



BTS IT Services for Organizations

*Infrastructure Solutions,
Systems and Networks Option*

SISR Option

*Exam E6 – Administration of
Systems and Networks*



Technical Sheet

Situation 1 :

Setup of a domain controller on Windows Server 2016 with the following services: Active Directory, Group Policies, Domain Name Server, File Server, Web Server, and High Availability.

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Document Purpose

The table below defines the purpose of this document

Client : EFFICIENCE-ITCT	Project Name : E6 - Windows Server Technical Sheet Project Number : 1 Revision : 2.0		
Author : Clément TEISSIER Organization : AFTEC Formation	Date : 24/08/2024	Locations : SharePoint AFTEC Teams AFTEC efficiency-itct.com	Document Name : E6_TEISSIER_sit1_WSRV_e n.docx
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Change Management

The table below shows the history of modifications made to this document

Publication Date	Version	Author	Changes
25/07/2024	1.0	Clément TEISSIER	Initial Document
20/08/2024	1.1	Clément TEISSIER	Completion (Year 1)
24/08/2024	1.2	Clément TEISSIER	Update (Year 1)
08/09/2024	1.3	Clément TEISSIER	Procedures / Contact / AD1 Diagram
21/01/2025	2.0	Clément TEISSIER	Layout, AD2 Diagram & Network
03/02/2025	2.1	Clément TEISSIER	Completion (Year 2: DFS)
23/02/2025	2.2	Clément TEISSIER	Finalization (Image Imports)
17/03/2025	2.3	Clément TEISSIER	Update of Lab Mockup Diagram
19/03/2025	2.4	Clément TEISSIER	Addition of DFSR

Validation / Approval

The table below contains confirmation and agreement details for this document

	Name	Date
Written by	Clément TEISSIER	25/07/2024
Validated by	Yann LANEAU	
Observer	Nicolas RIO	09/09/2024

Recipients

The table below lists the beneficiaries of this document

AFTEC Training	EFFICIENCE-IT	External
Yann LANEAU	Clément TEISSIER	Jury Members
Philippe PINCHON	Nicolas RIO	efficiency-itct.com
A1-23/25B-BTS_SIO_SISR	Support Team	IT Recruiter / Headhunter
Other SIO Classes	IT Staff	IT Community

Summary Table

Activity Nature
<p>Context : As part of my training, I set up a test environment consisting of a server that hosts virtual machines and a domain controller.</p>
<p>Objectives : Domain Controller, Active Directory, Domain Name Server, Group Policy, File Server, Web Server.</p>

Implementation Conditions	
<p>Equipment : Desktop PC-SLAM-01 :</p> <ul style="list-style-type: none"> - CPU i5-7400 3GHz 4 Core / 4 vCore - 16 GB Memory - 250 GB Hard Disk <p>SISR09</p>	<p>Constraints :</p> <ul style="list-style-type: none"> - Slowdowns caused by temporary files - Slowness due to updates - Unexpected restarts - Power outages or micro-outages - Software or hardware failures
<p>Software :</p> <ul style="list-style-type: none"> - RDP client - Hyper-V console - OneNote and OneDrive Etu Aftec - Word. 	<p>Requirements :</p> <ul style="list-style-type: none"> - Type 1 hypervisor - Network access to the server - Sufficient volatile memory - Significant storage space
<p>Challenges Encountered :</p> <ul style="list-style-type: none"> - NAT routing - Script retrieval. 	<p>Execution duration :</p> <ul style="list-style-type: none"> - One year of production (first year) - Personal drafting time

Client Request
<ul style="list-style-type: none"> - Centralized management of organizational users - Centralized management of IT system security - Centralized management of collaborative office sharing

Potential Solutions
<ul style="list-style-type: none"> - Implementation of Active Directory Domain Services (AD DS) - SAMBA OPEN LDAP

Recommendations
<ul style="list-style-type: none"> - Automation of system administration tasks - Usability of the tool - Organization and nomenclature - High availability of services

Chosen Solution
<ul style="list-style-type: none"> - The chosen solution is to use Active Directory as it is an LDAP directory
<p>Initial Conditions :</p> <ul style="list-style-type: none"> - Functional hypervisor
<p>Final Result :</p> <ul style="list-style-type: none"> - Implementation of Active Directory and integration of services
<p>Tools Used :</p> <ul style="list-style-type: none"> - PowerShell ISE - Excel spreadsheet - Notepad++ - Notepad

Additional Technical Solutions			
Client Request	Viable Solution	Recommendation	Chosen Solution
Intranet	WAMP / XAMP	Centralized system administration	IIS
Email	On-Premise / Cloud	Heavy client	Exchange
Chat tool	Lotus Note / Teams	Heavy client / Office Suite	Teams
Ticketing / asset management	GLPI / Itop	Automated collection	GLPI / Fusion
Backup	Veeam Backup and Replication	Centralized system administration	Windows Server Backup
Remote access	TeamViewer / VNC	Lightweight client	Quick Assist
Site-to-site connection	Firewall box VPN	Usage separation	OpenVPN server
Resource sharing	Trust relationship	Short-term common work	DFS Root
Client workstation security	Dedicated Windows Update flo	Bandwidth and content control	WSUS

Skills Demonstrated for This Professional Activity
<ul style="list-style-type: none"> - Integrating an IT service - Securing access and data confidentiality - Ensuring web server accessibility - Administering a GUI server - Administering a local network by configuring equipment on the network

Skills from the Curriculum Implemented for This Professional Activity
<p>Designing a Network Infrastructure Solution</p> <ul style="list-style-type: none"> - Analyzing a stated need and its legal context - Studying the impact of a change in an infrastructure element on the IT system - Preparing a selection file for an infrastructure solution and writing technical specifications - Choosing elements necessary to ensure the quality and availability of a service - Prototyping a solution to achieve the expected quality of service - Determining and preparing tests required to validate the selected infrastructure solution <p>Installing, Testing, and Deploying a Network Infrastructure Solution</p> <ul style="list-style-type: none"> - Installing and configuring infrastructure éléments - Installing and configuring elements for service continuity - Installing and configuring elements to ensure quality of service - Writing or updating technical and user documentation for an infrastructure solution - Testing the integration and acceptance of an infrastructure solution - Deploying an infrastructure solution <p>Operating, Troubleshooting, and Supervising a Network Infrastructure Solution</p> <ul style="list-style-type: none"> - Administering infrastructure elements on-site and remotely - Automating administration tasks - Managing activity indicators and logs for infrastructure éléments - Identifying, qualifying, evaluating, and responding to an incident or problem - Assessing, maintaining, and improving the quality of a service

For an optimal understanding of this procedure, it is recommended to consult the following documents :

Windows 10 Client Procedure : This document details the configurations and best practices for administering standalone Windows 10 clients.

TEISSIER_proc_win_client_fr.docx

Windows Server Procedures : A ZIP archive containing all the functionalities deployed on the domain controller.

TEISSIER_proc_win_srv_[functionality]_fr.docx

Internet Service Provider Router/Firewall Procedures : This document provides information on the configuration and management of the Internet Service Provider's router, including firewall settings with Nftables.

TEISSIER_proc_rfai_fr.docx *TEISSIER_proc_fw_fr.docx*

Asset Management Procedure : Hosting of GLPI on IIS, ticketing solutions accessible via VPN.

TEISSIER_proc_ITSM_IIS_fr.docx

Linux Web Server Procedure : Deployment of a website on a Linux web server.

TEISSIER_proc_webserveur_fr.docx

Proxy Procedure : Steps for configuring and administering an HTTP/HTTPS proxy in transparent mode with Squid/SquidGuard.

TEISSIER_proc_mandataire_fr.docx

Reverse Proxy Procedure : Setting up a DMZ with high availability of web servers using NGINX.

TEISSIER_proc_mandataire_inversé_fr.docx

Supervision Procedure : Monitoring the infrastructure with Centreon.

TEISSIER_proc_supervision_fr.docx

Captive Portal Procedure : pfSense for controlling Internet access for clients on a public network.

TEISSIER_proc_portail-captif_fr.docx

VPN Procedure : Access to the internet network via OpenVPN.

TEISSIER_proc_vpn_fr.docx

These documents contain essential information to help you properly follow the current procedure. This list is not exhaustive.



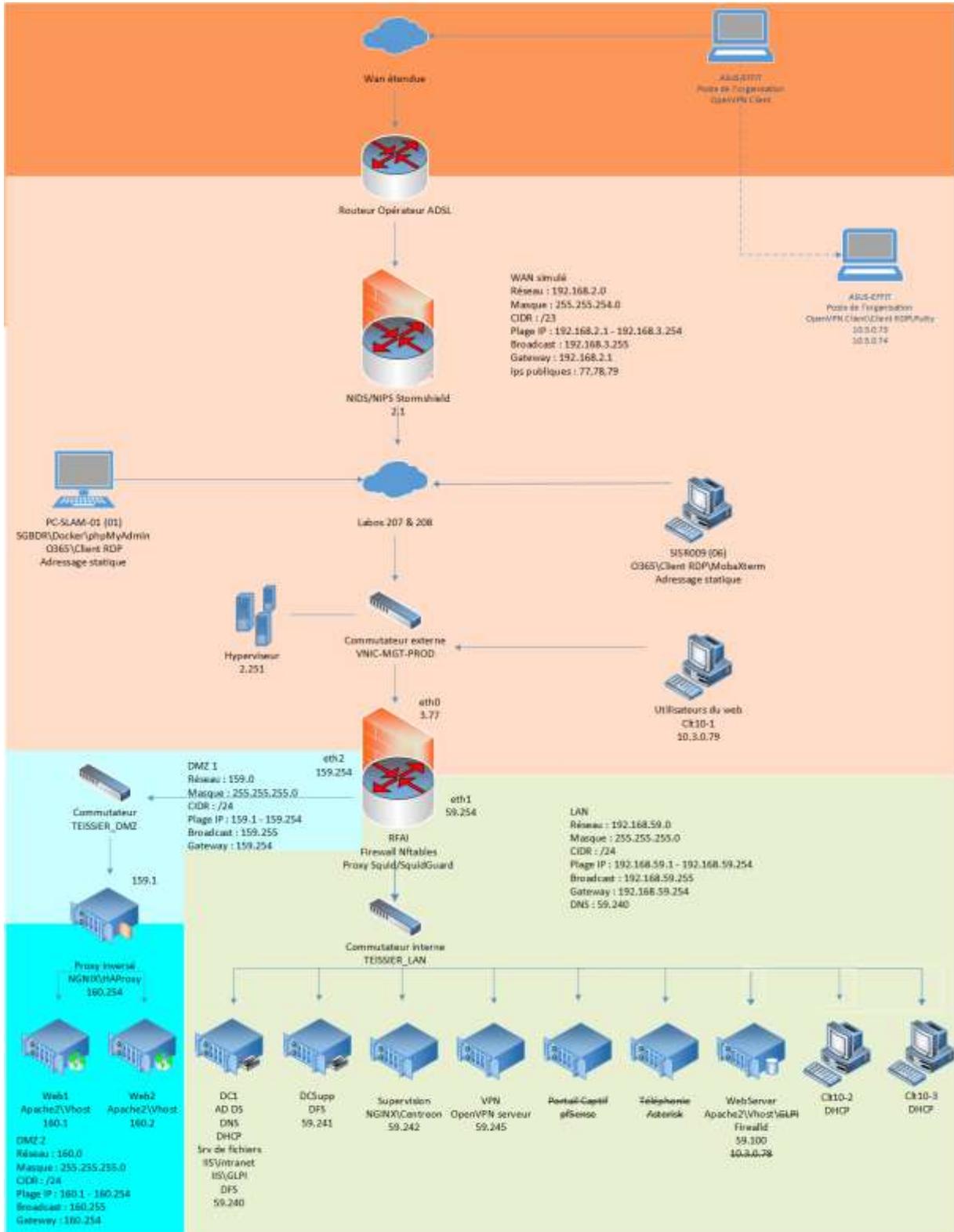
For any questions or assistance, feel free to contact me via:

- The training center's Teams messaging platform. I am available to discuss and respond to your concerns in real time.
- Please include the subject of your inquiry in the email subject line so I can reply to you quickly and efficiently.
Email: clement.teissier@etu.formation-aftec.com.
- The contact form on the EFFICIENCE-ITCT website – BTS SIO SISR – session 2025.
Simply fill in the required fields, and I will respond as soon as possible
- LinkedIn : If you prefer a more informal discussion, you can reach me on LinkedIn.
Here's the link to my profile: <https://www.linkedin.com/in/teissier-clement>.
Feel free to send me a message or a connection request.

