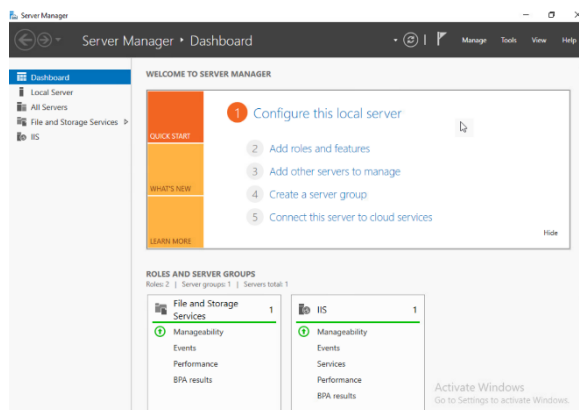


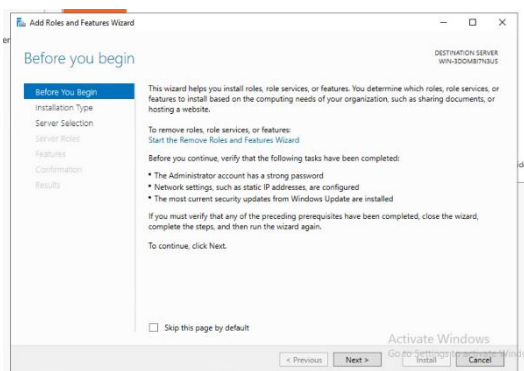
Windows FTP

1.0 How to install the FTP role on a Windows Server virtual machine

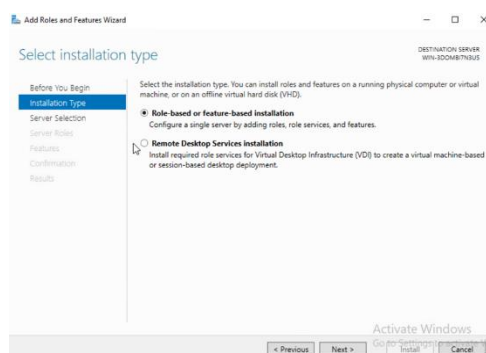
1. First you need to connect to your VM.
2. Open “Server Manager” and select “Add roles and features”.



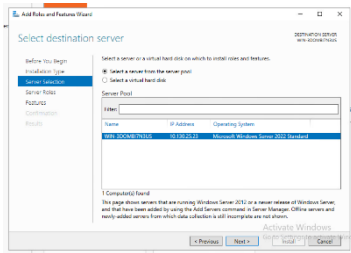
3. Click on **next**.



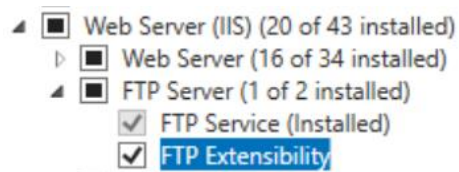
4. Select “Role-based or feature-based installation” and click on **next**.



