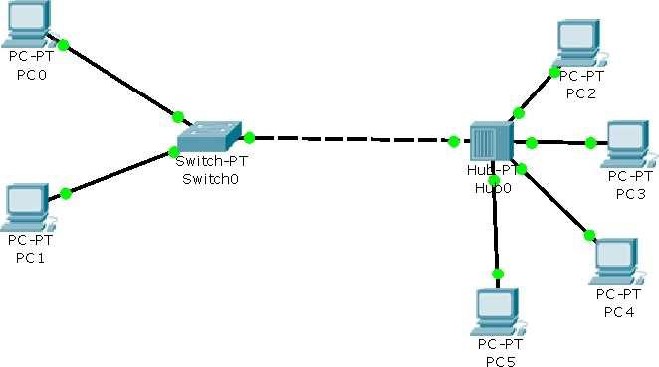


Figure 4 – Maquette réseau à réaliser

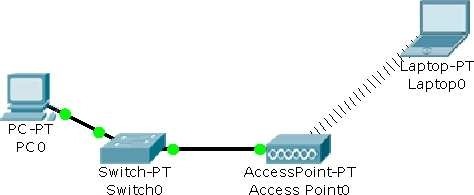


Figure 5 – Maquette réseau sans fil à réaliser