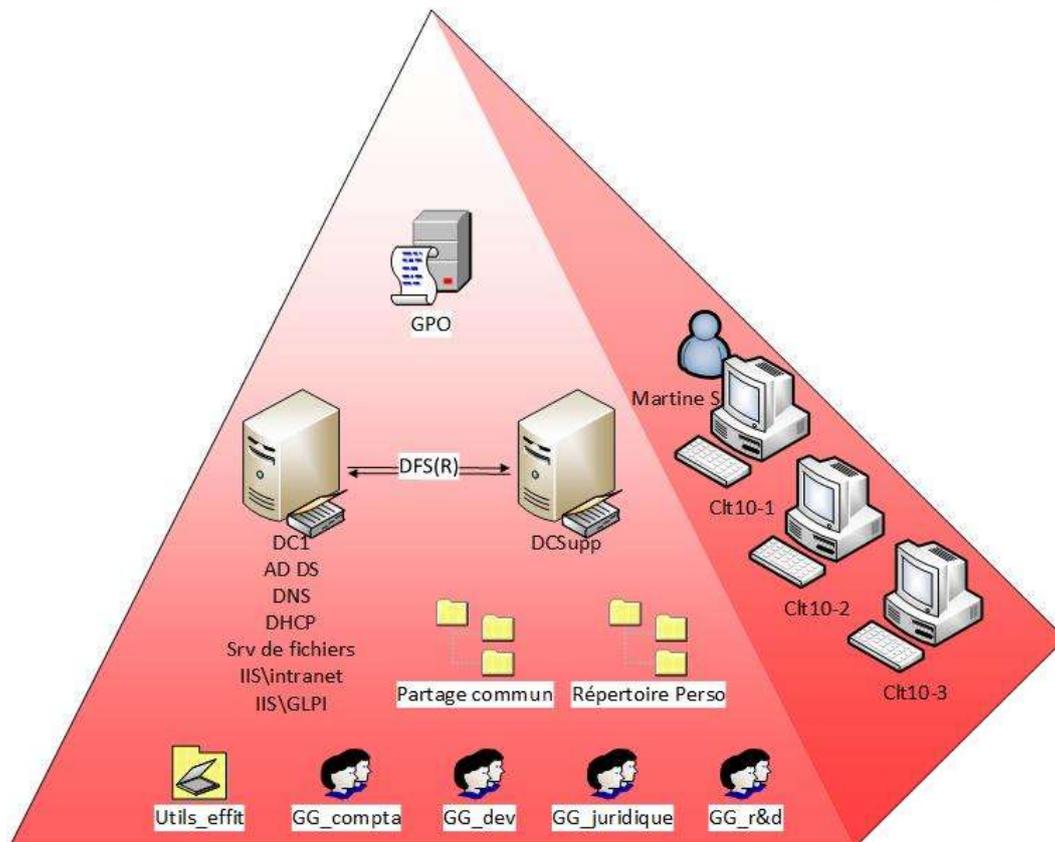
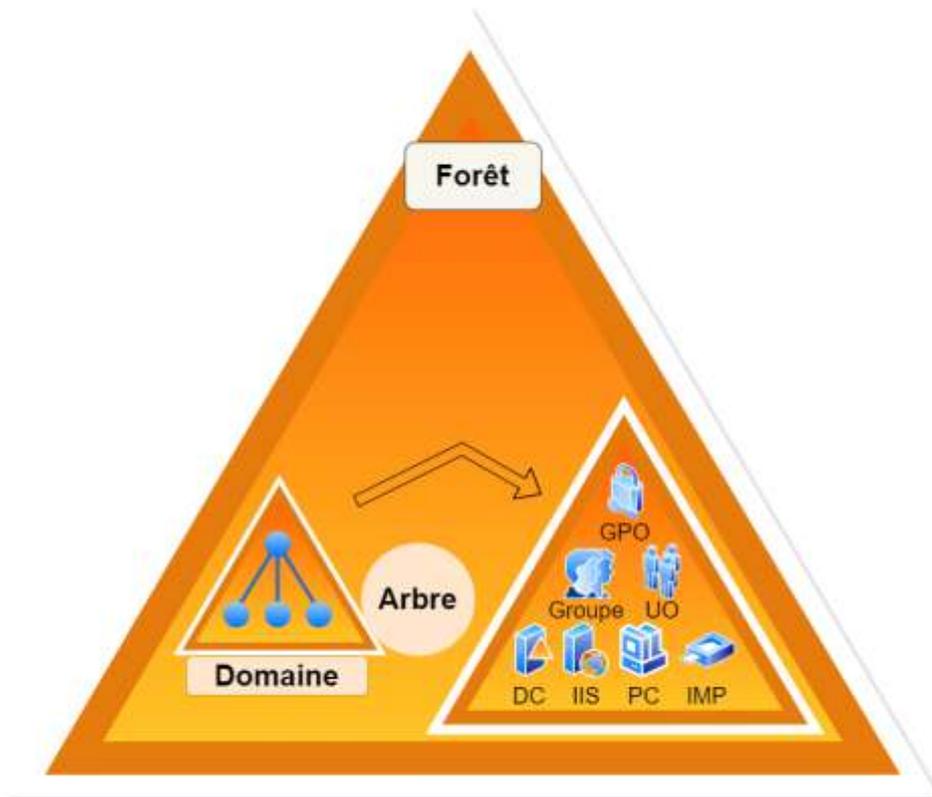
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Network Diagram



Active Directory Diagrams



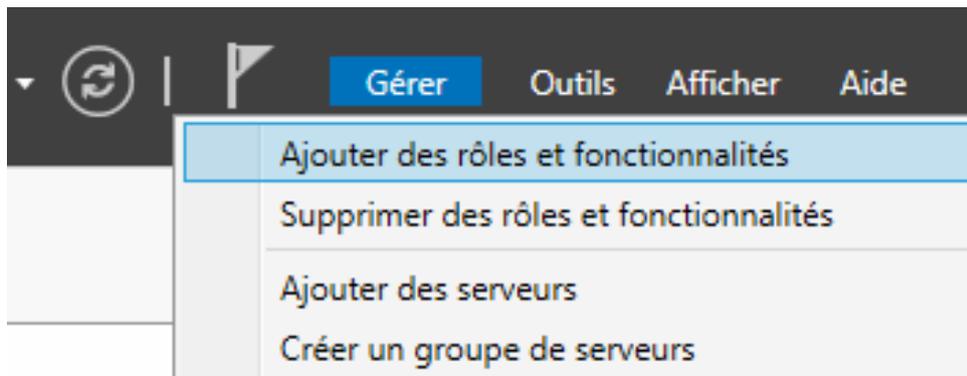
Efficence-ITCT.fr

System Administration

Domain Controller Setup

Step One: Name the server and assign it a static IP address to prevent incorrect DNS entries.

Open Server Manager > Manage > Add Roles and Features.

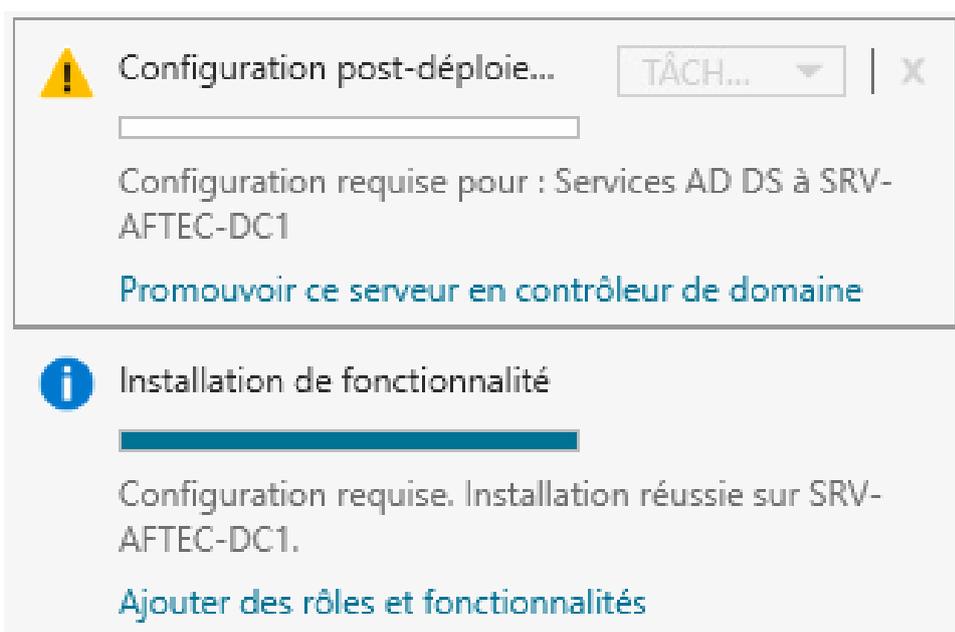


Role/Feature-Based Installation

Select the main server (default)

Check the boxes: AD DS Services

Start the promotion



To quickly bring the server into production, I deploy the other necessary roles: File and Storage Manager, IIS Web Server.

Create the organization's forest.

Sélectionner l'opération de déploiement

Ajouter un contrôleur de domaine à un domaine existant

Ajouter un nouveau domaine à une forêt existante

Ajouter une nouvelle forêt

Spécifiez les informations de domaine pour cette opération

Nom de domaine racine :

I check that the "DNS Feature" checkbox is selected.

I save the Directory Services Restore Mode password in a password manager.

I verify the NetBIOS domain name:

Le nom de domaine NetBIOS :

Spécifier l'emplacement de la base de données AD DS, des fichiers journaux et de SYSVOL

Dossier de la base de données : ...

Dossier des fichiers journaux : ...

Dossier SYSVOL : ...

- NTDS contains the Active Directory database as well as log files.
- SYSVOL corresponds to the system with GPOs, login and logout scripts; this folder is accessible to all users.

I confirm the default location.

Restart and install the features.

Local accounts then become AD accounts.

It is possible to export a script that can be used on a core server.

NETBIOS: EFFICIENCE-ITCT

```
C:\Users\Administrateur>nbststat -n

Ethernet 3:
Adresse IP du noeud : [192.168.59.248] ID d'etendue : []

Table nom local NetBIOS

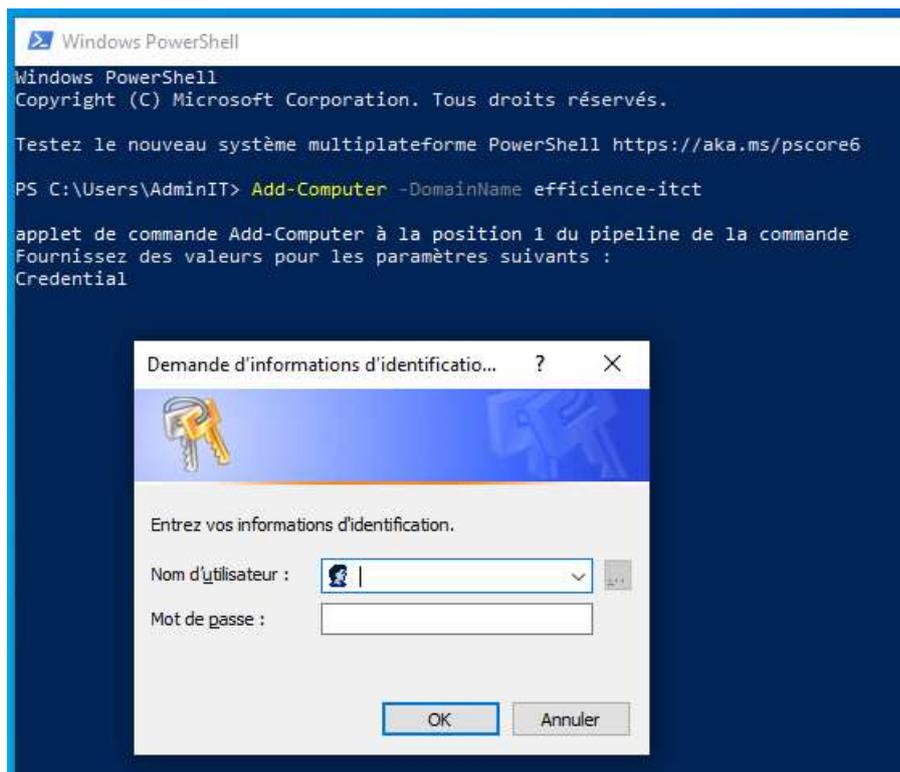
Nom                Type              Statut
-----
DC1                 <00>             UNIQUE          Inscrit
EFFICENCE-ITCT<00> Groupe           Inscrit
EFFICENCE-ITCT<1C> Groupe           Inscrit
DC1                 <3B>             UNIQUE          Inscrit
EFFICENCE-ITCT<1B> UNIQUE          Inscrit

C:\Users\Administrateur>
```

Joining the workstation to the domain

On the workstation clt10-1, go to the network adapters using "ncpa.cpl" and specify the IP address of the DC1 server in the DNS section.