5. Select “Select a server from the server pool” and click on **next**.

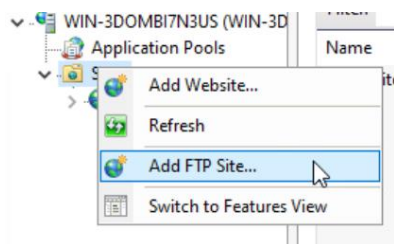


6. Choose “FTP Server” and click on **next** and then **install**.

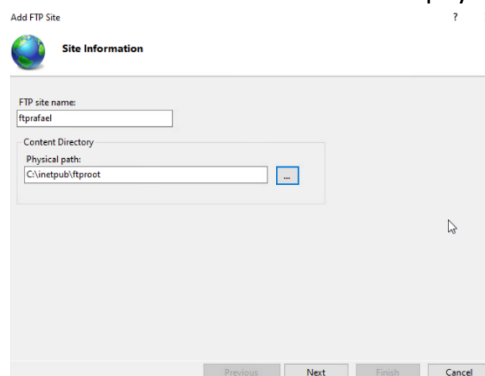


1.1 Anonymous access

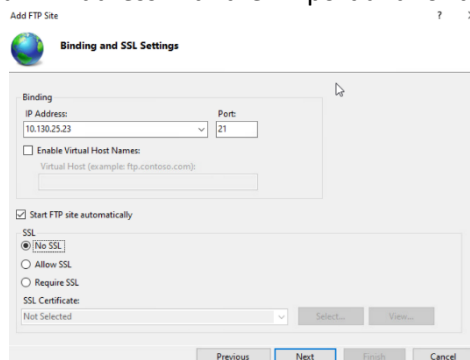
1. Open the IIS Manager.
2. Right click on “Sites” and the select “Add FTP Site...”.



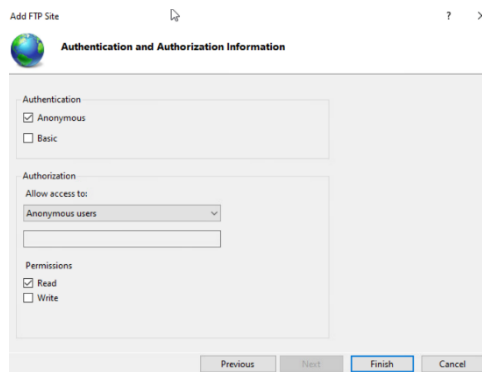
3. Choose an FTP site name and choose the physical path and then click on **next**.



4. Put your IP Address with the 21 port and for the security select “No SSL”, then, click on **next**.

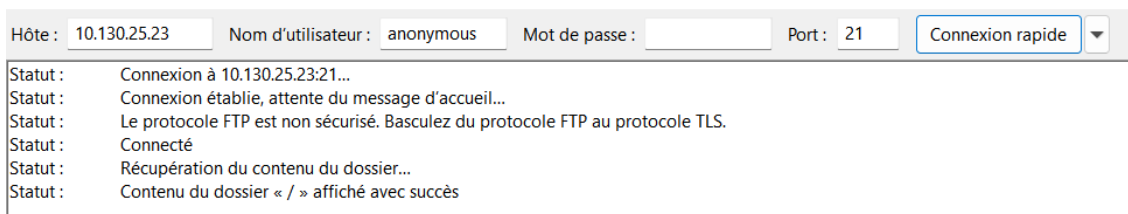


5. Select **anonymous** authentication and for the permission select **read** and then click on **next**.



Testing the server:

With FileZilla, I connect myself to the server as anonymous:



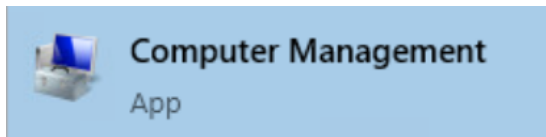
When I try to upload a file on the server, it gives me a **"550 Access is denied"** answer (because we gave read only permission to anonymous users).

```
Statut :      Démarrage de l'envoi de C:\Users\crafa\Test.txt
Commande : CWD /
Réponse :    250 CWD command successful.
Commande : PWD
Réponse :    257 "/" is current directory.
Commande : TYPE A
Réponse :    200 Type set to A.
Commande : PORT 10,28,2,80,205,231
Réponse :    200 PORT command successful.
Commande : STOR Test.txt
Réponse :    550 Access is denied.
Erreur :      Erreur critique lors du transfert du fichier
```

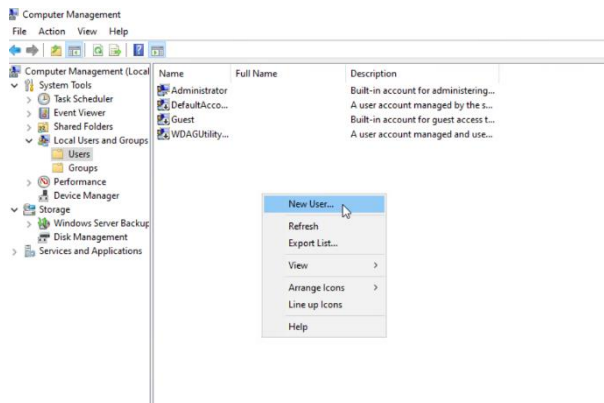
1.2 Authentication

How to make registered users:

1. Open “Computer Management”.



2. Go to “Users”, right click, and select “New User...”.



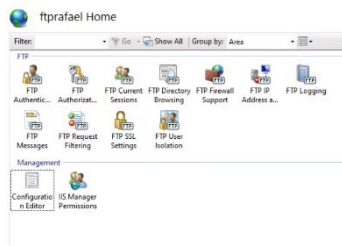
3. Choose a username, a full name, and a password. On the bottom you can choose some password options, I prefer to select “Password never expires”. Then click on **create**.

A screenshot of the "New User" dialog box. It has fields for "User name:" (filled with "user01"), "Full name:" (filled with "user01"), and "Description:". Below these are "Password:" and "Confirm password:" fields, both filled with dots. At the bottom, there are four checkboxes: "User must change password at next logon" (unchecked), "User cannot change password" (unchecked), "Password never expires" (checked), and "Account is disabled" (unchecked). At the very bottom are "Help", "Create", and "Close" buttons. The "Create" button is highlighted with a blue border.

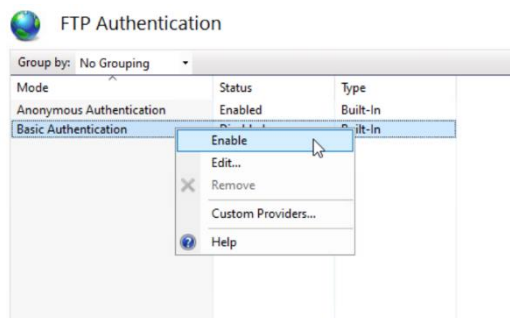
If you want to create more users, just repeat the process.

Give read/write access to registered users

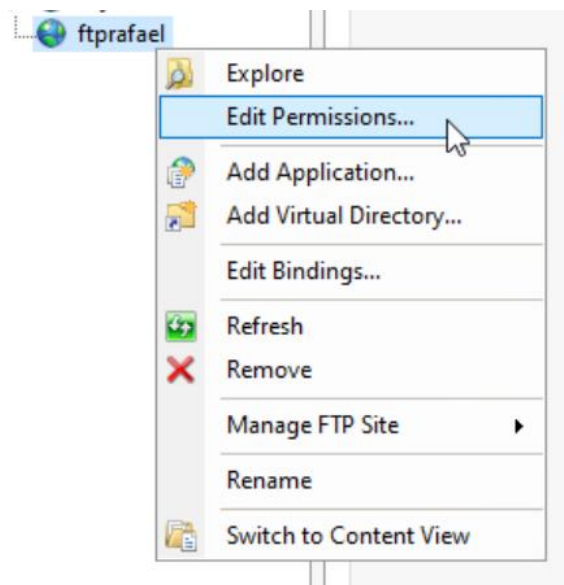
1. Open the IIS Manager.
2. On your ftp server, click on “FTP Authentication” .



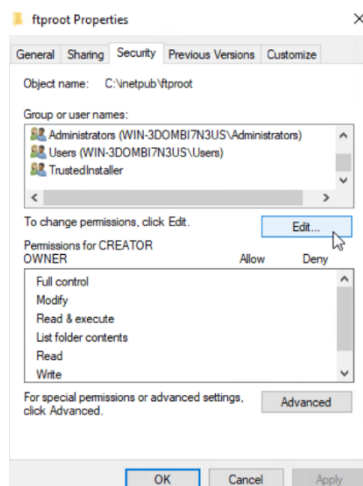
3. Enable “Basic Authentication”.



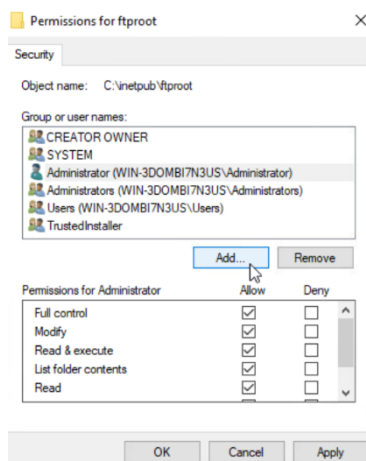
4. Right click on your ftp server → “Edit Permissions...”.



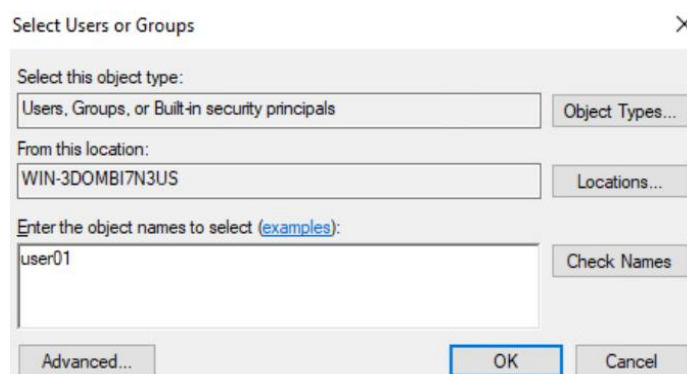
5. Go on “Security” and then click on **edit**.



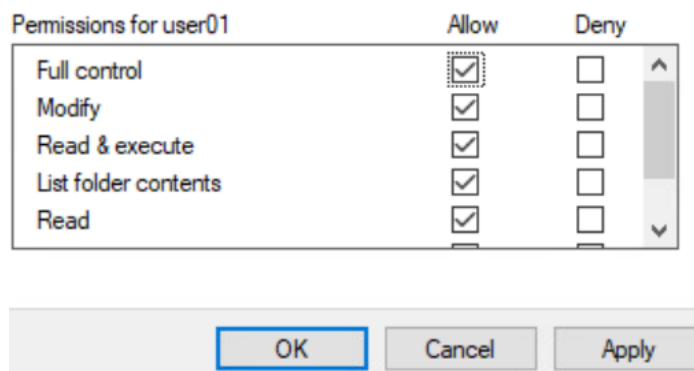
6. Select **add**.



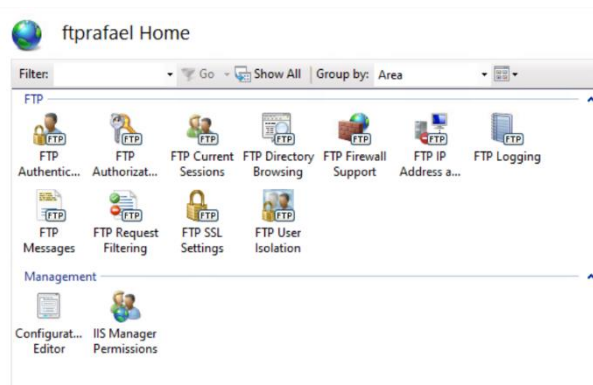
7. Enter your username and click on “Check Names” and then **OK**.



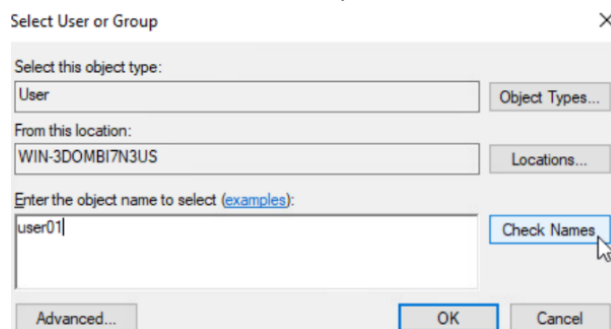
8. On the permissions for your user, allow everything and then click on **OK**.



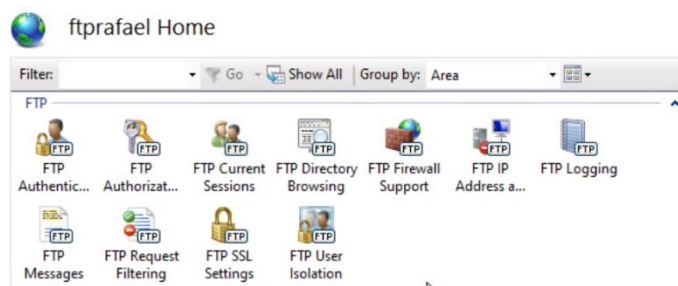
9. Then select "IIS Manager Permissions".