In PowerShell, execute the command: `Add-Computer -DomainName [target domain]`.



Restarting the client workstation.

MMC Console

Add the following components :

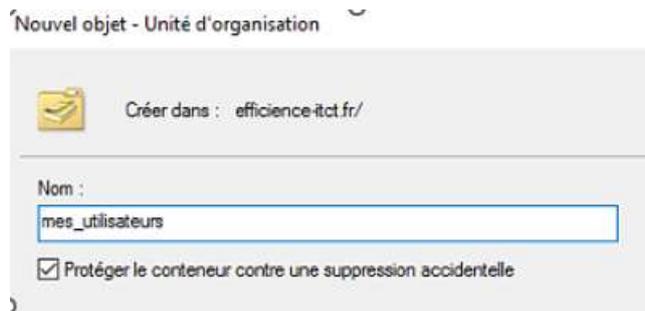
Nom
 DNS
 Gestion de l'ordinateur (local)
 Gestion des stratégies de groupe
 Gestionnaire de ressources du serveur de fichiers (local)
 Gestionnaire des services Internet (IIS)
 Utilisateurs et ordinateurs Active Directory [SRV-AFTEC-DC1.efficience-itct.fr]

Although it is possible to use a component via the "Tools" tab in Server Manager, the MMC console allows all administration tools to be centralized in one place.

Active Directory

Organizational Unit

Adding an organizational unit to the organization's forest.



Create a second Organizational Unit (OU) named "compta" within the previous OU.

Create users in the "compta" OU and assign them the following data :

Account Passwords:

mlkpoi1\$

Contact Information:

General :

Office and phone number

Address :

Address, City, Region, and Postal Code

Organization :

Job title, department, company

Nouvel objet - Utilisateur ✕

Créer dans : `efficience-itct.fr/mes_utilisateurs/compta`

Prénom : Initiales :

Nom :

Nom complet :

Nom d'ouverture de session de l'utilisateur :
 @efficience-itct.fr

Nom d'ouverture de session de l'utilisateur (antérieur à Windows 2000) :

< Précédent **Suivant >** Annuler

Nouvel objet - Utilisateur ✕

Créer dans : `efficience-itct.fr/mes_utilisateurs/compta`

Mot de passe :

Confirmer le mot de passe :

L'utilisateur doit changer le mot de passe à la prochaine ouverture de session

L'utilisateur ne peut pas changer de mot de passe

Le mot de passe n'expire jamais

Le compte est désactivé

< Précédent **Suivant >** Annuler

Propriétés de : SERVICO Martine

Environnement Sessions Contrôle à distance Profil des services Bureau à distance COM+
Général Adresse Compte Profil Téléphones Organisation Membre de Appel entrant

SERVICO Martine

Prénom : Initiales :

Nom :

Nom complet :

Description :

Bureau :

Número de téléphone : Autre...

Adresse de messagerie :

Page Web : Autre...

Propriétés de : SERVICO Martine

Environnement Sessions Contrôle à distance Profil des services Bureau à distance COM+
Général Adresse Compte Profil Téléphones Organisation Membre de Appel entrant

Adresse :

Boîte postale :

Ville :

Département ou région :

Code postal :

Pays/Région :

Propriétés de : SERVICO Martine ? X

Environnement Sessions Contrôle à distance Profil des services Bureau à distance COM+
Général Adresse Compte Profil Téléphones Organisation Membre de Appel entrant

Fonction :

Service :

Société :

Verify Contact Information (PowerShell)

Import the Active Directory module

```
Import-Module ActiveDirectory
```

Set the username

```
$username = "UserName"
```

Retrieve user information

```
$user = Get-ADUser -Identity $username -Properties EmailAddress, TelephoneNumber, MobilePhone
```

Display contact information

```
Write-Output "Email Address: $($user.EmailAddress)"
```

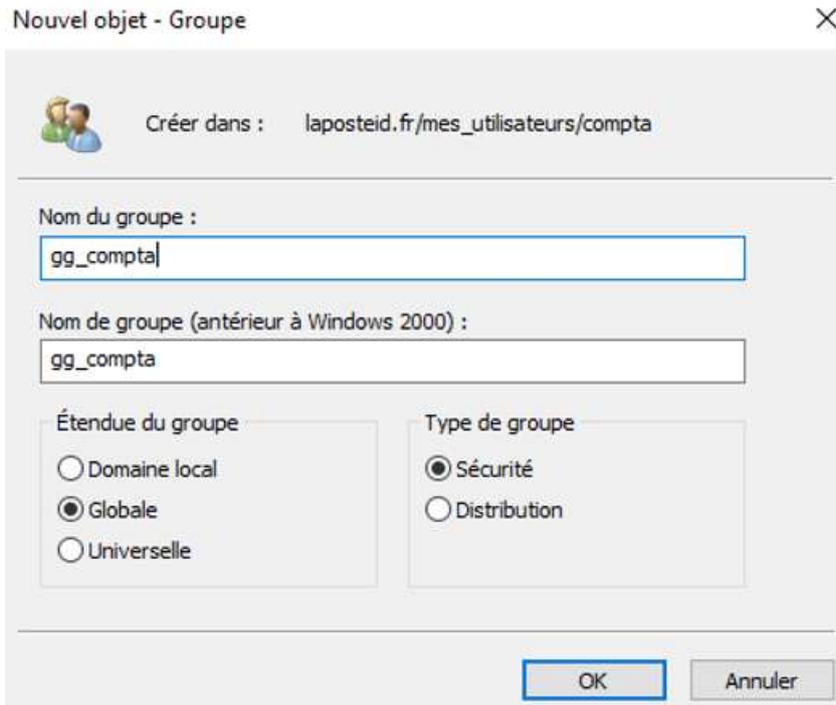
```
Write-Output "Phone Number: $($user.TelephoneNumber)"
```

```
Write-Output "Mobile Number: $($user.MobilePhone)"
```

Security Groups

Create a global security group named "gg_compta" and add users to it.

In the "compta" OU > new > group



Nouvel objet - Groupe

Créer dans : laposteid.fr/mes_utilisateurs/compta

Nom du groupe :
gg_compta

Nom de groupe (antérieur à Windows 2000) :
gg_compta

Étendue du groupe

Domaine local
 Globale
 Universelle

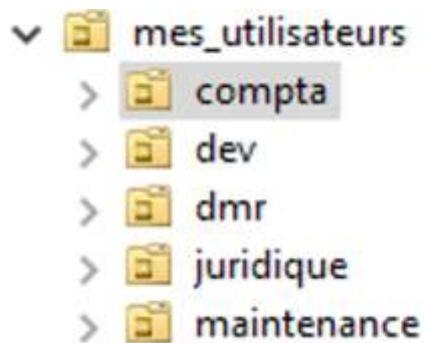
Type de groupe

Sécurité
 Distribution

OK Annuler

Select users in bulk and add them to the group.

Repeat the operation for each department (OU).



Verify group membership

Import the Active Directory module

```
Import-Module ActiveDirectory
```

Set the username

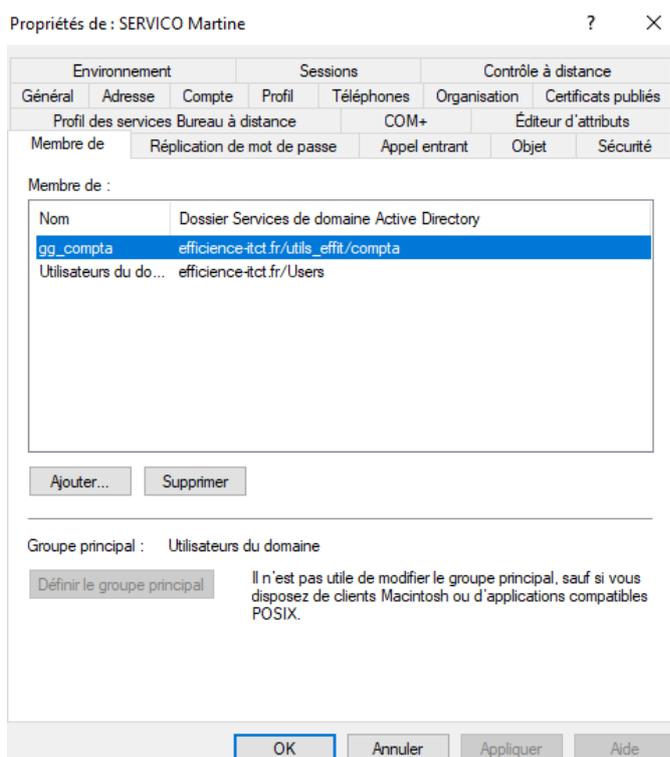
```
$username = "UserName"
```

Set the group name

```
$groupname = "GroupName"
```

Check group membership

```
if (Get-ADUser -Identity $username -Properties MemberOf | Select-String $groupname) {  
    Write-Output "$username is a member of $groupname"  
} else {  
    Write-Output "$username is not a member of $groupname"  
}
```



■ Security Group:

Used to manage permissions and access to network resources (files, folders, printers, etc.).
Can also be used to send emails to all group members in addition to managing permissions.

■ Distribution Group:

Used only for email distribution.
Cannot be used to manage permissions on network resources.

■ Local Group (Gd_):

Primarily used to manage permissions and access to local resources within a specific domain. Local groups can contain users, global groups, and universal groups from the same domain or other domains.

■ Global Group (GG_):

Used to organize users who share common security needs within a domain. Global groups can be members of local or universal groups in any domain within the forest.

■ Universal Group (GU_):

Used to grant permissions to resources across multiple domains. Universal groups can contain users, global groups, and other universal groups from any domain in the forest.

Script to add users

Open a spreadsheet,

Add the following columns to the table:

Surname, Name, Service, GivenName, Function, SAMAccount, UserPrincipal Name, AccountPassword, OU.

Check for any special characters and remove them.

Surname	GivenName	Service	DisplayName	SAMAccount	UserPrincipal Name	AccountPassword	OU
JESSE	James	Compta	JESSE James	James.JESSE	JESSE.Jesse@efficence-ict.fr	mlkpoi1\$	ou=compta,ou=mes_utilisateurs,dc=efficence-ict,dc=fr

Save the table with the name of the service: compta.csv.

Open a text document and write the desired content.

```
#Importation du fichier csv dans le script ps
$users=Import-Csv -Path ".\svc_compta.csv" -Delimiter ";"

#$users contient toutes les lignes du CSV
#Création des utilisateurs en traitant ligne par ligne
foreach($user in $users)
{
#ajout réel du user dans l'AD
New-ADUser -Name $user.DisplayName -Surname $user.Surname -GivenName $user.GivenName -SAMAccountName
$user.SAMAccount -UserPrincipalName $user.UserPrincipalName -Path $user.ou -AccountPassword(ConvertTo-SecureString
$user.AccountPassword -Force) -PassThru -ChangePasswordAtLogon $false -Enabled $true
}
```

Save it in the .ps1 format.

```
#Importation du fichier csv dans le script ps
$users=Import-Csv -Path ".\compta.csv" -Delimiter ";"

#$users contient toutes les lignes du CSV
#Création des utilisateurs en traitant ligne par ligne
foreach($user in $users)
{
#ajout rA@e] du user dans l'AD
New-ADUser -Name $user.DisplayName -Surname $user.Surname -GivenName $user.GivenName -SAMAccountName
$user.SAMAccount -UserPrincipalName $user.UserPrincipalName -Path $user.ou -AccountPassword(ConvertTo-SecureString
-AsPlainText $user.AccountPassword -Force) -PassThru -ChangePasswordAtLogon $false -Enabled $true
}
```

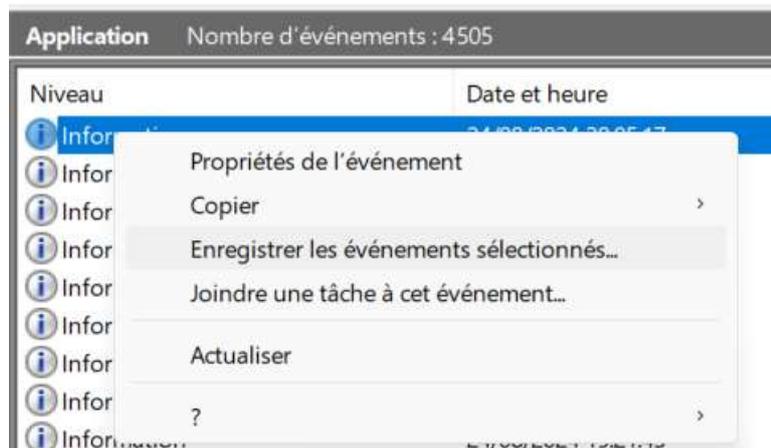
Dans PowerShell ISE, démarrer le script avec le bouton Play vert

Verification of user addition to the directory

ADD A SCREENSHOT OF ACCOUNT CREATION.

Connection Logs

Event Logs

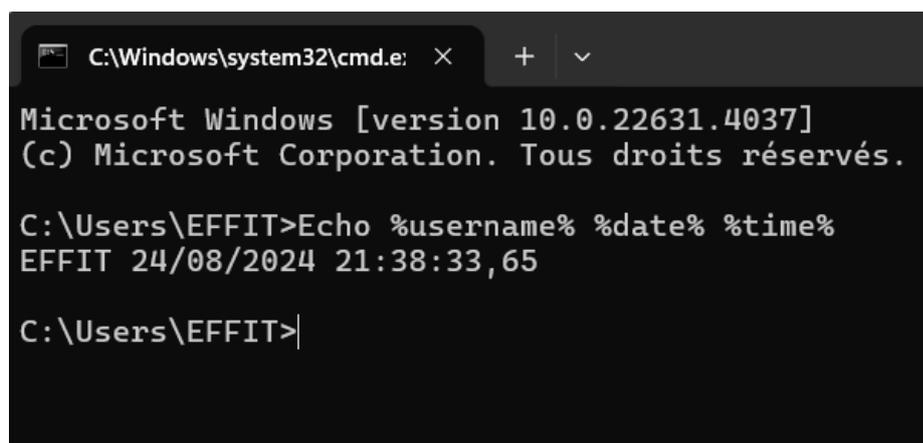


Command Prompt

Via the command prompt, write the following command:

```
Echo %username% %date% %time%
```

Example below with the workstation from my organization:



```
C:\Windows\system32\cmd.e: X + v
Microsoft Windows [version 10.0.22631.4037]
(c) Microsoft Corporation. Tous droits réservés.

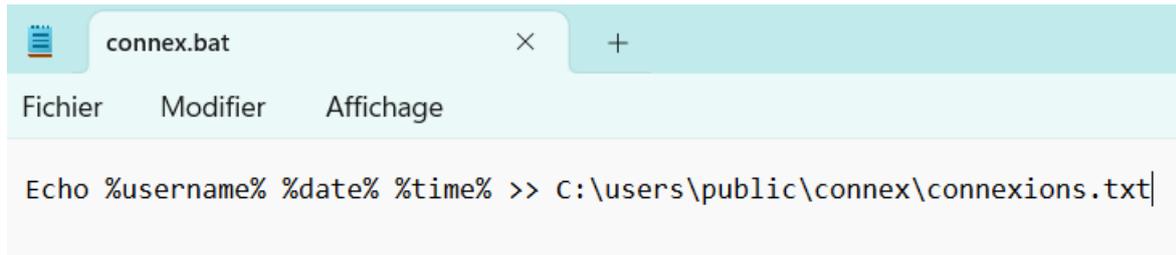
C:\Users\EFFIT>Echo %username% %date% %time%
EFFIT 24/08/2024 21:38:33,65

C:\Users\EFFIT>
```

Schedule the collection of login logs

Open a notepad and write the following command:

```
Echo %username% %date% %time% >> C:\users\public\connex\connexions.txt
```



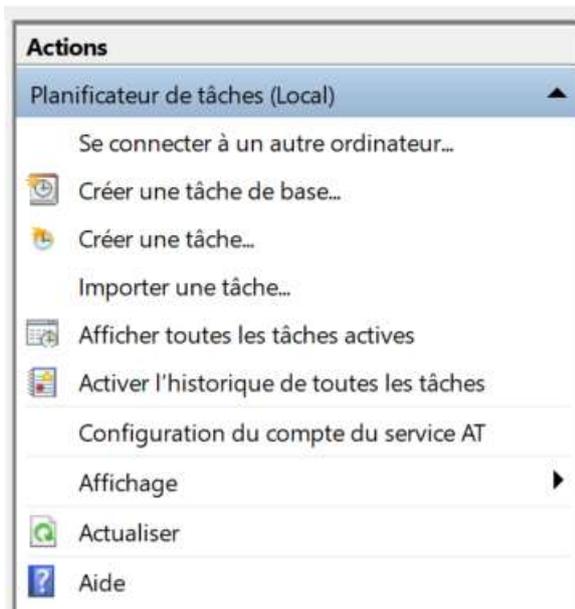
Save the file with a .bat extension.

Open another notepad to create the file in to receive the login logs.

Set the folder's attribute to hidden.

Use the shortcut to access the Task Scheduler.

Create a new basic task with the name: connexions, and the trigger: log on.



Assistant Créer une tâche de base

 Déclencheur de tâche

Créer une tâche de base	Quand voulez-vous que la tâche démarre ?
Déclencheur	<input type="radio"/> Tous les jours
Action	<input type="radio"/> Toutes les semaines
Terminer	<input type="radio"/> Tous les mois
	<input type="radio"/> Une seule fois
	<input type="radio"/> Au démarrage de l'ordinateur
	<input checked="" type="radio"/> Quand j'ouvre une session
	<input type="radio"/> Si un événement spécifique est enregistré

Action: start a program

Assistant Créer une tâche de base

 Action

Créer une tâche de base	Quelle action voulez-vous que la tâche effectue ?
Déclencheur	
Action	<input checked="" type="radio"/> Démarrer un programme
Terminer	<input type="radio"/> Envoyer un courrier électronique (déconseillé)
	<input type="radio"/> Afficher un message (déconseillé)

Execute an action

Assistant Créer une tâche de base

 Démarrer un programme

Créer une tâche de base	Programme/script :	
Déclencheur		
Action	C:\Users\Public\connex\connex.bat	<input type="button" value="Parcourir..."/>
Démarrer un programme	Ajouter des arguments (facultatif) :	<input type="text"/>
Terminer	Commencer dans (facultatif) :	<input type="text"/>

 connexions Prêt À l'ouverture de session de ASUS-EFFIT\EFFIT

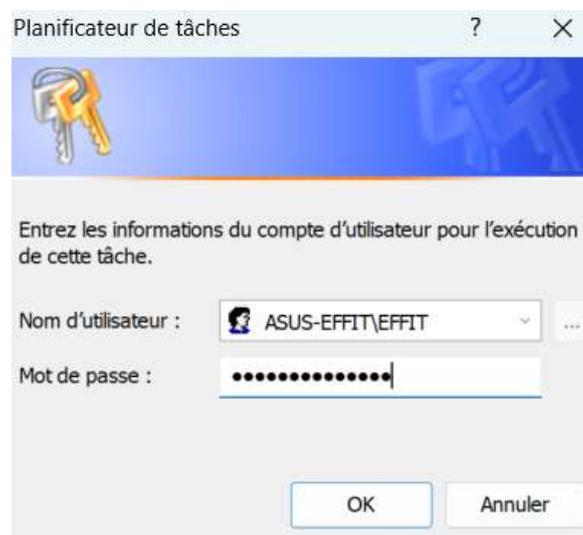
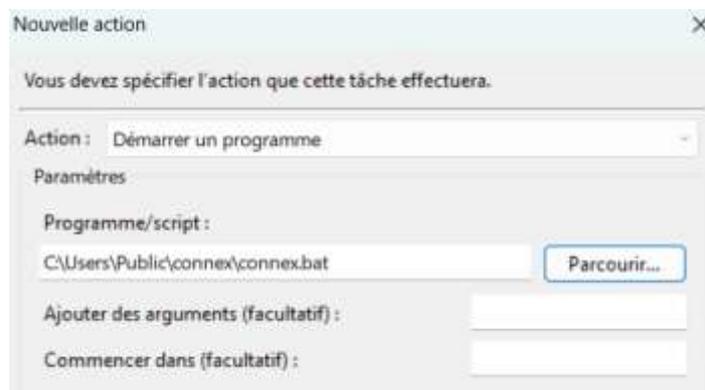
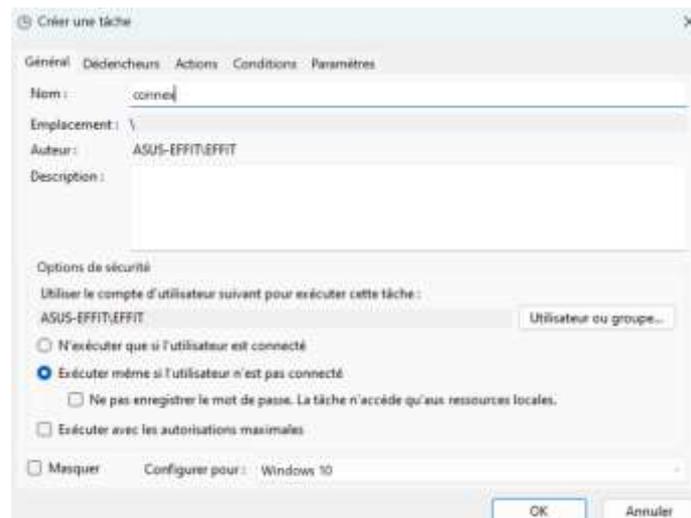
It is possible to make modifications to the task in the properties.

Another possibility: create a task

Run even if the user is not logged in

Select user/group: BUILTIN\User

Trigger: log on



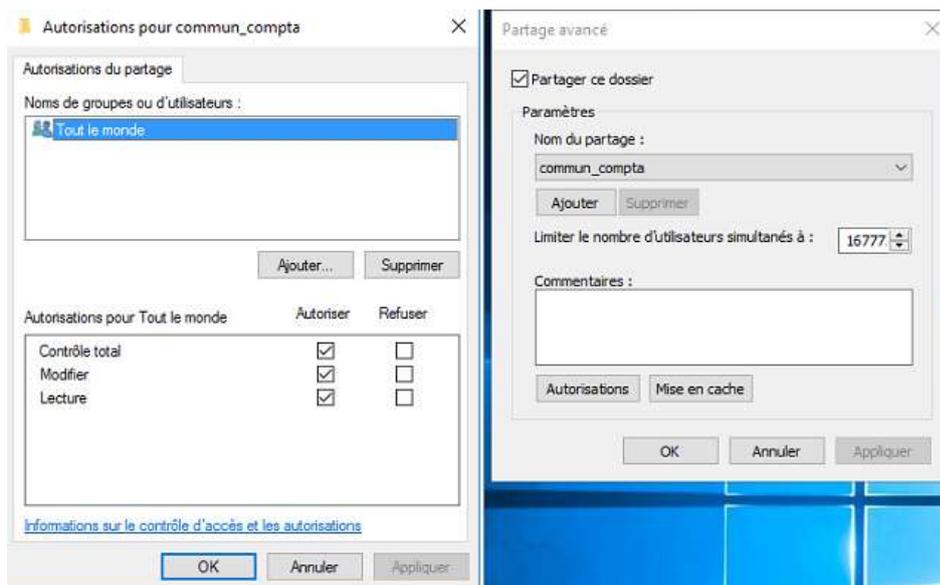
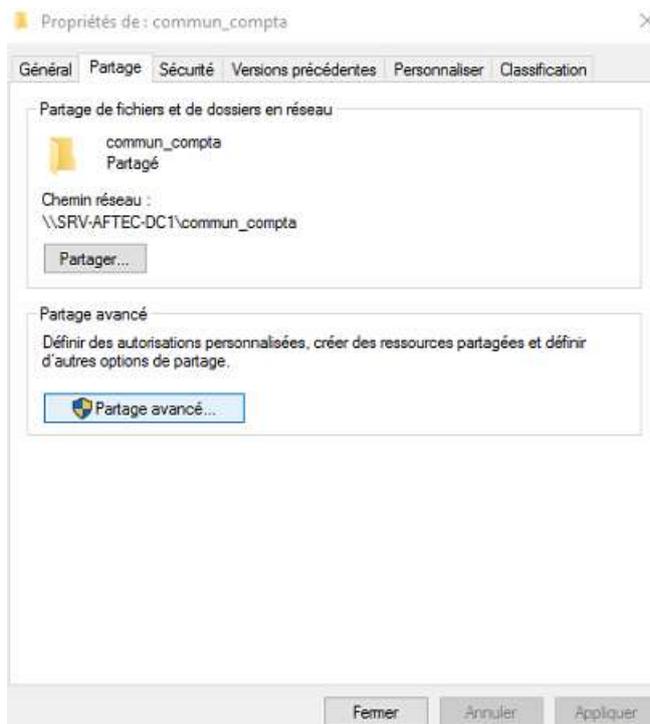
Verify the login logs task.

```
connexions.txt - Bloc-notes
Fichier  Edition  Format  Affichage  ?
Administrateur 25/08/2024 1:25:31,88
```

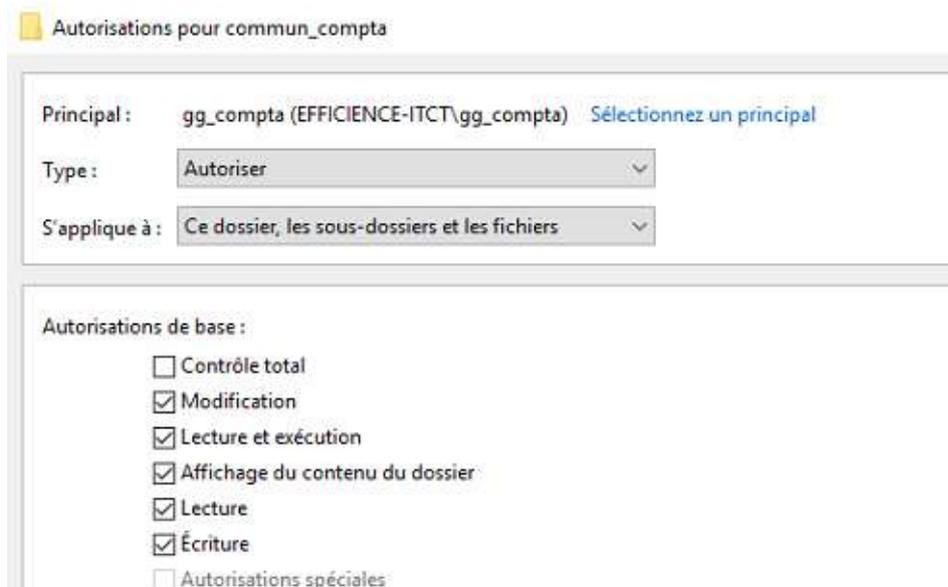
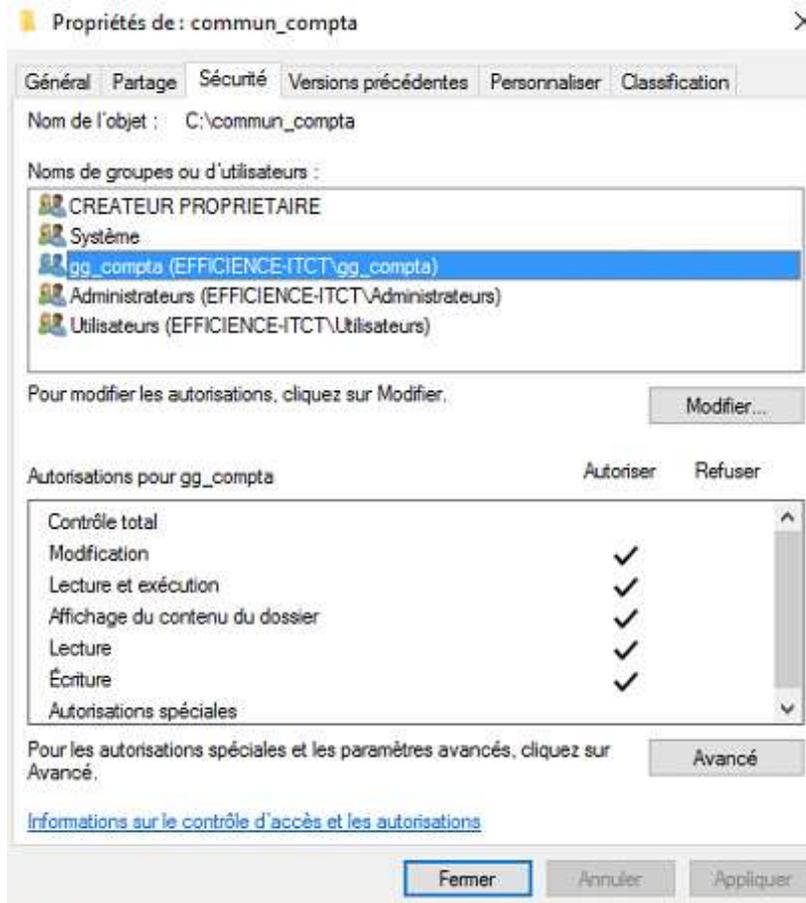
Shared Folders

Creating the folder "commun compt" at the root of the system C:\

In Advanced Sharing, enable Full Control for everyone.



Assign NTFS permissions to your security group: allow modification rights.



Finally, disable inheritance of permissions so that only the accounting service (compta) has access.

Entrées d'autorisations :

Type	Principal	Accès	Hérité de	S'applique
Autoriser	gg_compta (EFFICIENCE-ITCT\gg_compta)	Modification	Aucun	Ce dossier,
Autoriser	Système	Contrôle total	Aucun	Ce dossier,
Autoriser	Administrateurs (EFFICIENCE-ITCT\Administr...	Contrôle total	Aucun	Ce dossier,
Autoriser	Utilisateurs (EFFICIENCE-ITCT\Utilisateurs)	Lecture et exécution	Aucun	Ce dossier,
Autoriser	Utilisateurs (EFFICIENCE-ITCT\Utilisateurs)	Spéciale	Aucun	Ce dossier,
Autoriser	CREATEUR PROPRIETAIRE	Contrôle total	Aucun	Les sous-d

Ajouter

Supprimer

Modifier

Désactiver l'héritage

Bloquer l'héritage



Que voulez-vous faire des autorisations héritées actuelles ?

Vous allez bloquer l'héritage pour cet objet, ce qui signifie que les autorisations héritées d'un objet parent ne s'appliqueront plus à cet objet.

→ Convertir les autorisations héritées en autorisations explicites sur cet objet.

→ Supprimer toutes les autorisations héritées de cet objet.

Annuler



Test access to an authorized folder (to do).

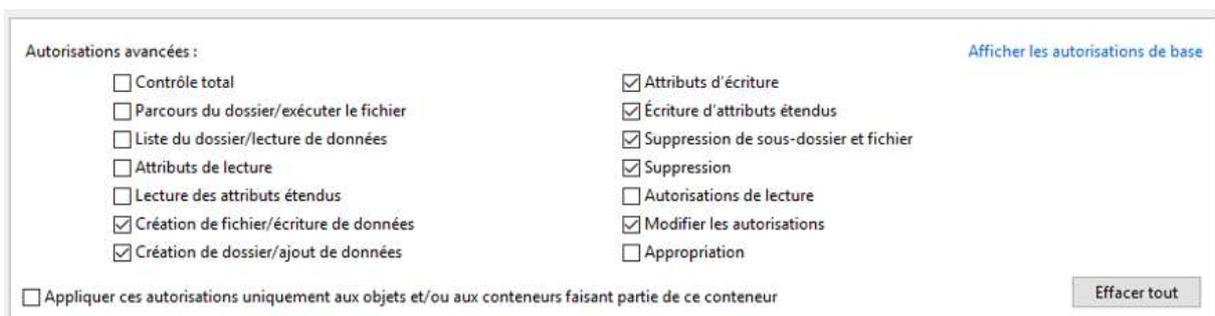
Access Restrictions:

Restrict access for a user:

A user should only have read permissions on a shared folder.

Steps:

Shared folder > Properties > Security > Advanced > Click "Add" > Select a principal > Enter the name of the target user > Click "Show advanced permissions" > Fill in the same information specified below.

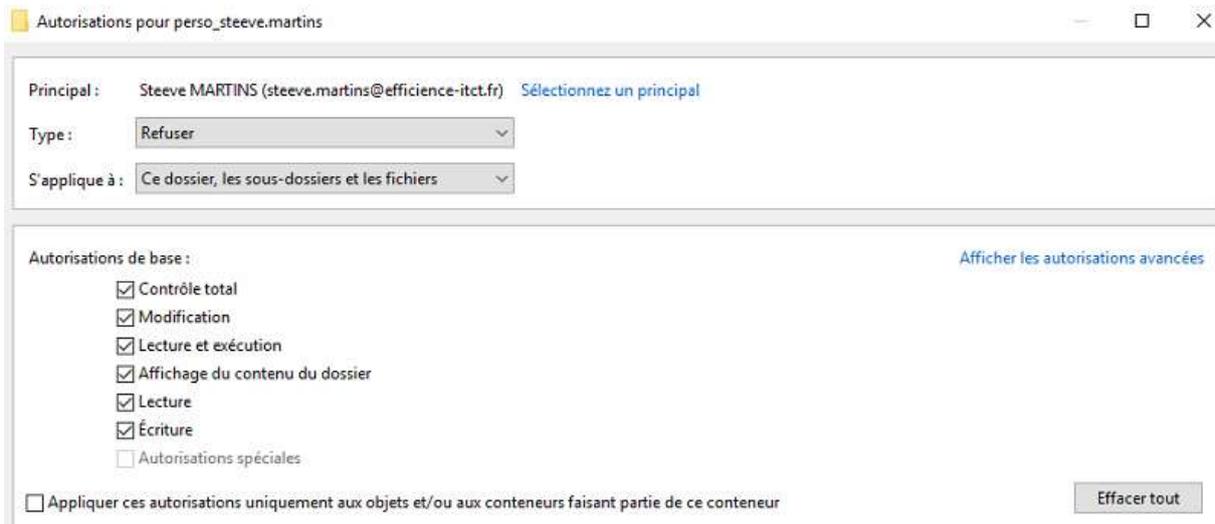


Autorisations avancées : [Afficher les autorisations de base](#)

<input type="checkbox"/> Contrôle total	<input checked="" type="checkbox"/> Attributs d'écriture
<input type="checkbox"/> Parcours du dossier/exécuter le fichier	<input checked="" type="checkbox"/> Écriture d'attributs étendus
<input type="checkbox"/> Liste du dossier/lecture de données	<input checked="" type="checkbox"/> Suppression de sous-dossier et fichier
<input type="checkbox"/> Attributs de lecture	<input checked="" type="checkbox"/> Suppression
<input type="checkbox"/> Lecture des attributs étendus	<input type="checkbox"/> Autorisations de lecture
<input checked="" type="checkbox"/> Création de fichier/écriture de données	<input checked="" type="checkbox"/> Modifier les autorisations
<input checked="" type="checkbox"/> Création de dossier/ajout de données	<input type="checkbox"/> Appropriation

Appliquer ces autorisations uniquement aux objets et/ou aux conteneurs faisant partie de ce conteneur Effacer tout

To block access to a subdirectory, simply select Deny for the relevant account.



Autorisations pour perso_steeve.martins

Principal : Stevee MARTINS (steeve.martins@efficence-itct.fr) [Sélectionnez un principal](#)

Type : Refuser

S'applique à : Ce dossier, les sous-dossiers et les fichiers

Autorisations de base : [Afficher les autorisations avancées](#)

<input checked="" type="checkbox"/> Contrôle total
<input checked="" type="checkbox"/> Modification
<input checked="" type="checkbox"/> Lecture et exécution
<input checked="" type="checkbox"/> Affichage du contenu du dossier
<input checked="" type="checkbox"/> Lecture
<input checked="" type="checkbox"/> Écriture
<input type="checkbox"/> Autorisations spéciales

Appliquer ces autorisations uniquement aux objets et/ou aux conteneurs faisant partie de ce conteneur Effacer tout

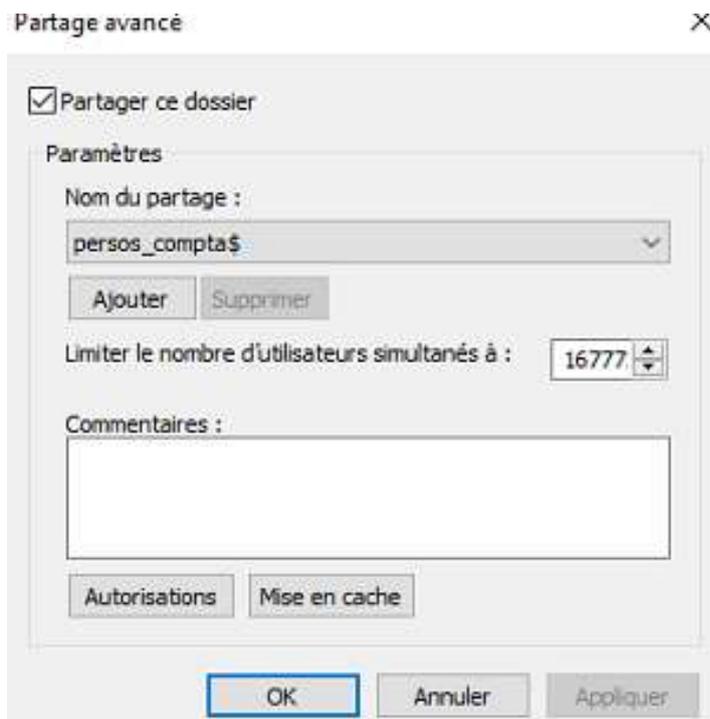


Test access to an unauthorized folder (to do).

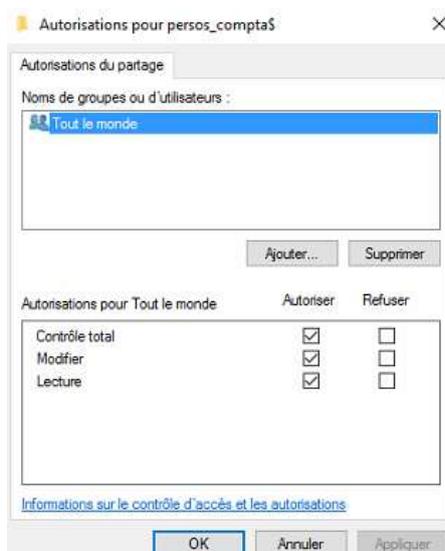
Personal Directories

Create the folder "persos_compta" at the root of C:\

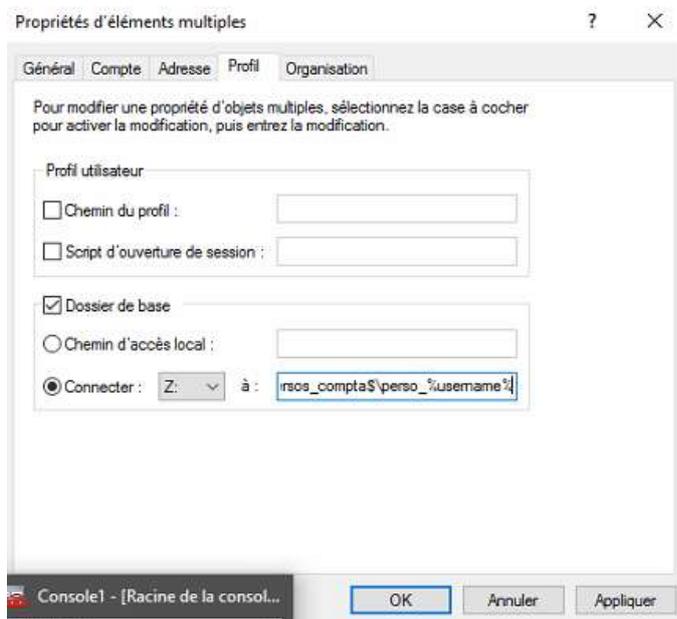
Add \$ to the name of the share to make it hidden.



Assign full control to everyone for the share.



In the MMC console, take the accounting service users and in Profile > Home folder > Connect to, add the variable pointing to the folder:



Tip: Replace the IP address with the hostname in case of failure.

Check that the folder has been created successfully.

Nom	Modifié le	Type	Taille
perso_martine.servico	24/08/2024 23:04	Dossier de fichiers	
perso_steeve.martins	24/08/2024 23:04	Dossier de fichiers	

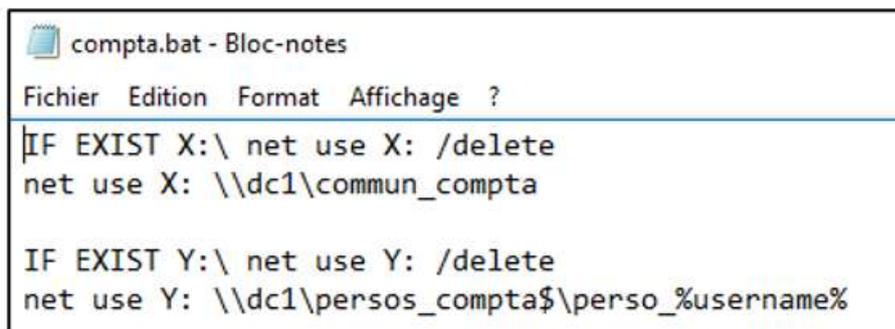
Logon Script

Mapping a Network Drive at Logon

Open Notepad and write the following script:

Save the file in the following location:

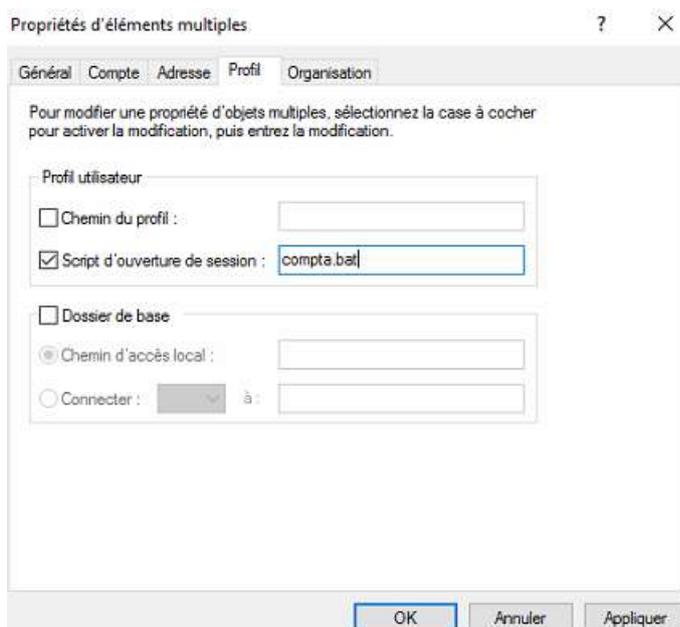
and ensure it is in dans C:\Windows\SYSVOL\sysvol\efficence-itct.fr\scripts .bat format.



```
compta.bat - Bloc-notes
Fichier Edition Format Affichage ?
IF EXIST X:\ net use X: /delete
net use X: \\dc1\commun_compta

IF EXIST Y:\ net use Y: /delete
net use Y: \\dc1\persos_compta$\perso_%username%
```

In the MMC console > Active Directory Users and Computers > Accounting OU (OU compta) > select the users in the OU > Properties > Profile > check the box: Logon script (Script d'ouverture de session).





TEISSIER Clement
E6 - Technical Sheet for Windows Server



Verify the **network drive** mapping to ensure it appears correctly for the users upon logon.



Perform tests for denied access to shared folders.

In the terminal,

use the command `net use` to verify existing access and the command `net use * /delete` to remove all connections.

Open sessions can be viewed in Computer Management under Shared Folders, then Session.

File server: Quota template

- Conditional quota: A quota that can be exceeded.
- Unconditional quota: A quota that cannot be exceeded.

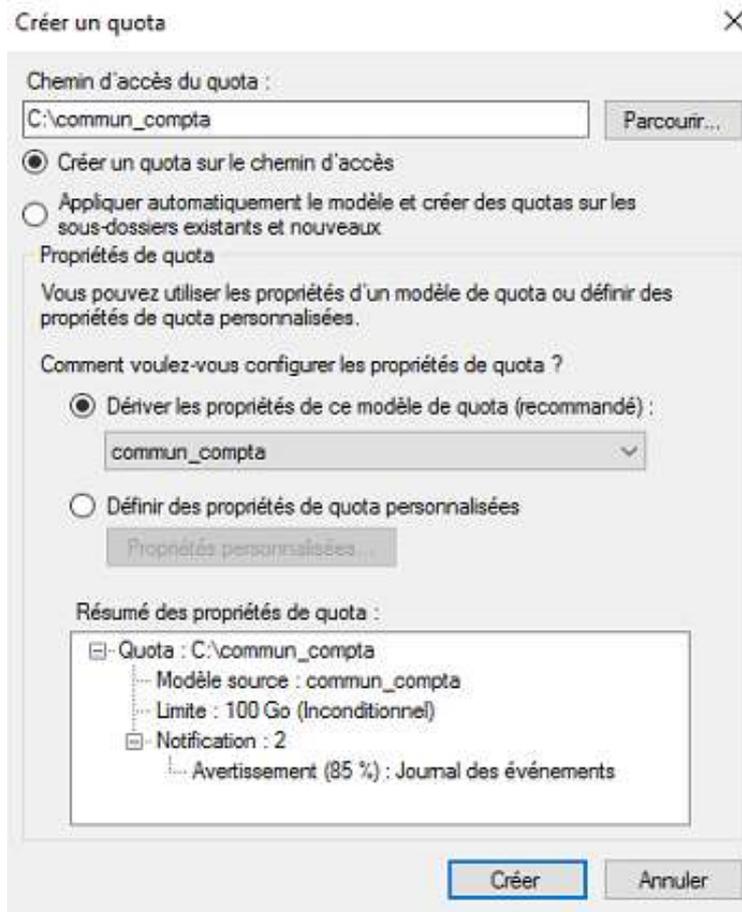
To create a quota template with alerts in the Windows Event Log for the folder "common," follow these steps:

Create a quota template, define a name, set a limit, select unconditional, specify the size in megabytes, set a threshold at 85% to prevent users from being unable to enter data, and check the options to send an email or message and to send a warning to the Event Log. Let me know if there's anything else I can help with!



Quota

In quota, select the shared folder "common," check "Create a quota on the path," and select the previously created quota template.



Créer un quota

Chemin d'accès du quota :

Créer un quota sur le chemin d'accès

Appliquer automatiquement le modèle et créer des quotas sur les sous-dossiers existants et nouveaux

Propriétés de quota

Vous pouvez utiliser les propriétés d'un modèle de quota ou définir des propriétés de quota personnalisées.

Comment voulez-vous configurer les propriétés de quota ?

Dériver les propriétés de ce modèle de quota (recommandé) :

Définir des propriétés de quota personnalisées

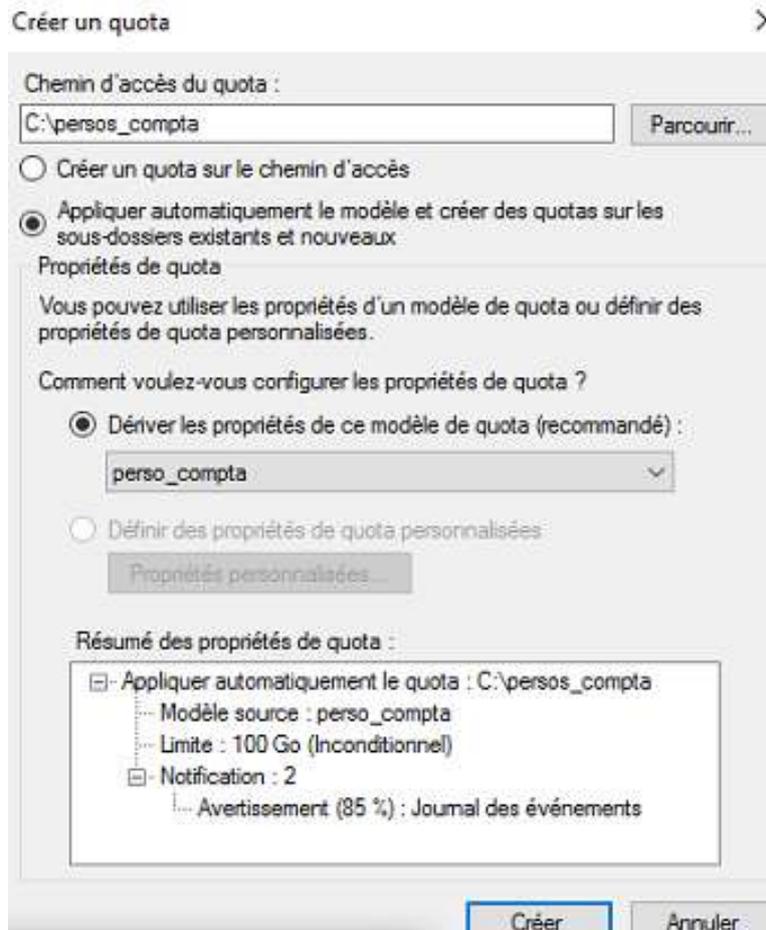
Résumé des propriétés de quota :

- [-] Quota : C:\commun_compta
 - Modèle source : commun_compta
 - Limite : 100 Go (Inconditionnel)
 - [-] Notification : 2
 - Avertissement (85 %) : Journal des événements

[Filtre](#) Afficher tout : 2 éléments

	Chemin d'accès du quota	%...	L...	Type...	Modèle source	Modèle ...	Descri...
[-] Modèle source : commun_compta (1 élément)							
	C:\commun_compta	0%	1...	Inco...	commun_co...	Oui	
[-] Modèle source : perso_compta (1 élément)							
	C:\persos_compta*	---	1...	Inco...	perso_compta	Oui	

It is also possible to create a parent quota by checking the second box.



Créer un quota

Chemin d'accès du quota :
C:\persos_compta

Créer un quota sur le chemin d'accès

Appliquer automatiquement le modèle et créer des quotas sur les sous-dossiers existants et nouveaux

Propriétés de quota

Vous pouvez utiliser les propriétés d'un modèle de quota ou définir des propriétés de quota personnalisées.

Comment voulez-vous configurer les propriétés de quota ?

Dériver les propriétés de ce modèle de quota (recommandé) :

perso_compta

Définir des propriétés de quota personnalisées

Propriétés personnalisées ...

Résumé des propriétés de quota :

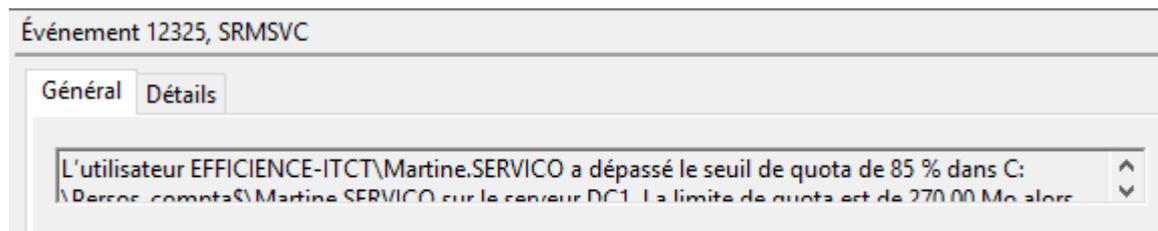
- [-] Appliquer automatiquement le quota : C:\persos_compta
 - Modèle source : perso_compta
 - Limite : 100 Go (Inconditionnel)
- [-] Notification : 2
 - Avertissement (85 %) : Journal des événements

Créer Annuler

Quota testing.

```
Z:\>fsutil file createnew Z:\testquotaserso.txt 75000000
Le fichier Z:\testquotaserso.txt est créé

Z:\>_
```

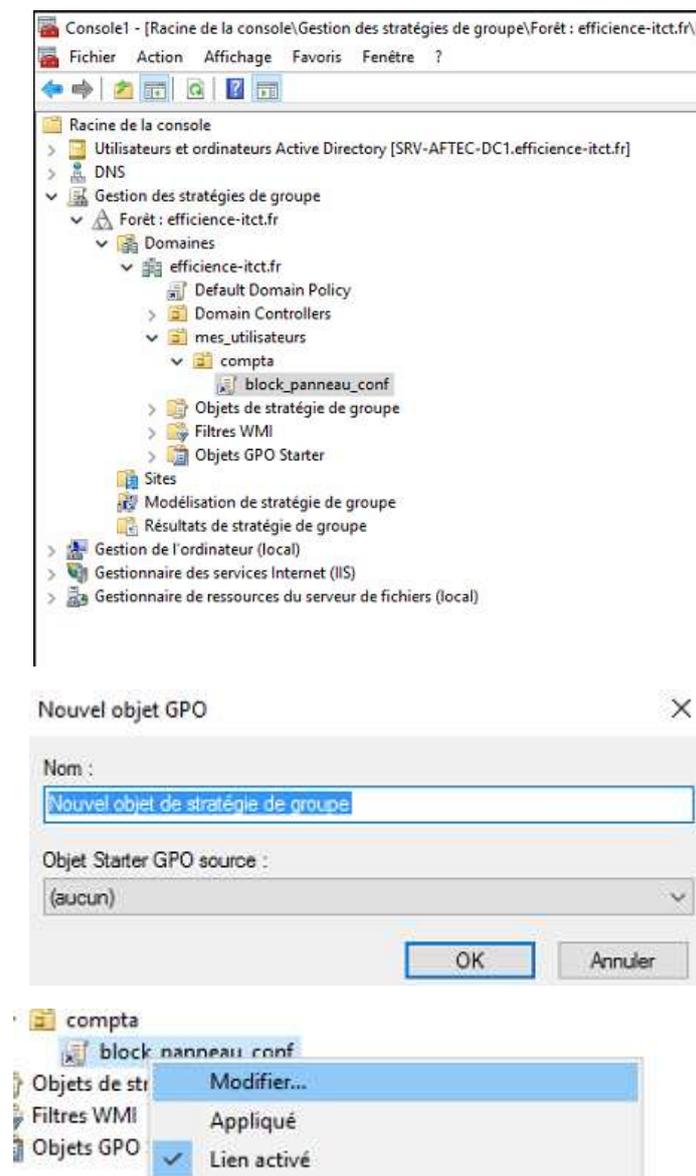


Run the command on the common quota and check the alerts in Application/Event Logs in Windows Event Viewer.

GPO

In Group Policy Management, expand the tree structure and right-click on the Accounting OU (OU Compta).

Create a GPO, name it, then edit it to find the desired policy and enable it.



The screenshot shows the Group Policy Management console window. The tree structure is expanded to show the 'compta' OU under 'mes_utilisateurs'. A context menu is open over 'compta', with 'Lien activé' selected. Below the console, the 'Nouvel objet GPO' dialog box is open, showing the name 'Nouvel objet de stratégie de groupe' and the source '(aucun)'. The 'OK' button is highlighted.

GPO management:

Rsoop.msc allows you to view the active GPOs.

Gpupdate /force updates the Group Policy settings.

Gpresult /r displays the applied Group Policy results.

Taskmgr is used to test the Task Manager.

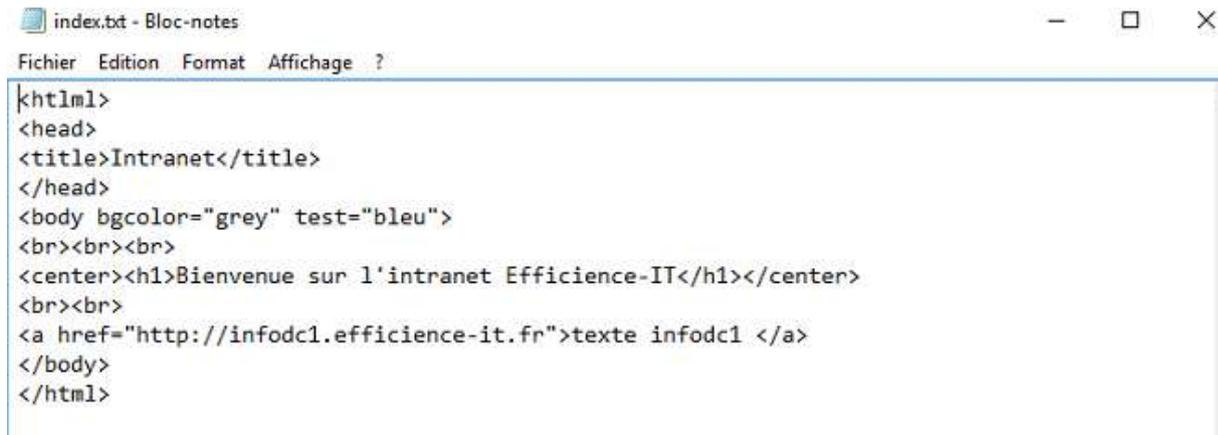
Delete the local GPO using a local administrator account.

Check in the command prompt if the local GPO is marked as disabled.

IIS\intranet

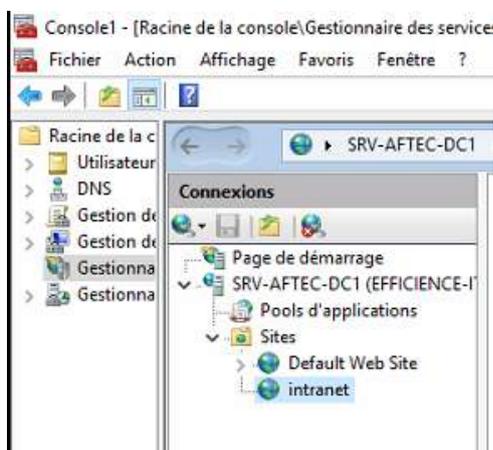
Create a folder named "intranet" in C:\inetpub.

Then, create a file named index.txt in the "intranet" folder and change its extension to .html.



```
index.txt - Bloc-notes
Fichier Edition Format Affichage ?
<html>
<head>
<title>Intranet</title>
</head>
<body bgcolor="grey" text="bleu">
<br><br><br>
<center><h1>Bienvenue sur l'intranet Efficence-IT</h1></center>
<br><br>
<a href="http://infodc1.efficence-it.fr">texte infodc1 </a>
</body>
</html>
```

On DC1, in IIS, add a website



Add the name, the path to the HTML page, and the domain name.

Ajouter un site Web ? X

Nom du site : intranet Pool d'applications : intranet Sélectionner...

Répertoire de contenu

Chemin d'accès physique : C:\inetpub\intranet ...

Authentification directe

Se connecter en tant que... Tester les paramètres...

Liaison

Type : http Adresse IP : Toutes non attribuées Port : 80

Nom de l'hôte : intranet.efficience-itct.fr

Exemple : www.contoso.com ou marketing.contoso.com

Sites

Filtrer : Atteindre - Afficher tout Regrouper par :

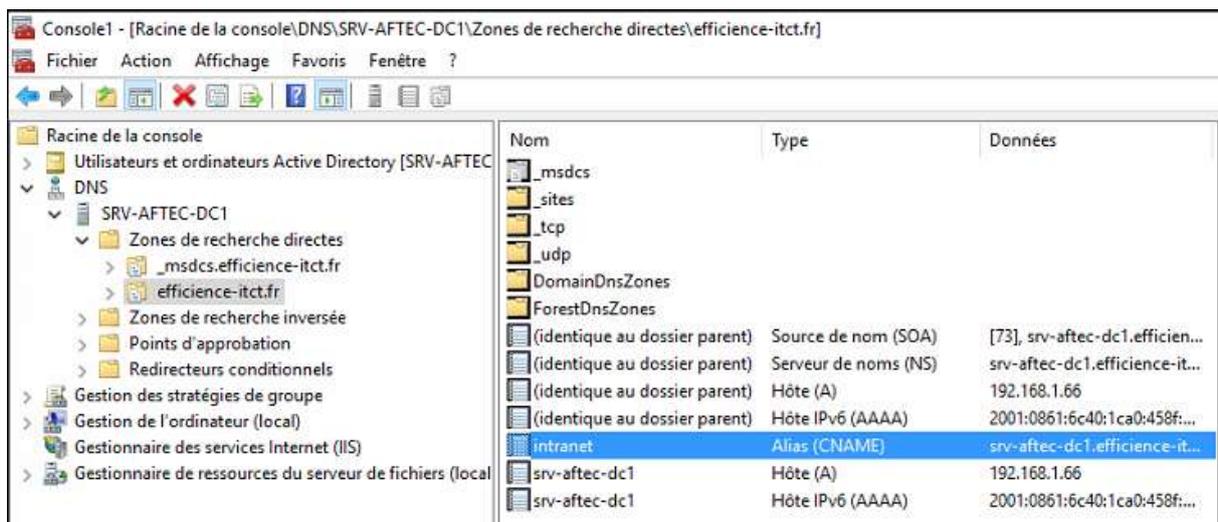
Nom	Identifica...	État	Liaison	Chemin d'accès
Default ...	1	Démarré...	*:80 (http)	%SystemDrive%\inetpu
intranet	2	Démarré...	intranet.efficience-itct.fr on *:...	C:\inetpub\intranet

Repeat the operation so that each department has its own dedicated intranet access.

Network administration

DNS

Create an alias in the forward lookup zone.



The screenshot shows the DNS console for the domain 'efficiency-itct.fr'. The left pane shows the tree structure with 'intranet' selected under the forward lookup zone. The right pane displays a table of DNS records:

Nom	Type	Données
_msdcs		
_sites		
_tcp		
_udp		
DomainDnsZones		
ForestDnsZones		
(identique au dossier parent)	Source de nom (SOA)	[73], srv-aftec-dc1.efficien...
(identique au dossier parent)	Serveur de noms (NS)	srv-aftec-dc1.efficien...
(identique au dossier parent)	Hôte (A)	192.168.1.66
(identique au dossier parent)	Hôte IPv6 (AAAA)	2001:0861:6c40:1ca0:458f:...
intranet	Alias (CNAME)	srv-aftec-dc1.efficien...
srv-aftec-dc1	Hôte (A)	192.168.1.66
srv-aftec-dc1	Hôte IPv6 (AAAA)	2001:0861:6c40:1ca0:458f:...

Resolve "unknown nslookup,"

resolve "unknown nslookup,"

create a reverse lookup zone,

and a PTR (pointer) record pointing to the server's IP address.



Website verification (to be done).

From a client workstation.

DHCP

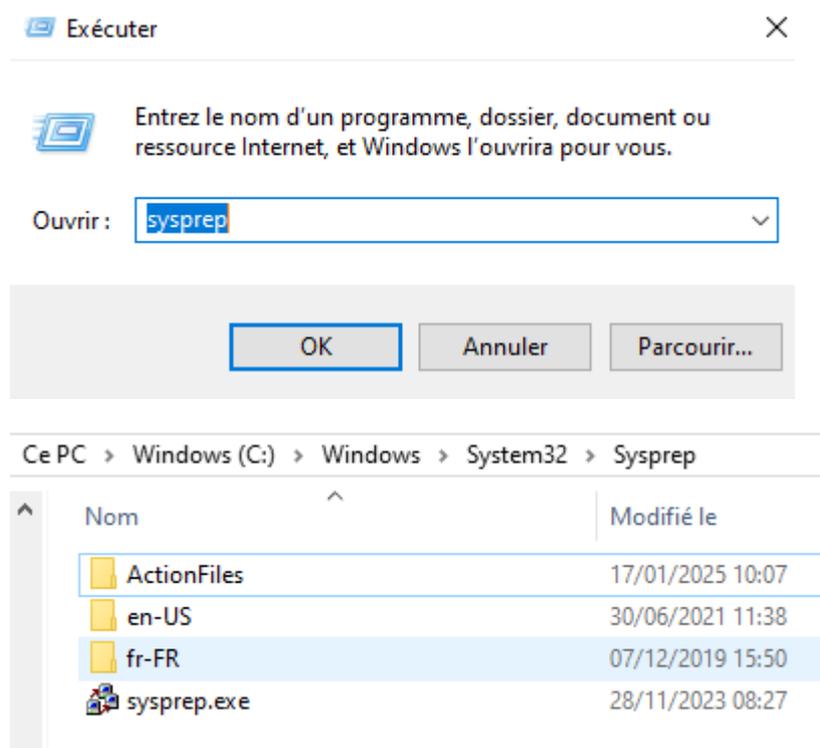
Scope Name	Address Pool	Reservations	Exceptions	Options
EFFICIENCE	192.168.59.30- 192.168.59.34 Mask : 255.255.255.0 CIDR : /24	00 :15 :2D :02 :E2 :1E / 192.168.59.32 (clt10-1) 00 :15 :5D :02 :E2 :21 / 192.168.59.33 (clt10-2)		Router : 192.168.59.254 DNS 1 : 192.168.59.240 DNS 2 : 192.168.59.241 NTP : 192.168.59.240 Nom de domaine DNS : effiencie- itct.fr

DFS

SYSPREP

Performing a SYSPREP before installing the DFS role is crucial as it resets the computer's SID to ensure a unique identifier for each machine, thus avoiding conflicts in a network environment. SYSPREP prepares the computer for later use by enabling the OOBE (Out-Of-Box Experience) mode.

Run SYSPREP:



<\\C:\windows\system32\sysprep> on dcsupp

Server roles

Rename the machine to "DCSupp" and restart to apply the changes.

On DC1, install the DFS role.

On DCSupp, install the roles AD DS, DHCP, and DFSR.

Add Distributed File System management in the MMC console of both servers.

Promote to domain controller by adding a controller, specifying the domain name, entering the domain name, administrator credentials, and password.

Configure the global catalog as fsmo. Add the UPN.

Set the restoration password to the administrator password.

Disable DNS delegation.

Replicate from all domain controllers.

Install on DCSupp: AD DS, DHCP, DNS, file server, and GPO.

In MMC, add: Server Resource Manager, Local Computer Management, AD, DNS, DHCP, and GPO.

Test on a client.

Add the two domain controllers in DNS.

On DC1, disconnect the network adapter.

On DCSupp, create the user "test_dc_supp" in Active Directory.

In DNS, under 192.168.59.110, create a new forward lookup zone record for the host "test." Example test table.

High Availability Functionality	OK?	Comments	High Availability Functionality
AD DS Server	YES	Creation of user "test_ad_dfs" in the directory on DC1 and verification on DCSupp	AD DS Server
AD DS Client	YES	Connection test with the new user while DC1 is turned off	AD DS Client
Server Login Scripts Adapted	YES	\\DC1\share_name replaced by the domain name \\efficence-itct.fr\share	Server Login Scripts Adapted
Client Login Scripts Adapted	YES	Resource access using the domain name	Client Login Scripts Adapted
DNS Replication	YES	Creation of the CNAME "compta" (IIS) on DC1 and updating the server data file	DNS Replication
DHCP Server Failover	YES	Addition of a DHCP reservation on DC1 and replication of the reservation on DCSupp	DHCP Server Failover
DHCP Client Failover	YES	Disable DC1 network adapter, ipconfig/release + renew. ipconfig/all: lease duration + DHCP server address (DC1 or DCSupp)	DHCP Client Failover

Gp result /R

In DNS, if it is identical to the parent folder, there is no need to specify it. Therefore, in scripts, replace \\dc1 with the domain name instead.

Go to the DHCP scope and configure failover. Do not use load balancing; select the backup server option with 20% > 40%. Disable message authentication.

In the scope options of DC1, add a second DNS IP address with .241.

Right-click on DCSupp and select replicate the scope.

In the scope properties.

In "Advanced," select both options; otherwise, the deployment will not provide an address.

The BOOTP (Bootstrap Protocol) was originally used, with the DHCP extension built on top of it.

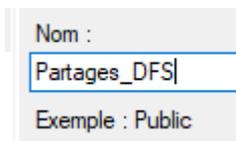
Set a delay of 1000 ms and limit it to 1 day.

Check which DHCP server is active via on the client workstation and verify whether the other server is aware of it.

On DC1, in the MMC console, go to DFS Management > Namespace > New. Select DC1.

For the name, choose either \srv\DFS_root_name or \domain_name\DFS_share.

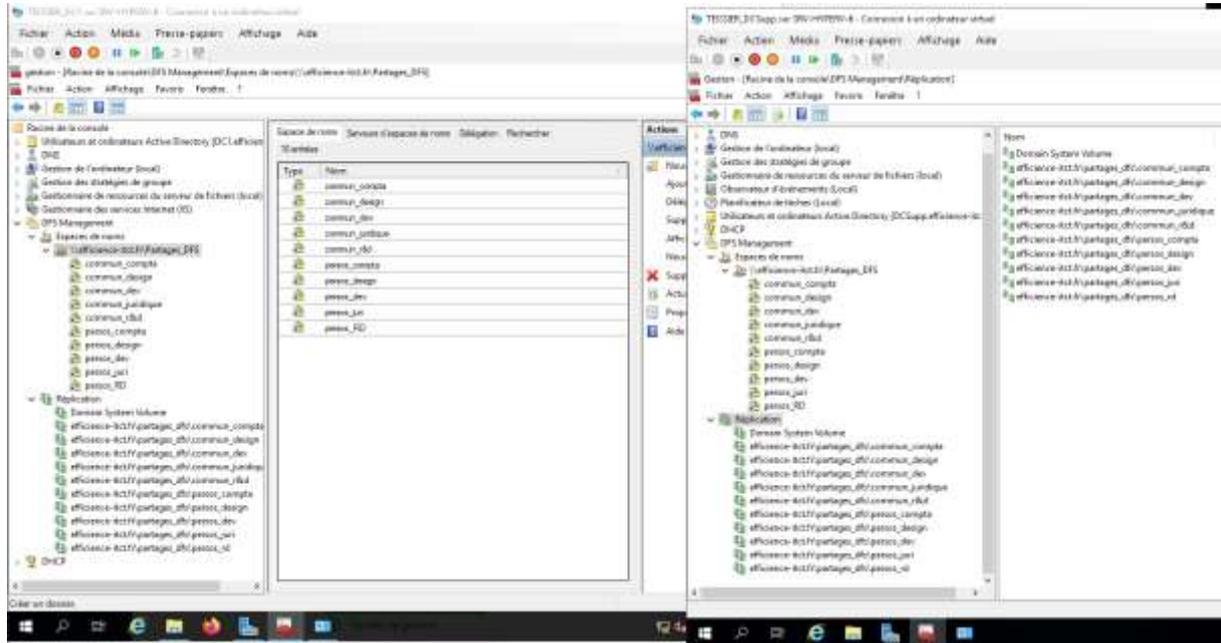
Name it: Partages_DFS.



Nom :
Partages_DFS
Exemple : Public

Choose to modify the setting and check the fourth box.

DFS-R



export logs:

Open the Event Viewer: Win+R > "eventvwr"

Export Windows logs: Select the desired log or a set of logs, and save it in CSV format instead of EVTX.

Glossary

AD - Active Directory

Directory service for Windows networks. Allows managing users and resources on a network.

ALIAS

An alternative email address associated with a user account. Aliases allow users to receive emails sent to different addresses without needing multiple email accounts.

DC - Domain Controller

A server that responds to security authentication requests.

DHCP - Dynamic Host Configuration Protocol

Automatically assigns IP addresses to devices on a network.

DNS - Domain Name System

Translates domain names into IP addresses.

Domain

Administrative unit in a computer network. Groups users, computers, and resources under a single security policy.

Forest

Set of Active Directory domains. A collection of domains sharing a common configuration.

GPO - Group Policy Object

Used to manage user and computer settings in a domain.

IIS - Internet Information Services

A web server for hosting websites and applications.

LAN - Local Area Network

A network covering a small geographical area, such as an office or building.

LDAP - Lightweight Directory Access Protocol

Used to access and manage information in a directory.

OU - Organizational Unit

A container in Active Directory for organizing users and resources.

RSOP - Resultant Set of Policy

Displays group policies applied to a user or computer.

SYSVOL - System Volume

Contains group policy files and login scripts.

Tree

Hierarchical structure in Active Directory. A collection of domains in a forest sharing a contiguous namespace.

NAT - Network Address Translation

Allows internal IP addresses to be hidden using a public IP address.

ACL - Access Control List

Defines permissions for users and groups on resources.

CIDR - Classless Inter-Domain Routing

A method for allocating IP addresses and routing IP traffic.

FQDN - Fully Qualified Domain Name

A complete domain name that includes the top-level domain.

HTML - HyperText Markup Language

Language used to create web pages.

HTTP - HyperText Transfer Protocol

Protocol for transferring data over the web.

HTTPS - HyperText Transfer Protocol Secure

A secure version of HTTP using SSL/TLS encryption.

IP - Internet Protocol

Protocol for addressing and routing data packets over a network.

ISO - International Organization for Standardization

Establishes international standards for various sectors.

MAC - Media Access Control

A unique address assigned to a network interface for communication on a physical network.

MMC - Microsoft Management Console

Interface for managing Windows administration tools.

NTFS - New Technology File System

File system used by Windows to store and retrieve files.

OSI - Open Systems Interconnection

Reference model for communication protocols in networking.

RAID - Redundant Array of Independent Disks

Data storage technology combining multiple disks for redundancy and performance.

RDP - Remote Desktop Protocol

Allows connecting to and controlling a remote computer.

RDS - Remote Desktop Services

Services for accessing remote applications and desktops.

RSA - Rivest-Shamir-Adleman (cryptosystem)

Asymmetric cryptography algorithm used to secure data.

SAM - Security Account Manager

Database storing user security information on a Windows system.

SMB - Server Message Block

Protocol for sharing files, printers, and serial ports between computers.

SOA - Start of Authority

DNS record containing information about the DNS zone.

SQL - Structured Query Language

Language used to manage and manipulate relational databases.

TLS - Transport Layer Security

Security protocol for encrypting communications on a network.

SSL - Secure Sockets Layer

Security protocol for establishing an encrypted connection between a client and a server.

TCP - Transmission Control Protocol

Communication protocol ensuring reliable delivery of data packets.

UDP - User Datagram Protocol

Communication protocol sending data packets without delivery guarantees.

URL - Uniform Resource Locator

Address used to access resources on the web.

NTDS - NT Directory Services

Active Directory database. Contains all information about your Active Directory domain, including users, groups, and machines.

TLD - Top-Level Domain

Final part of a domain name, such as .com or .org.

VHD - Virtual Hard Disk

File emulating a physical hard disk for virtual machines.

VHDX - Virtual Hard Disk Extended

File format for virtual hard disks with advanced features.

AVHDX - Automatic Virtual Hard Disk Extended

Virtual hard disk file used for virtual machine snapshots.

VMDK - Virtual Machine Disk

File format used by VMware for virtual hard disks.

VLAN - Virtual Local Area Network

Logical subnet grouping devices on a local network.

VM - Virtual Machine

Simulated computing environment emulating a physical computer.

VMCX - Virtual Machine Configuration

File containing virtual machine configuration data in Hyper-V.



VMGS - Virtual Machine Guest State

Used for checkpoint data and virtual machine snapshots.

VMRS - Virtual Machine Runtime State

Stores the runtime state of a virtual machine, including memory and CPU state.

VPN - Virtual Private Network

A secure connection between two networks or between a user and a network.

WAN - Wide Area Network

Wide Area Network. A network covering a large geographical area, such as a city or country.