10. Click on allow user and add your users.



11. On your ftp server, select "FTP Authorization rule".



12. Add a rule that allow your users to read and write.

Allow access to this content to:

☐ All Users

☐ All Anonymous Users

☐ Specified roles or user groups:

Example: Admins, Guests

☒ Specified users:

Example: User1, User2

Permissions

☒ Read

☒ Write

OK Cancel

Testing the server with an FTP client:

With FileZilla, I connect myself with a user.

Hôte : 10.130.25.23 Nom d'utilisateur : user01 Mot de passe : Port : 21 Connexion rapide

Statut : Connexion à 10.130.25.23:21...

Statut : Connexion établie, attente du message d'accueil...

Statut : Le protocole FTP est non sécurisé. Basculez du protocole FTP au protocole TLS.

Statut : Connecté

Statut : Récupération du contenu du dossier...

Statut : Contenu du dossier « / » affiché avec succès

I can see that I have the read access, because I can see the content of the file.

I try to upload a file on the ftp server to see if I have the write access.

Statut : Démarrage de l'envoi de C:\Users\crafa\Test.txt

Statut : Transfert de fichier réussi, 11 octets transférés en 1 seconde

Statut : Récupération du contenu du dossier « / »...

Statut : Calcul du décalage horaire du serveur...

Statut : Timezone offset of server is 3600 seconds.

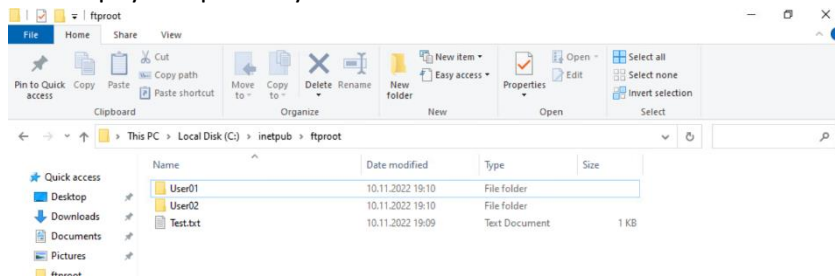
Statut : Contenu du dossier « / » affiché avec succès

Nom de fichier	Taille de fichier	Type de fichier	Dernière modification	Droits d'...	Propriéta...
..					
Test.txt	11	Document texte	10.11.2022 19:09:00		

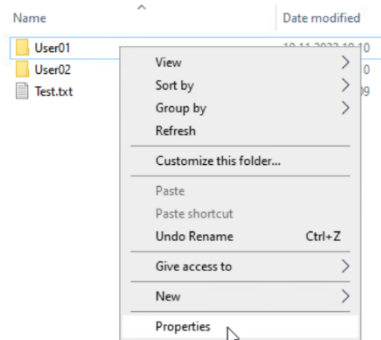
It worked; the file is now on the server.

1.3 Isolation

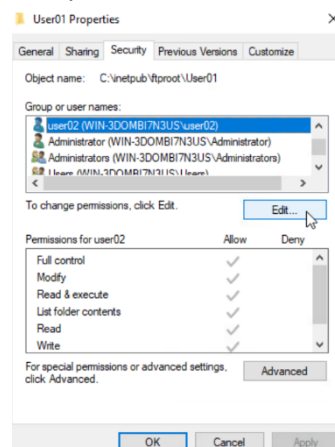
1. On the physical path of your FTP server create a folder for each user.



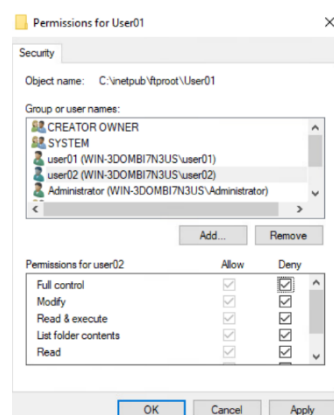
2. Then we must change the permissions so a user can't have access to the other user's folder.
3. We right click on the folder of the User01 and select "Properties"



4. We go to "Security" and select the user02, we click on **edit**.



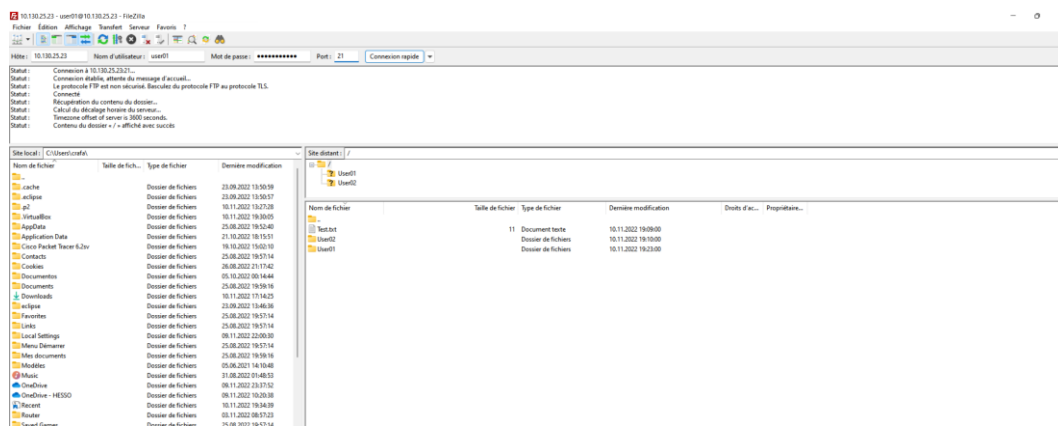
5. We deny all the permissions for the user02 and then click on **OK**.



For all the other users, the process is the same.

Testing the isolation with an FTP client

I connect myself to the ftp server with the user01.



I try to open the folder “User02”.

Commande : CWD User02

Réponse : 550 Access is denied.

Erreur : Impossible de récupérer le contenu du dossier

I can't open the folder; the server gave me an answer “550 Access is denied”

If I try to open the folder of the user01 with the user02, the same message appears:

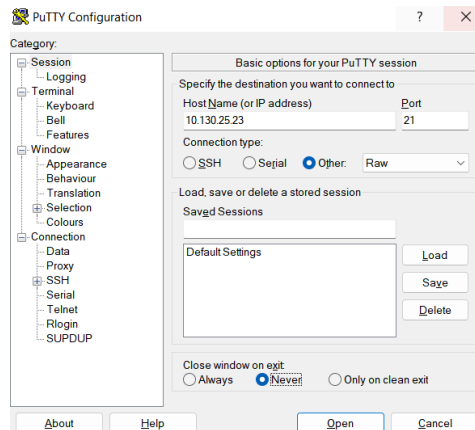
Commande : CWD User01

Réponse : 550 Access is denied.

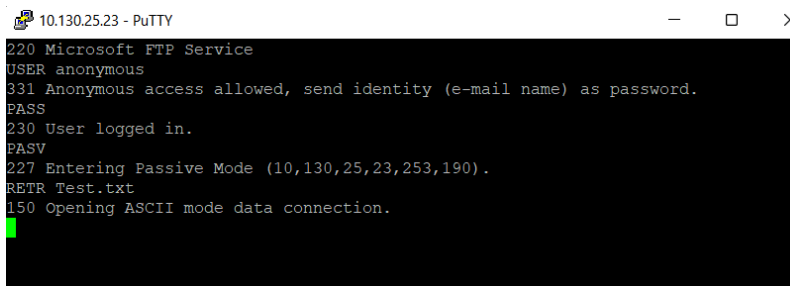
Erreur : Impossible de récupérer le contenu du dossier

1.4 Download a file

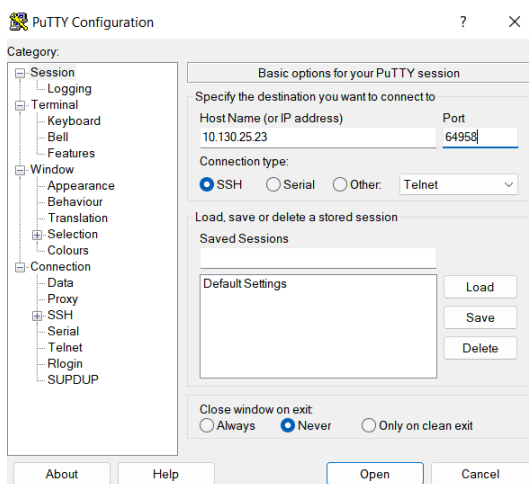
1. With putty, connect to your FTP server.



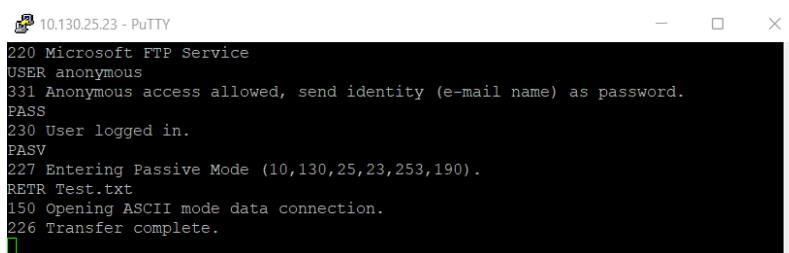
2. Connect as an anonymous and do the command RETR to download the file that you want.



3. We need to open a 2nd putty session. To calculate the port, we do the following formula:
a. $(5^{\text{th}} \text{ number} \times 256) + 6^{\text{th}} \text{ number}$




4. When we open the 2nd session, we have the “226 Transfer complete” answer that appears on the first session.



1.5 Upload a file

1. With putty, connect to your FTP server.
2. Connect as an anonymous and do the command STOR to download the file that you want.



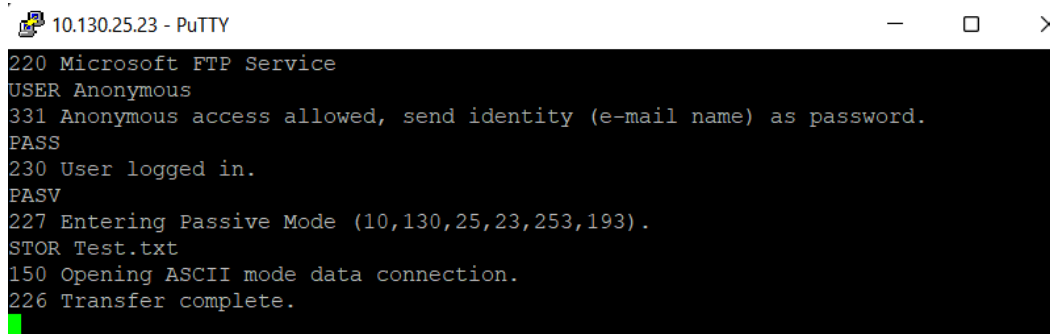
```
10.130.25.23 - PuTTY
220 Microsoft FTP Service
USER Anonymous
331 Anonymous access allowed, send identity (e-mail name) as password.
PASS
230 User logged in.
PASV
227 Entering Passive Mode (10,130,25,23,253,193).
STOR Test.txt
150 Opening ASCII mode data connection.
```

3. We need to open a 2nd putty session. To calculate the port, we do the following formula:
 - a. (5th number x 256) + 6th number
4. We write on the 2nd session what we want to be the content of the uploaded file.



```
10.130.25.23 - PuTTY
Hello world??
How are you
GOODBYE :)
```

5. When we close the 2nd session, we can see on the 1st on the answer “226 Transfer complete”.



```
10.130.25.23 - PuTTY
220 Microsoft FTP Service
USER Anonymous
331 Anonymous access allowed, send identity (e-mail name) as password.
PASS
230 User logged in.
PASV
227 Entering Passive Mode (10,130,25,23,253,193).
STOR Test.txt
150 Opening ASCII mode data connection.
226 Transfer complete.
```

6. We can go on the physical path of our FTP server to check if the file was really uploaded:

