Tutorial 5 Utiliser Ansible sur IBMi.

Table des matières

Objectifs

Dans ce TP ,nous allons utiliser Ansible sur notre IBMi. Pour respecter des contraintes d'infrastructure,notre IBMi sera le noeud de contrôle et nous exécuterons des tâches sur lui même en utilisant une connection locale (comme ubuntu-c).

Pour ce faire nous avons de réaliser quelques manipulations et installations d'outils.

Ainsi nous allons :

- Installer visual studio code sur votre poste client.
- Installer les différentes extensions nécessaires (code for IBMi) via un profile gist ?
- Ajouter un .profile et
- Ajouter des tachés en nous aidant des modules pour :.bashrc pour configurer votre shell sur l'IBMi.
- Cloner le dépôt ansibleMelodie sur votre home.
- Configurer Ansible (ansible.cfg) et tester via CLI.
- Creation d'un inventaire en localhost (group_vars python3) et Test via le CLI
- Appeler un playbook créé au chapitre précédant pour voir ...

Ressources

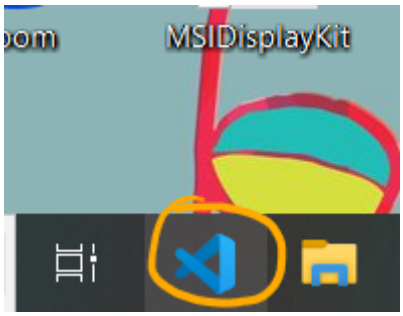
- Environnement
- Temps : 60 mn.

Pré-Requis

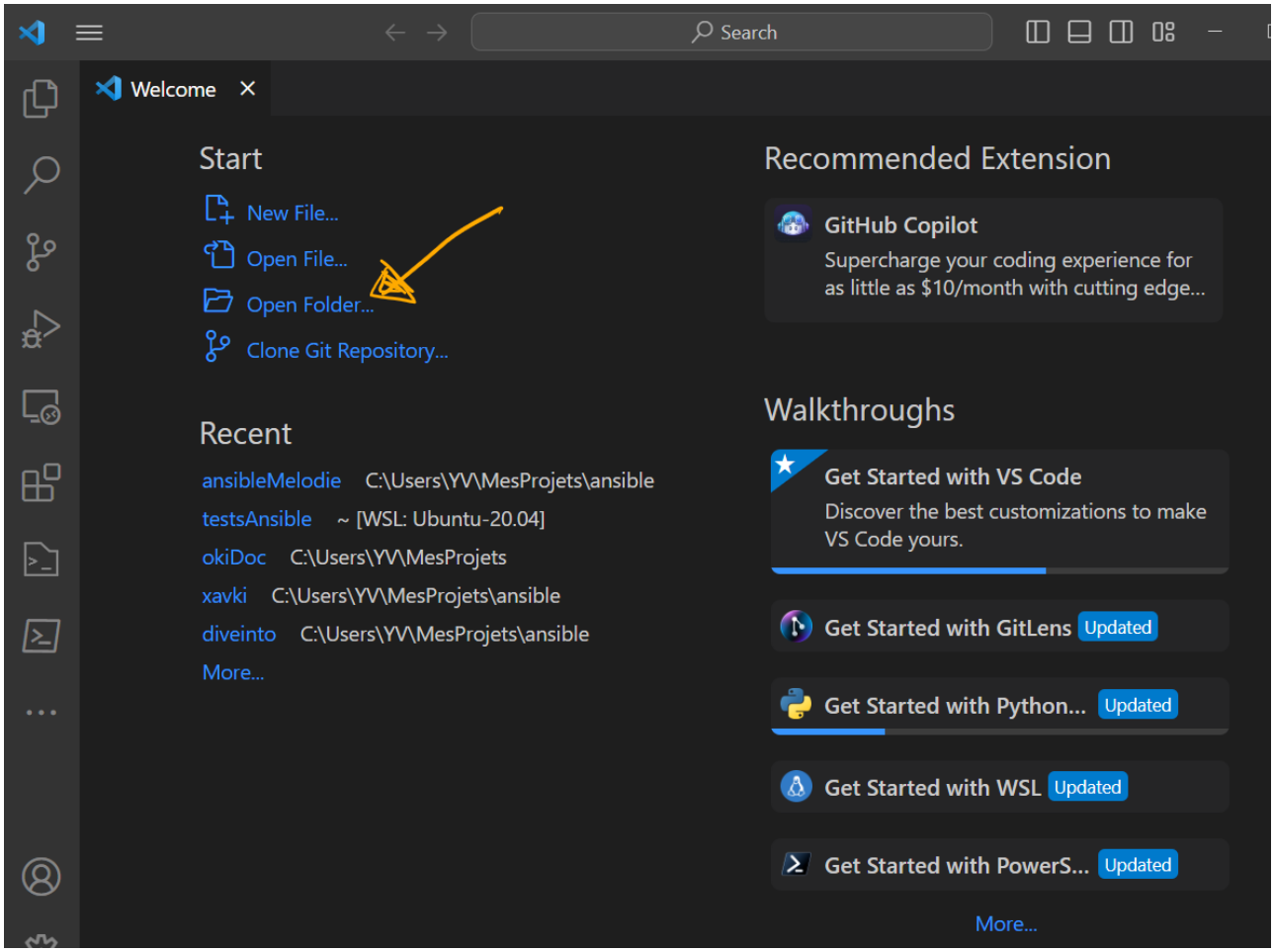
Énoncé

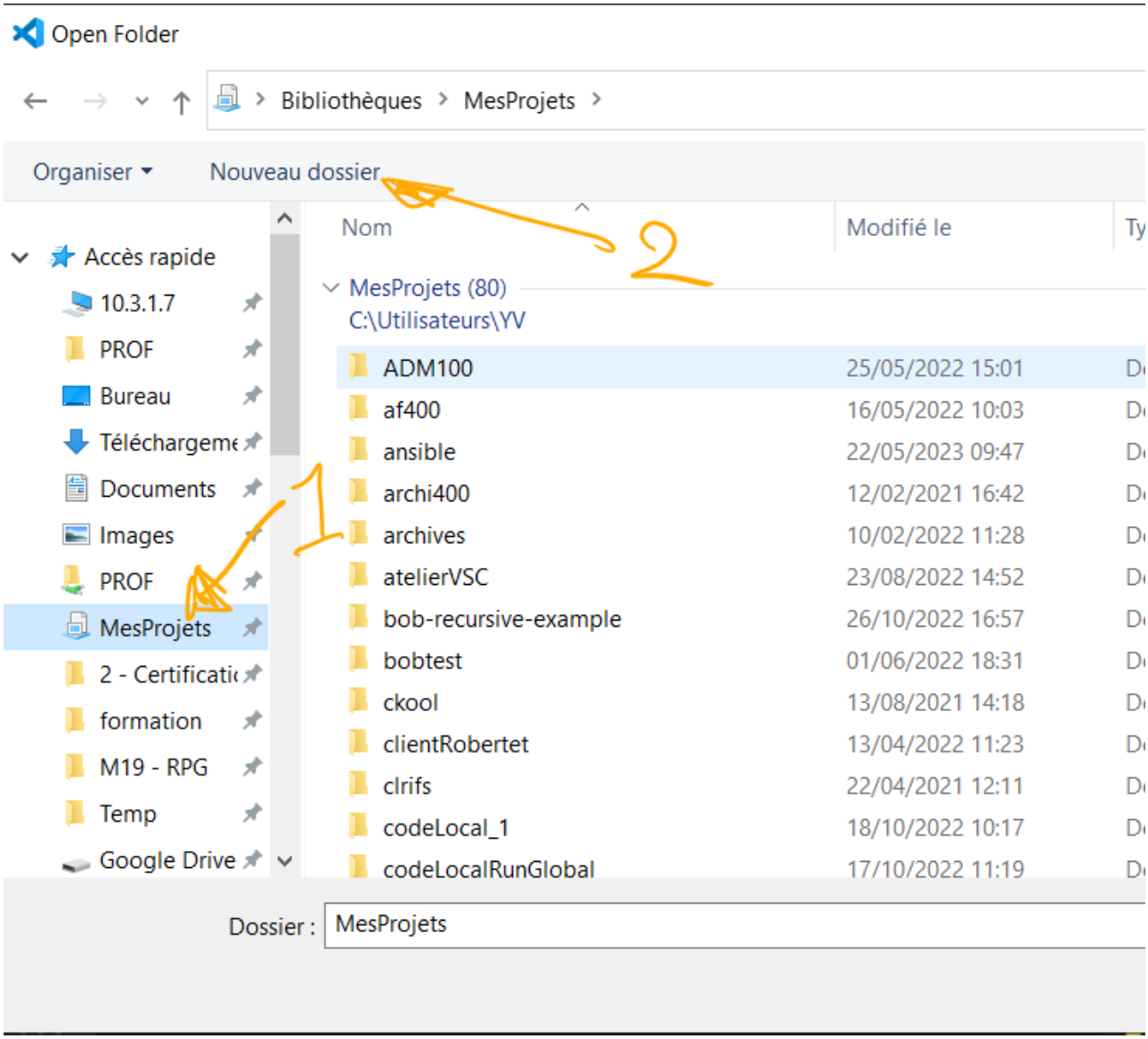
Etape 1 Installer Visual Studio Code sur le poste client.

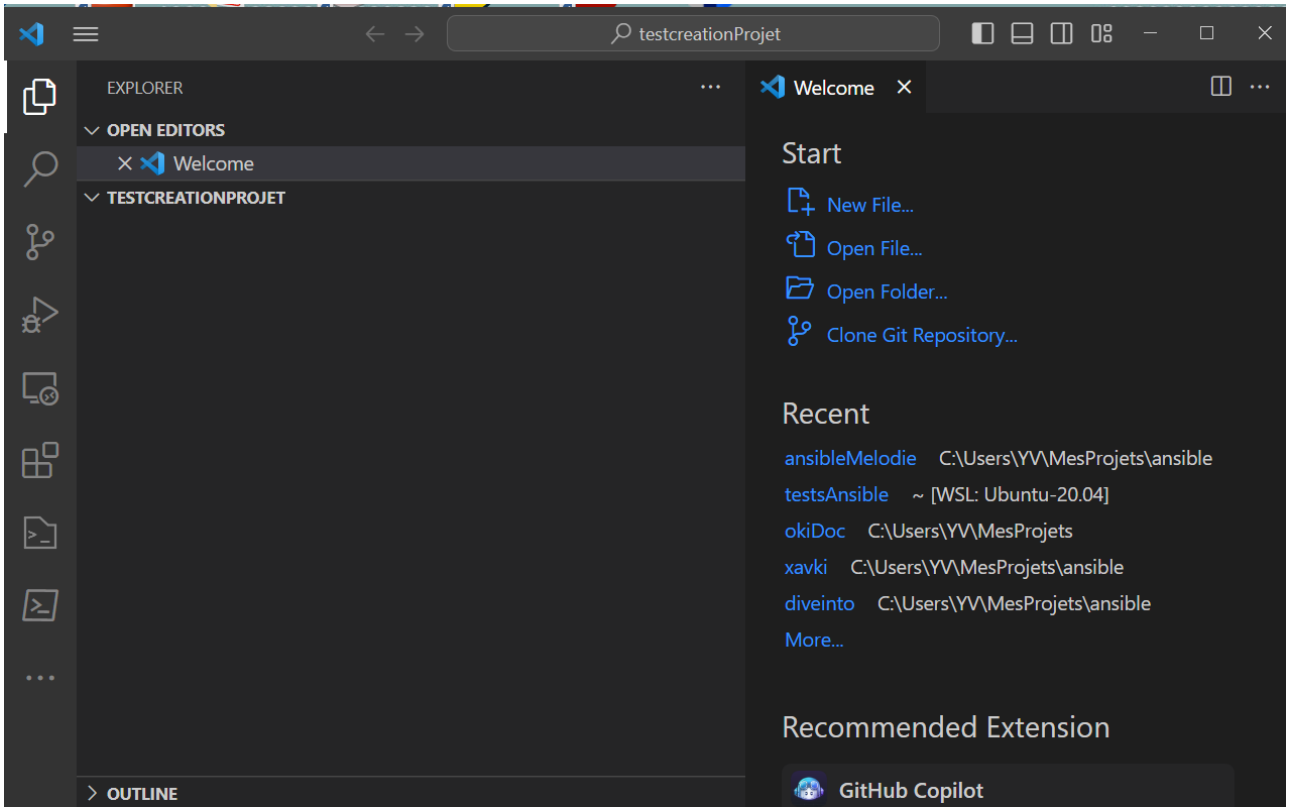
1. Download Visual Studio Code
2. lancer l'installation. 😉lors de l'installation ,choisissez l'option pour avoir vsc en clic droit et le raccourci sur le bureau.



3. Ouvrer VSC et créer un dossier (ou vous voulez pour travailler)

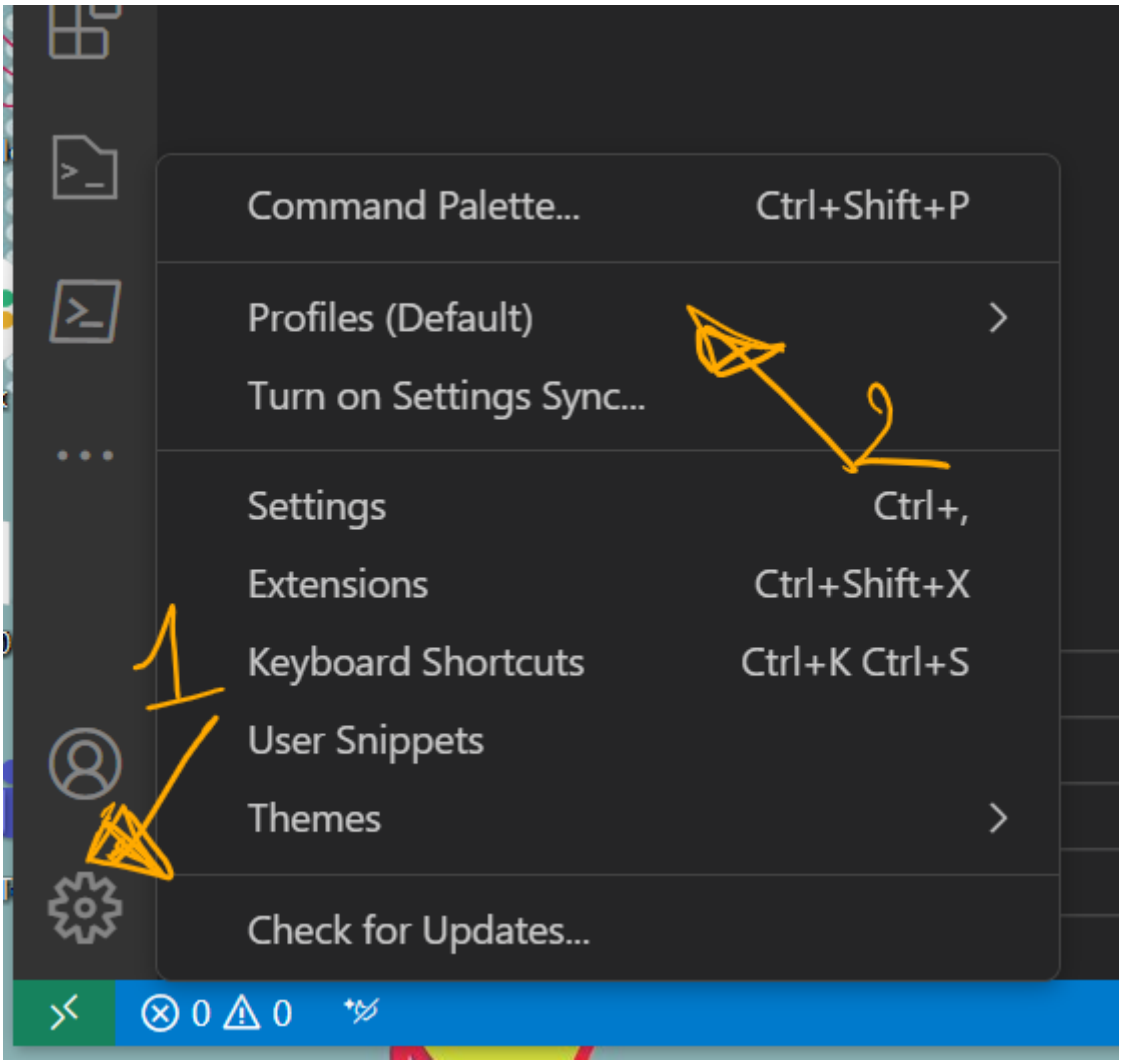


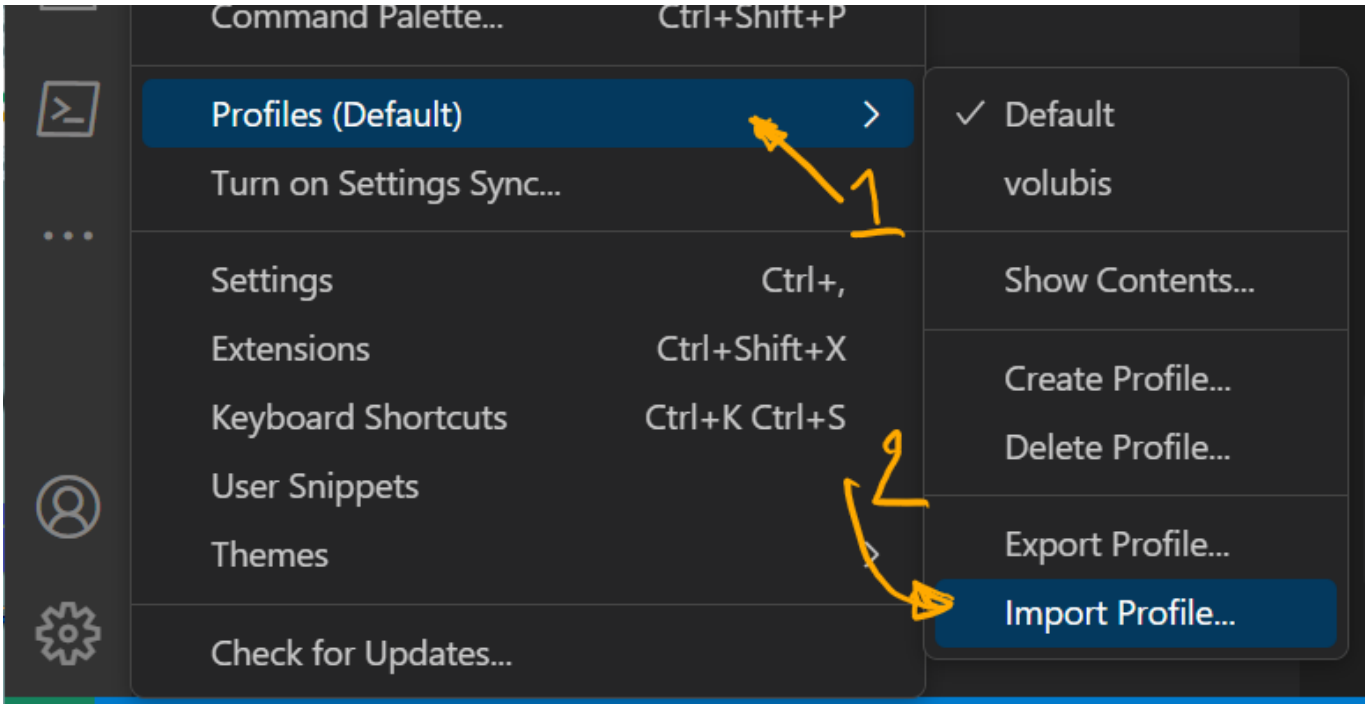

Open Folder
Bibliothèques > MesProjets >
Organiser
Nouveau dossier
Accès rapide
10.3.1.7
PROF
Bureau
Téléchargeme
Documents
Images
PROF
MesProjets
2 - Certificati
formation
M19 - RPG
Temp
Google Drive
Nom
Modifié le
MesProjets (80)
C:\Utilisateurs\YV
ADM100 25/05/2022 15:01
af400 16/05/2022 10:03
ansible 22/05/2023 09:47
archi400 12/02/2021 16:42
archives 10/02/2022 11:28
atelierVSC 23/08/2022 14:52
bob-recursive-example 26/10/2022 16:57
bobtest 01/06/2022 18:31
ckool 13/08/2021 14:18
clientRobertet 13/04/2022 11:23
clrifs 22/04/2021 12:11
codeLocal_1 18/10/2022 10:17
codeLocalRunGlobal 17/10/2022 11:19
Dossier : MesProjets
templateProjet 28/10/2021 17:57 Dossier de fichiers
templateProjetNew 16/09/2022 14:28 Dossier de fichiers
templates 22/04/2021 12:04 Dossier de fichiers
tereva_DEV40B 08/03/2022 12:23 Dossier de fichiers
TestCodeLocal 18/10/2022 11:15 Dossier de fichiers
testcreationProjet 15/06/2023 16:40 Dossier de fichiers
Dossier : testcreationProjet
Sélectionner un dossier
Annuler

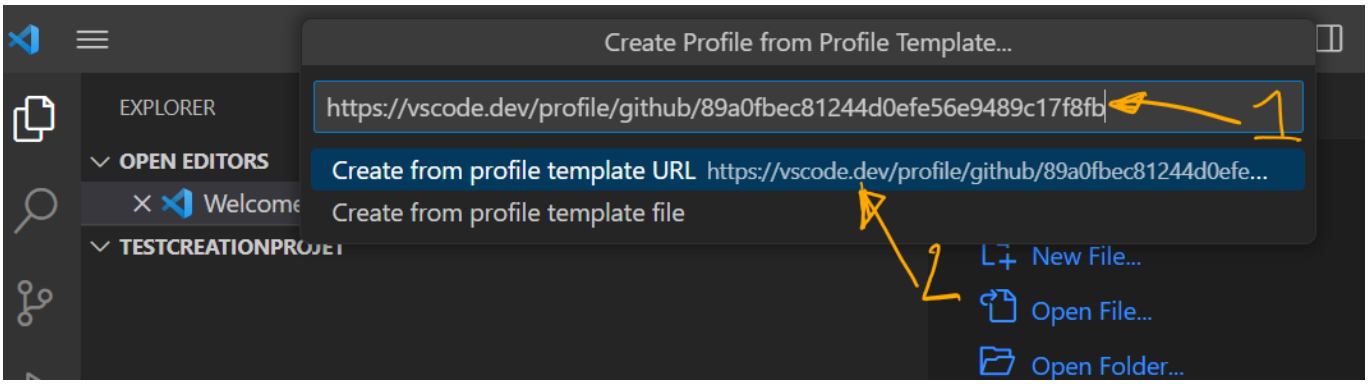


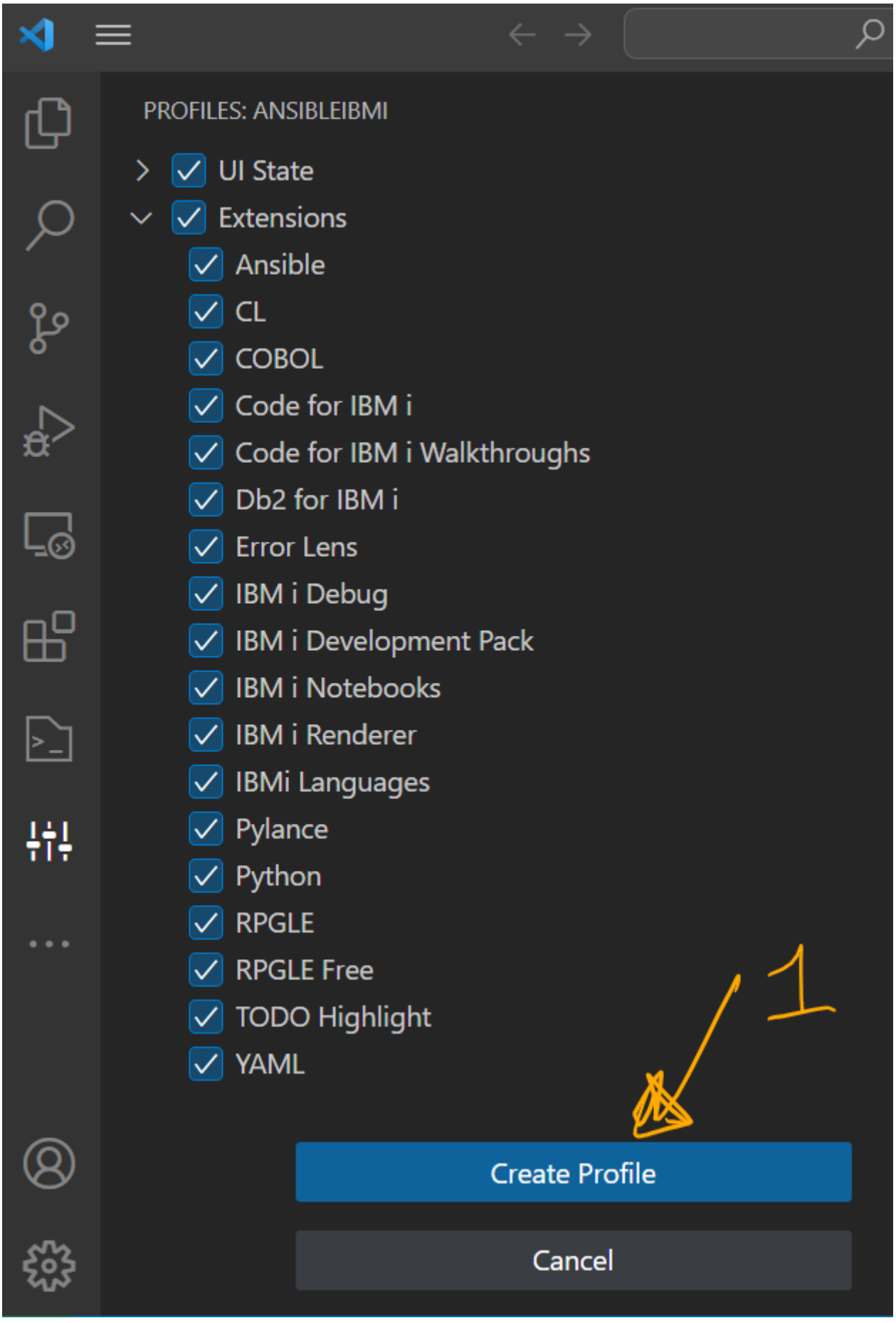
Etape 2 Installer code for IBMi.

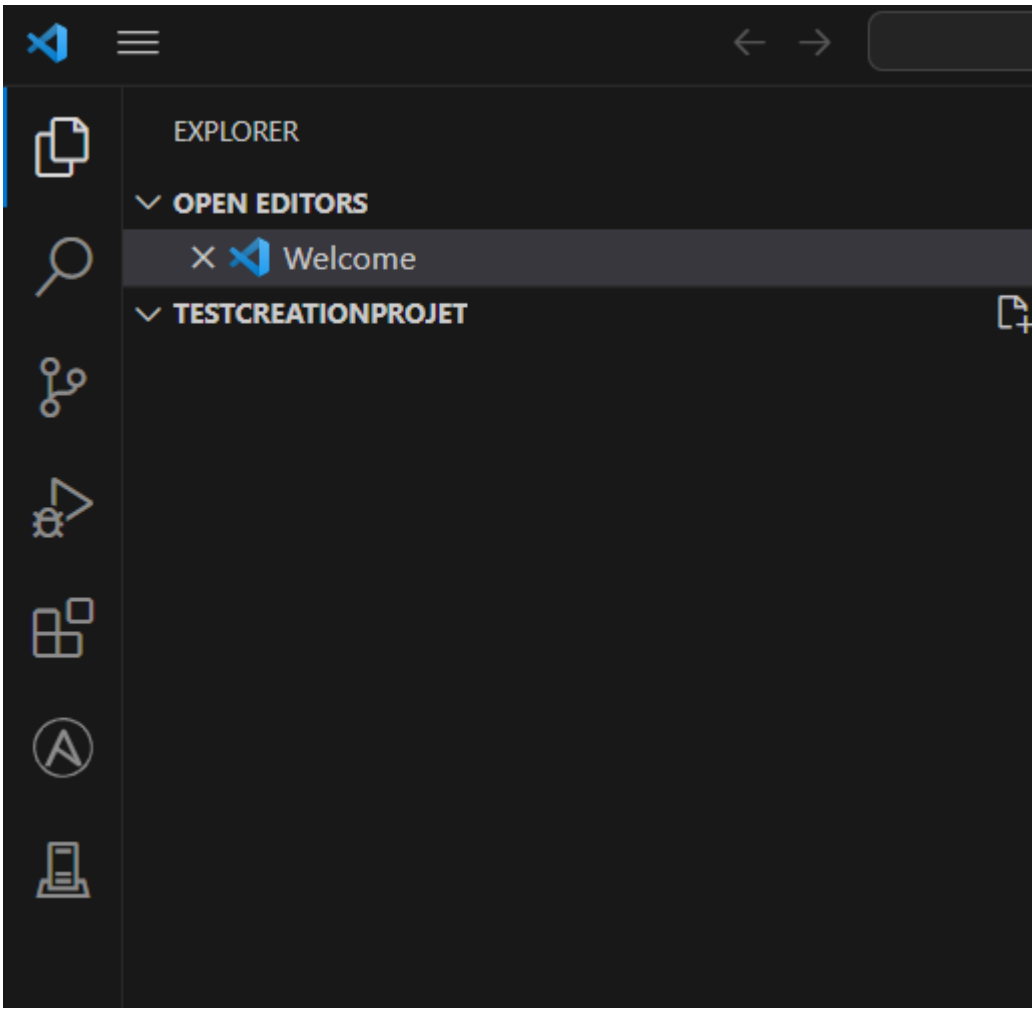
1.installation des extensions via un profile. profile Ansible



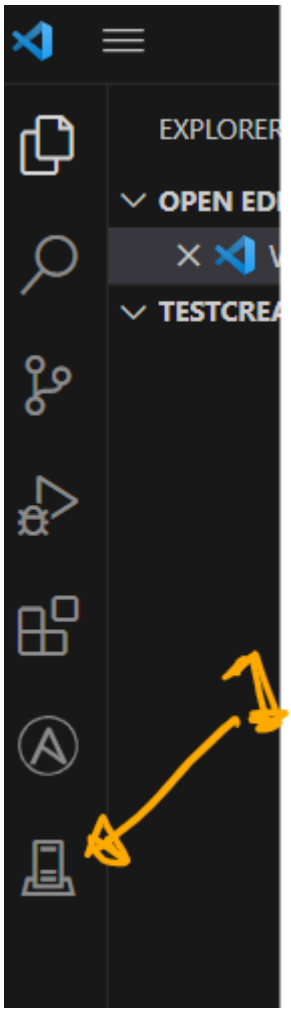

Command Palette... Ctrl+Shift+P
Profiles (Default)
Turn on Settings Sync...
Settings Ctrl+,
Extensions Ctrl+Shift+X
Keyboard Shortcuts Ctrl+K Ctrl+S
User Snippets
Themes
Check for Updates...
Default
volubis
Show Contents...
Create Profile...
Delete Profile...
Export Profile...
Import Profile...


Create Profile from Profile Template...
https://vscode.dev/profile/github/89a0fbec81244d0efe56e9489c17f8fb
Create from profile template URL https://vscode.dev/profile/github/89a0fbec81244d0efe...
Create from profile template file
EXPLORER
OPEN EDITORS
Welcome
New File...
Open File...
Open Folder...

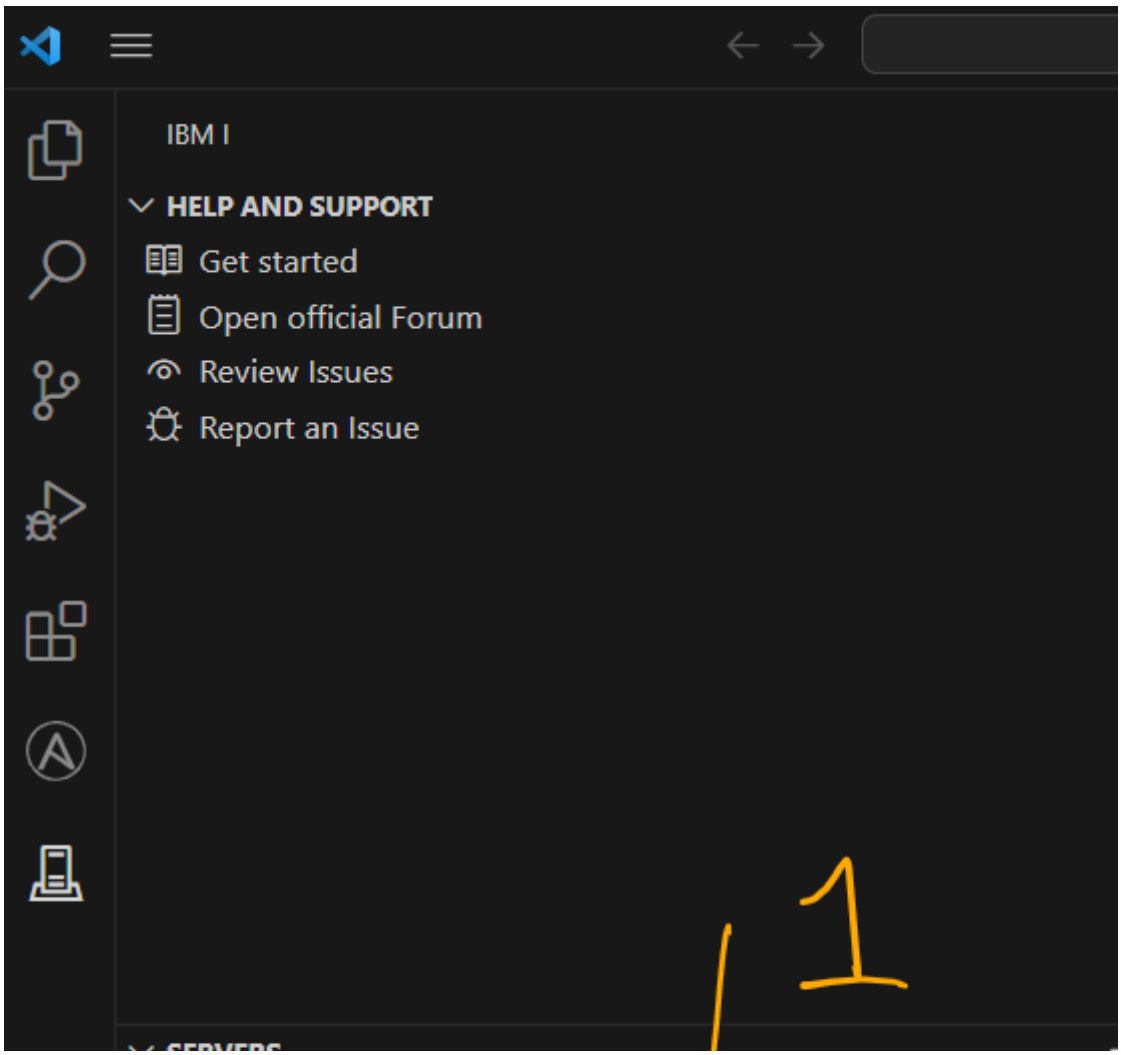

PROFILES: ANSIBLEIBMI
UI State
Extensions
Ansible
CL
COBOL
Code for IBM i
Code for IBM i Walkthroughs
Db2 for IBM i
Error Lens
IBM i Debug
IBM i Development Pack
IBM i Notebooks
IBM i Renderer
IBMi Languages
Pylance
Python
RPGLE
RPGLE Free
TODO Highlight
YAML
1
Create Profile
Cancel

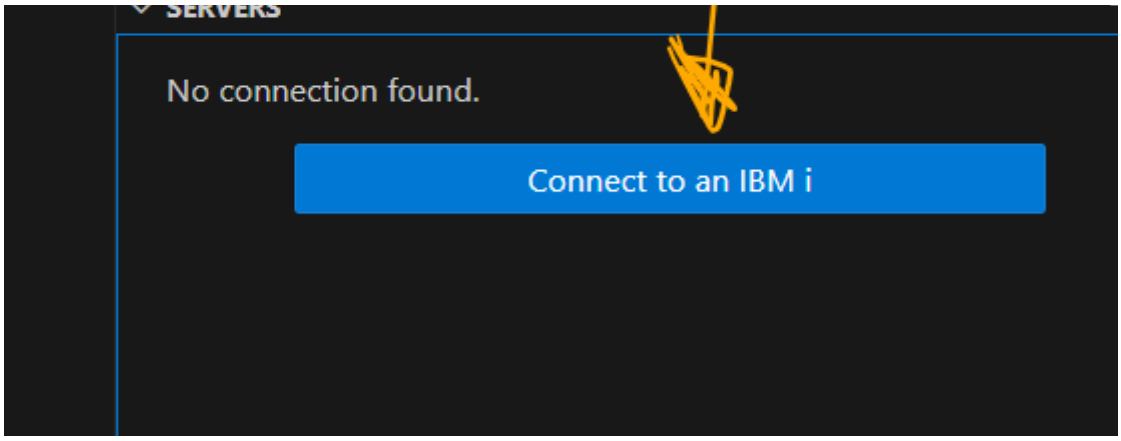


1. connection à Armonie via code for IBMi

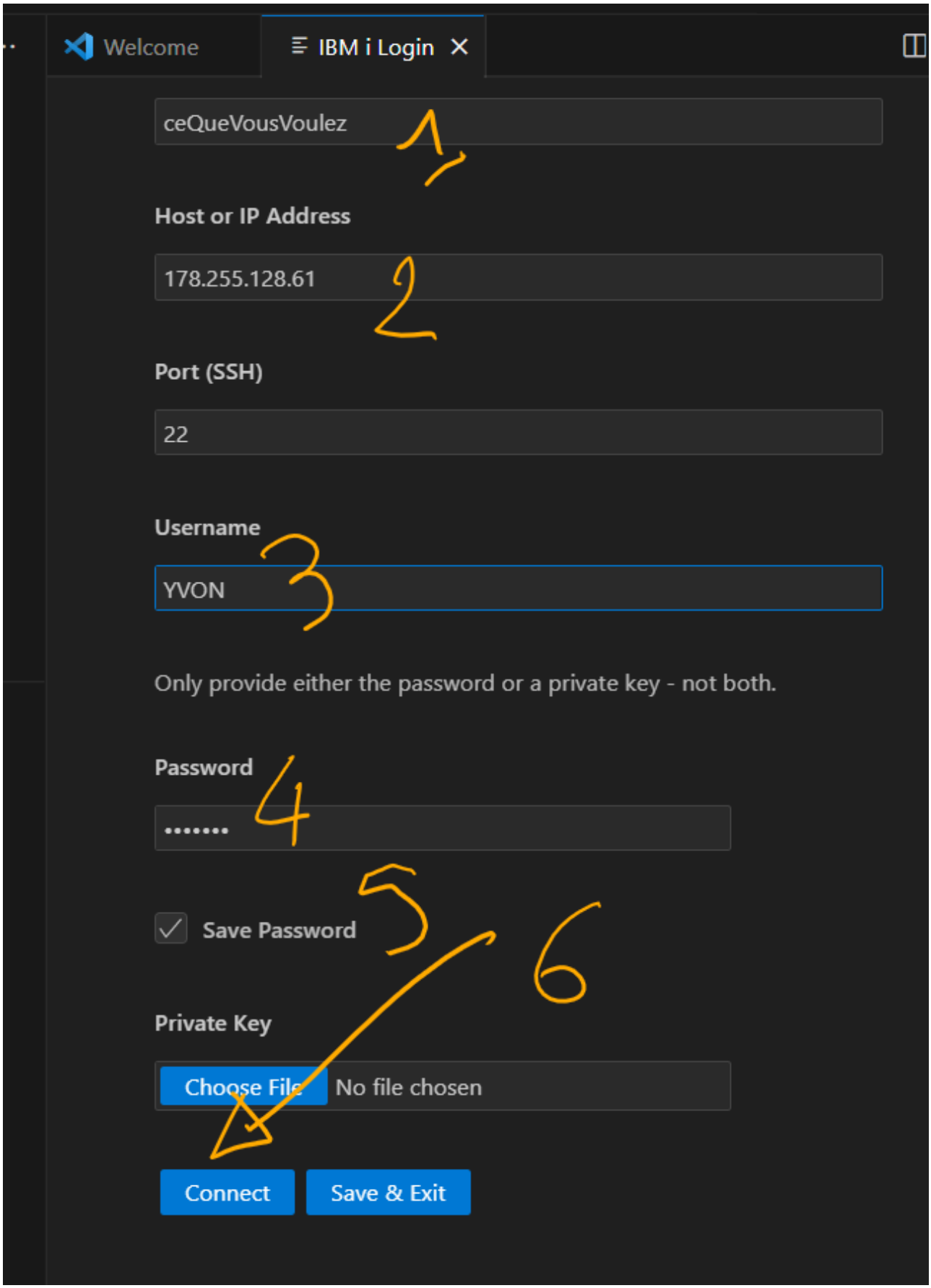


- lancer `code for IBMi`

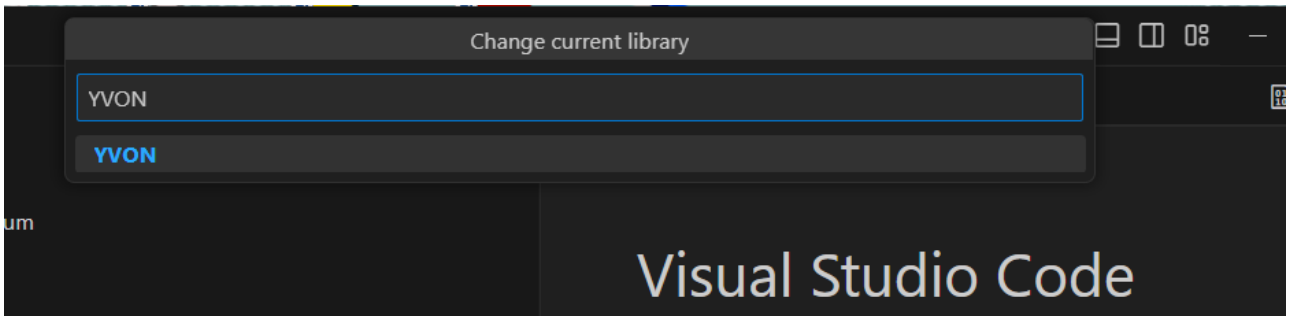




connection name : `ceQueVousVoulez` host ou IP: `178.255.128.61` userName : `VotreProfilIBMi` password : `votrePasswordIBMi` savePassword : ok

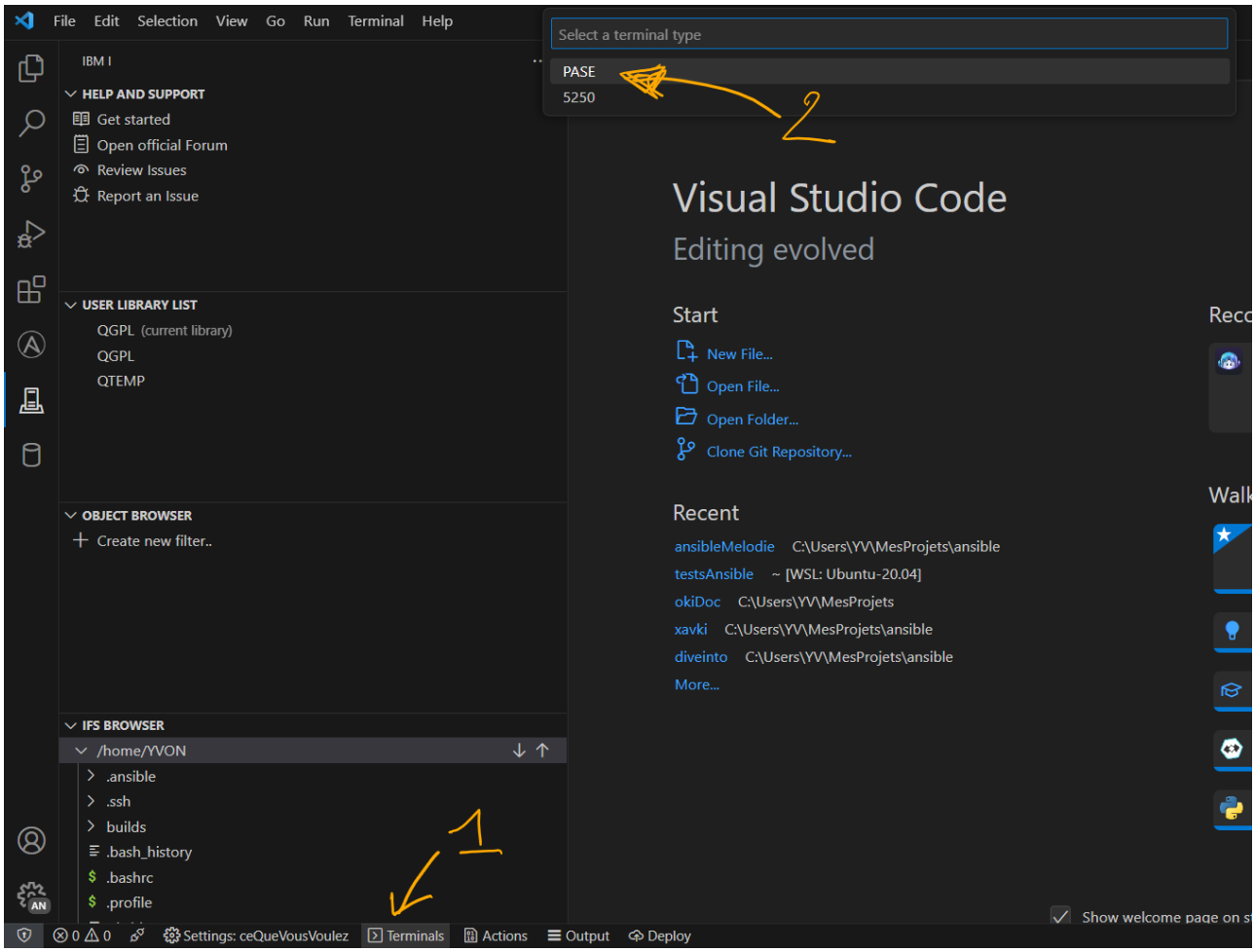


accepter le message précisant le changement de la bibliothèque courante



mise en place de .profile et bashrc

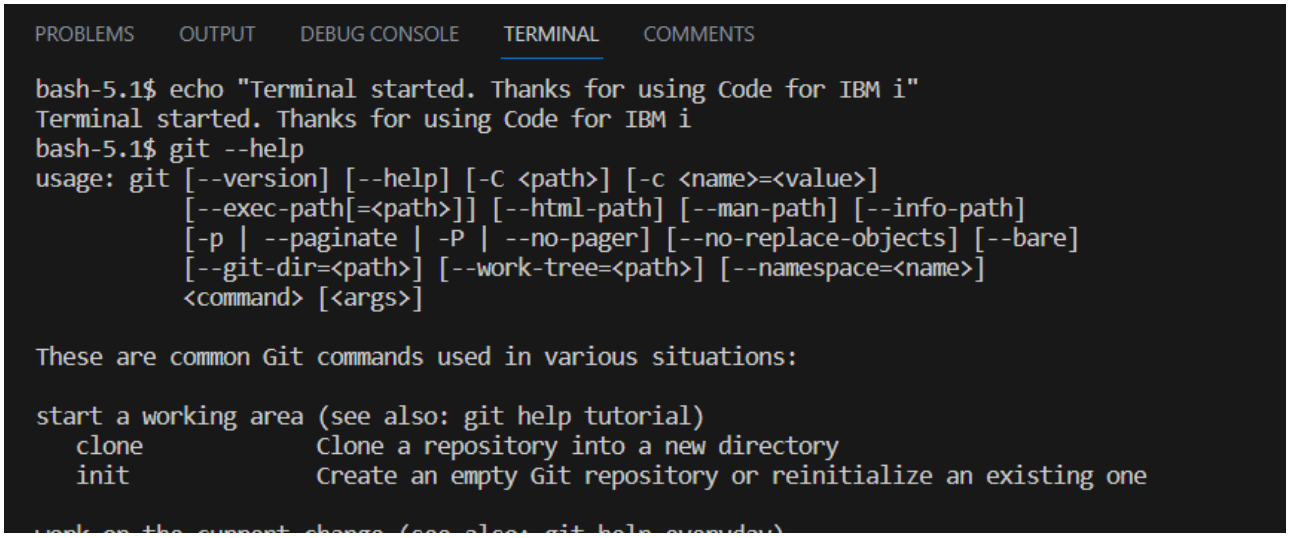
1. Ouvrir une session shell



`cp /home/YVON/.profile .` verifiez avec `ls -a` idem pour le fichier .bashrc `cp /home/YVON/.bashrc .`

2. fermer ce terminal pase et rouvrez un nouveau terminal

3. tester en appelant l'aide de git

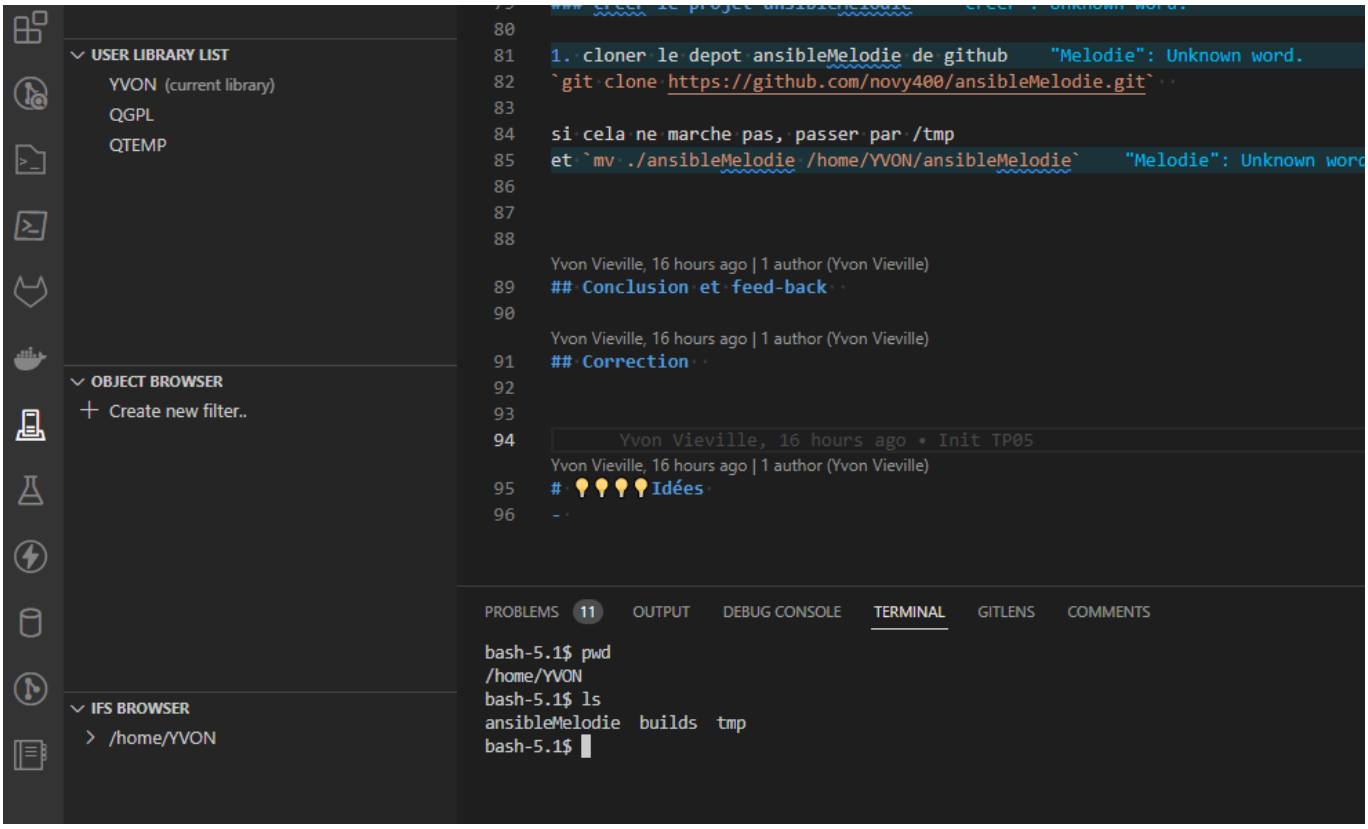


`git --help`

créer le projet ansibleMelodie

1. cloner le depot ansibleMelodie de github `git clone https://github.com/novy400/ansibleMelodie.git`

si cela ne marche pas, passer par /tmp et `mv ./ansibleMelodie /home/YVON/ansibleMelodie`



1. se placer dans le dossier ansibleMelodie

```
cd ansibleMelodie
git pull
```

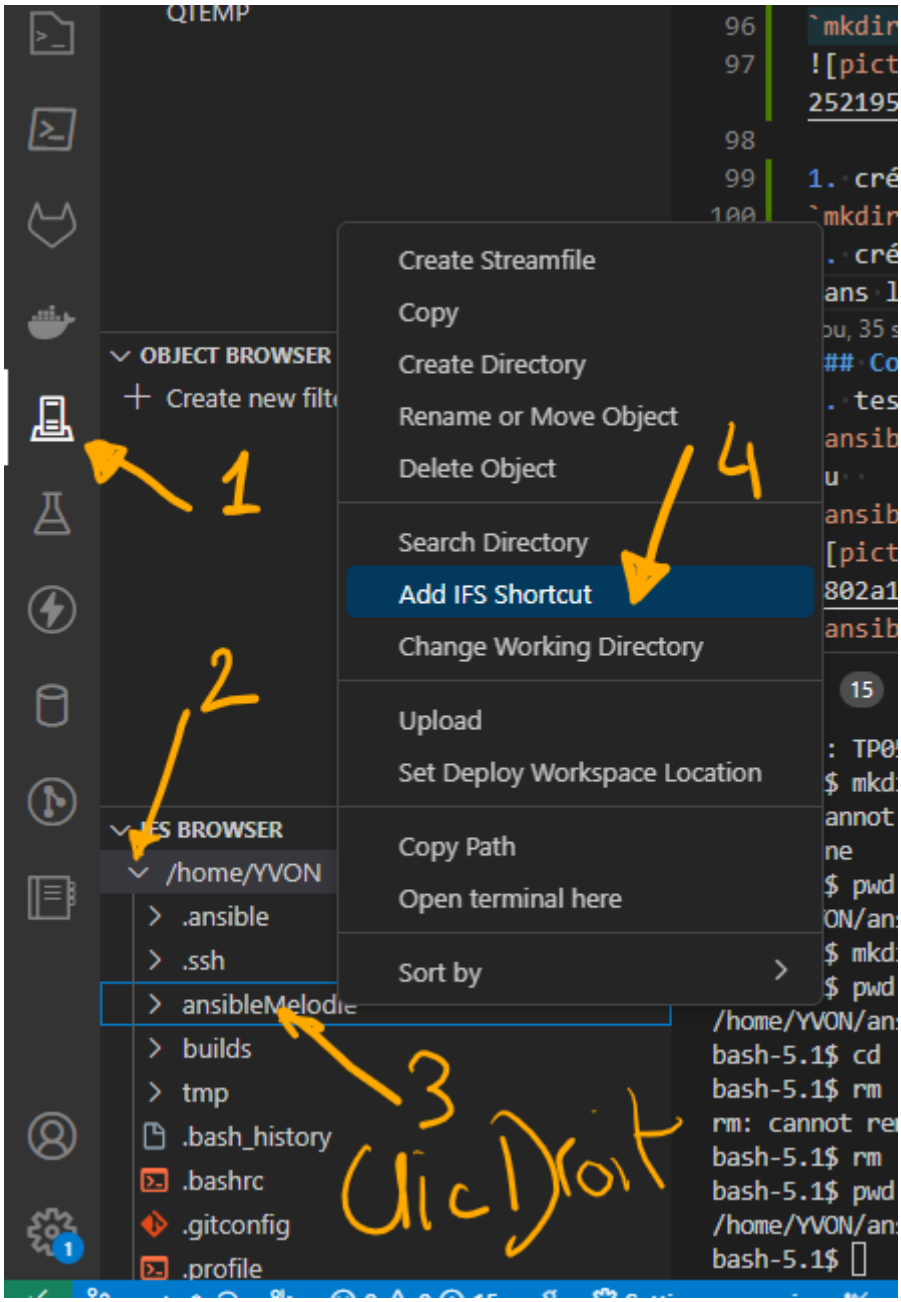
1. créer un dossier myWork `mkdir mywork ; cd myWork`

```
 create mode 100644 images/d18ff28f6ee4c0e950a03856d488ec88de.
 create mode 100644 images/f768810c32800908c0a6634c944857f12e
bash-5.1$ cd ansibleMelodie
bash: cd: ansibleMelodie: No such file or directory
bash-5.1$ pwd
/home/YVON/ansibleMelodie
bash-5.1$ mkdir myWork
bash-5.1$ cd myWork
bash-5.1$
```

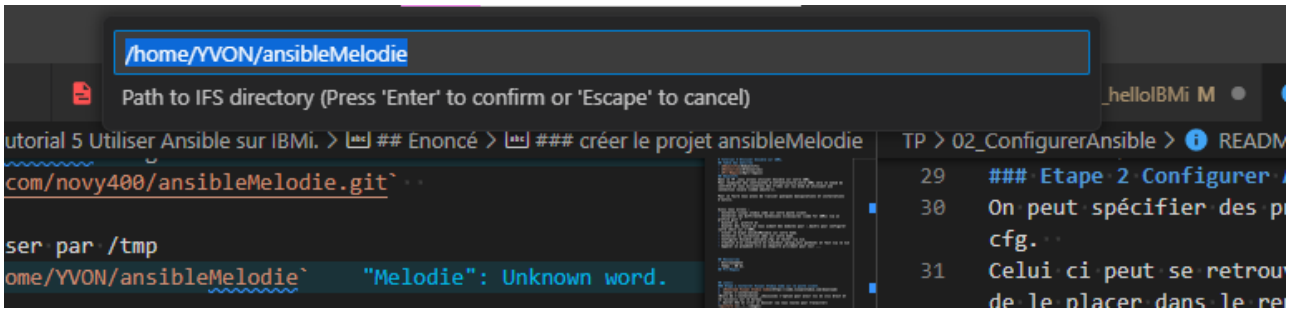
2. créer un dossier TP05 pour notre projet.
   `mkdir TP05 ; cd TP05`

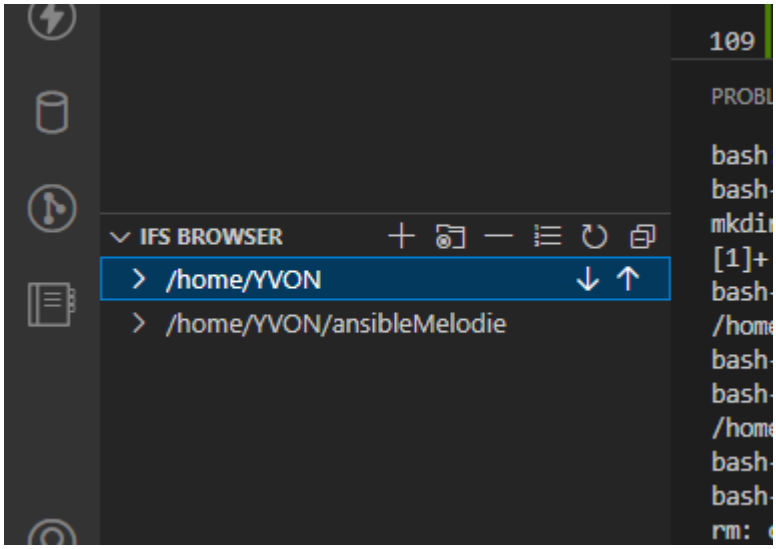
3. création d'un raccourci dans code for IBMi. Dans la partie `IFS BROWSER` de COde for IBMI.

- deployer le dossier home (/home/VOTREPROFIL)
- cliquer droit sur le dossier ansibleMelodie



- ajouter un raccourci
  -confirmer par la touche entree



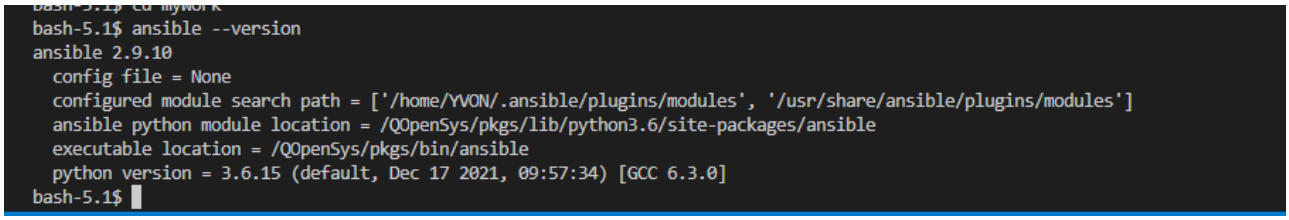


Configurer ansible

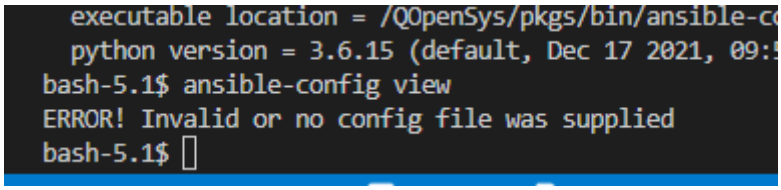
1. tester la configuration existante via les commandes CLI `ansible --version`

   ou

   `ansible-config --version`

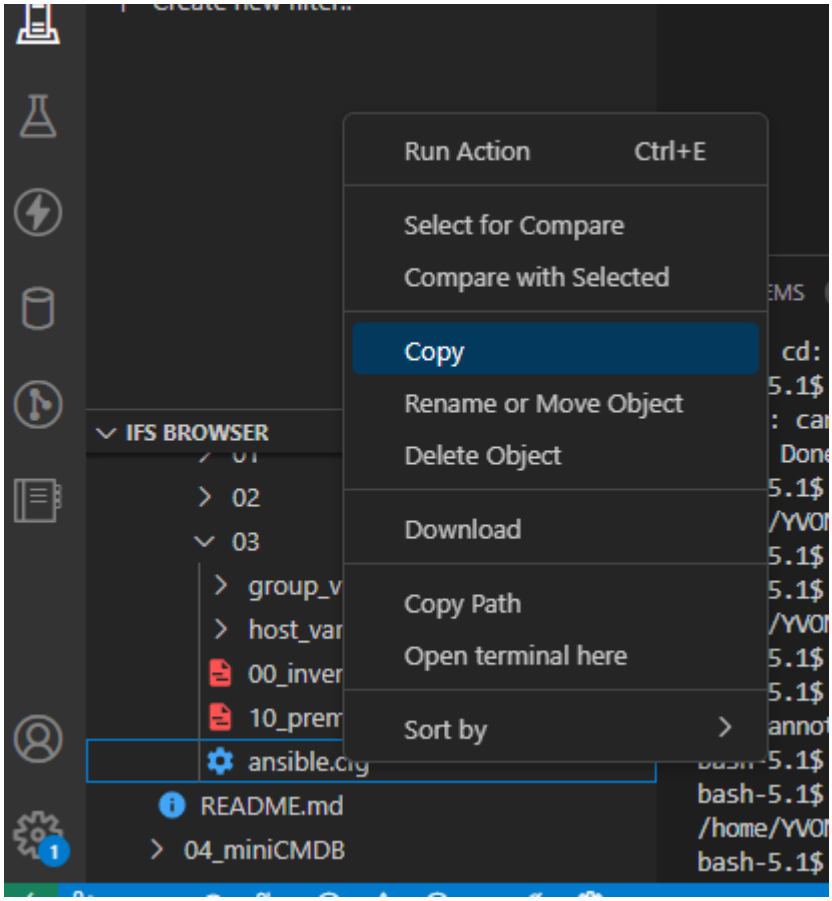


   `ansible-config view`

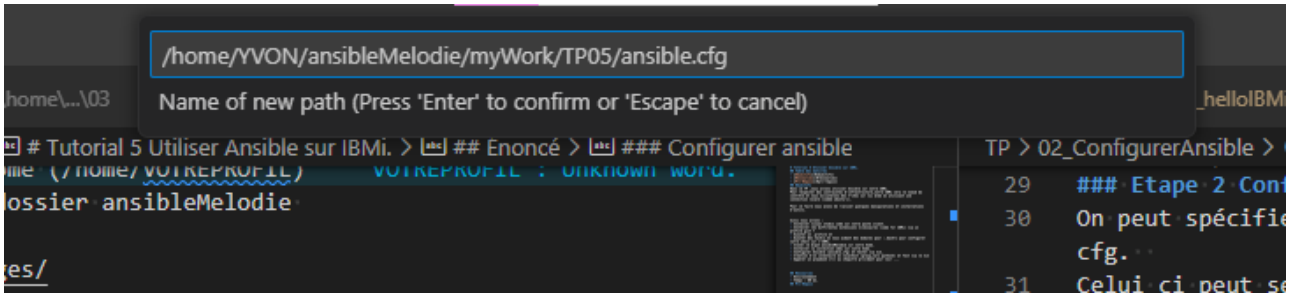


2. Création de ansible.cfg dans notre projet

- copier le fichier ansible.cfg (/TP/05_helloIBMi/ressources/ansible.cfg).



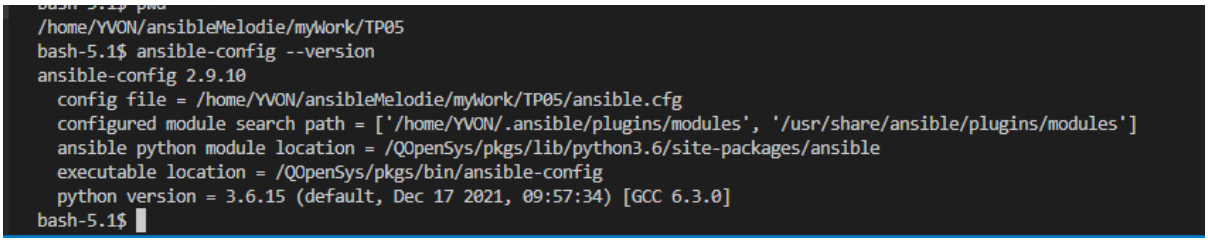
- indiquer le nouveau chemin
  `/home/YVON/ansibleMelodie/myWork/TP05/ansible.cfg`



  puis entree

- tester la configuration

  - `ansible-config --version`



1. creation de l'inventaire Nous réaliserons tous nos tests sur une seule machine en local. Donc nous n'allons configurer que le control node qui sera auto consommé en local (sasn ssh)

- copier le fichier 00_inventory.yml (TP\05_helloIBMi\ressources\00_inventory.yml).

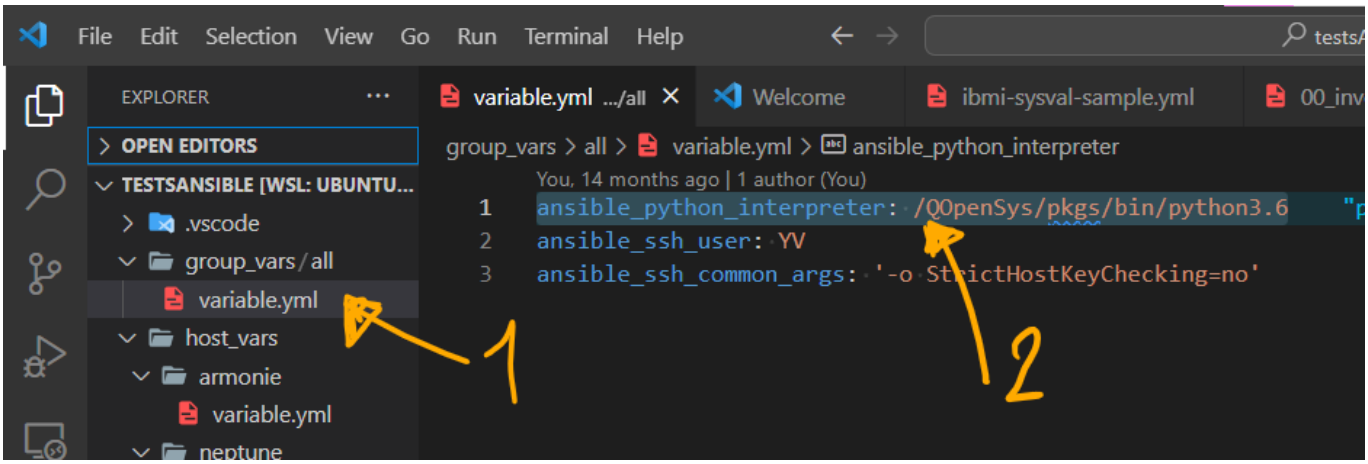
- tester l'inventaire `ansible-inventory -i 00_inventory.yml --graph`

```
    ansible python module location = /QOpenSys/pkgs/lib/python3.6/site
    executable location = /QOpenSys/pkgs/bin/ansible-config
    python version = 3.6.15 (default, Dec 17 2021, 09:57:34) [GCC 6.3.
bash-5.1$ ansible-inventory -i 00_inventory.yml --graph
@all:
  |--@control:
  |  |--armonie
  |--@ungrouped:
bash-5.1$
```

`ansible -i 00_inventory.yml all -m ping`

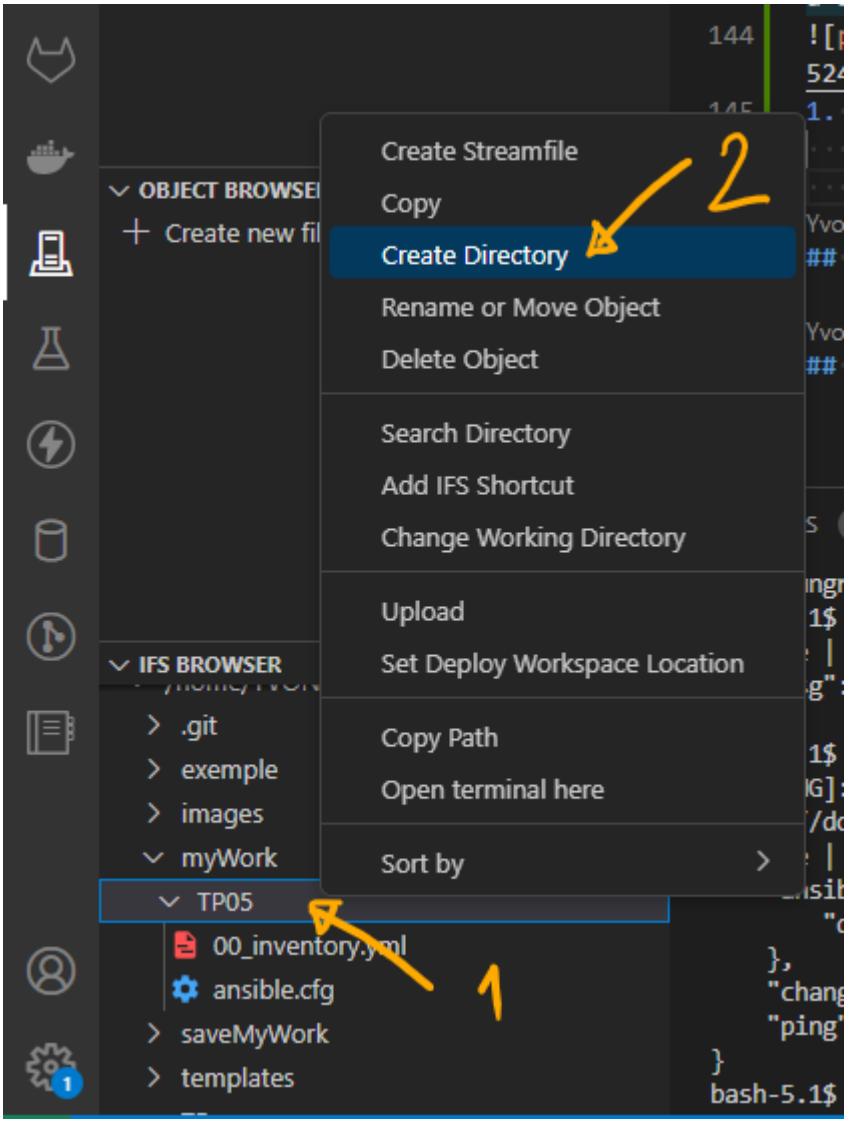
```
bash-5.1$ ansible -i 00_inventory.yml all -m ping
[WARNING]: Platform os400 on host armonie is using the discovered Python interpreter at /QOpenSys/pkgs/bin/python3.6, but future installation of another Python interpreter could change this. S
https://docs.ansible.com/ansible/2.9/reference_appendices/interpreter_discovery.html for more information.
armonie | SUCCESS => {
    "ansible_facts": {
        "discovered_interpreter_python": "/QOpenSys/pkgs/bin/python3.6"
    },
    "changed": false,
    "ping": "pong"
}
bash-5.1$
```

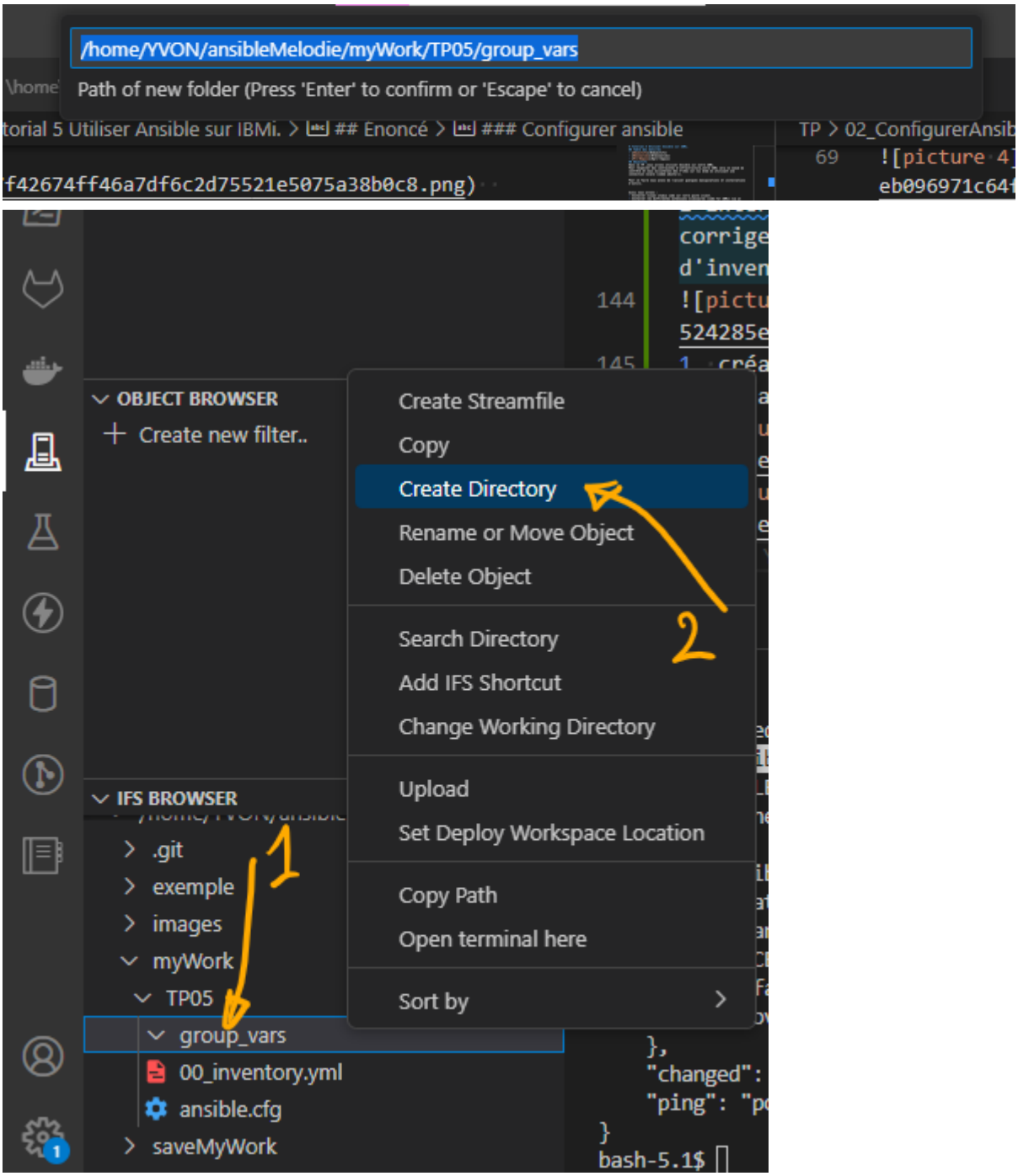
Comme vous pouvez le remarquer nous avons un petit soucis de configuration de l'interpreteur python, c'est souvent le cas sur l'IBMi mais nous allons corriger en précisant l'usage de ce python pour ce host via une variable d'inventaire.



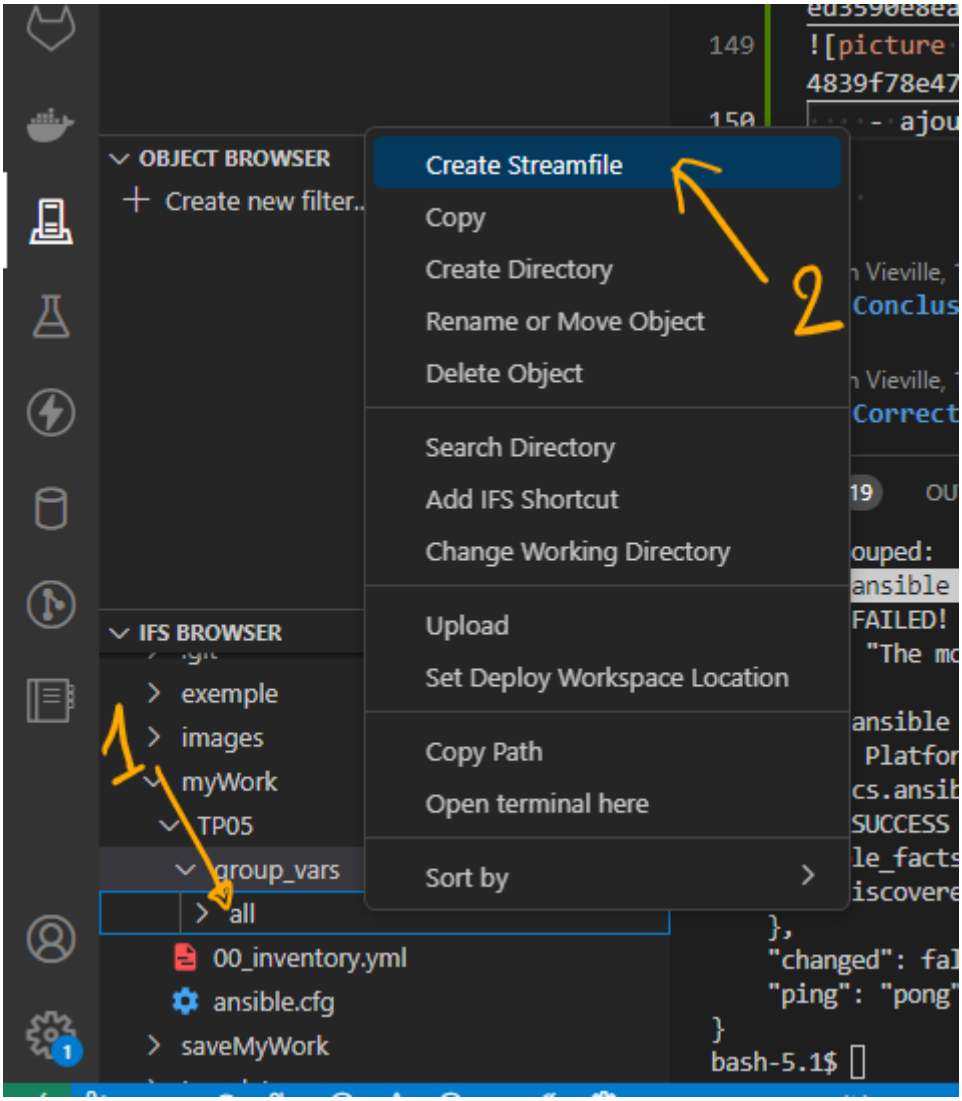
1. création d'une variable d'inventaire.

- ajout du dossier `/group_vars` puis `/all` dans celui-ci




/home/YVON/ansibleMelodie/myWork/TP05/group_vars
Path of new folder (Press 'Enter' to confirm or 'Escape' to cancel)
torial 5 Utiliser Ansible sur IBMi. > ## Enoncé > ### Configurer ansible
TP > 02_ConfigurerAnsib
69 ![picture 4]
f42674ff46a7df6c2d75521e5075a38b0c8.png)
eb096971c64f
OBJECT BROWSER
Create new filter..
IFS BROWSER
.git
exemple
images
myWork
TP05
group_vars
00_inventory.yml
ansible.cfg
saveMyWork
Create Streamfile
Copy
Create Directory
Rename or Move Object
Delete Object
Search Directory
Add IFS Shortcut
Change Working Directory
Upload
Set Deploy Workspace Location
Copy Path
Open terminal here
Sort by
1
2
"changed":
"ping": "po
}
bash-5.1$

- ajout d'un fichier variables.yml dans ./TP05/group_vars/all



- ajout de la variable `ansible_python_interpreter: /QOpenSys/pkgs/bin/python3.6`
- testons un ping

  `ansible -i 00_inventory.yml all -m ping`

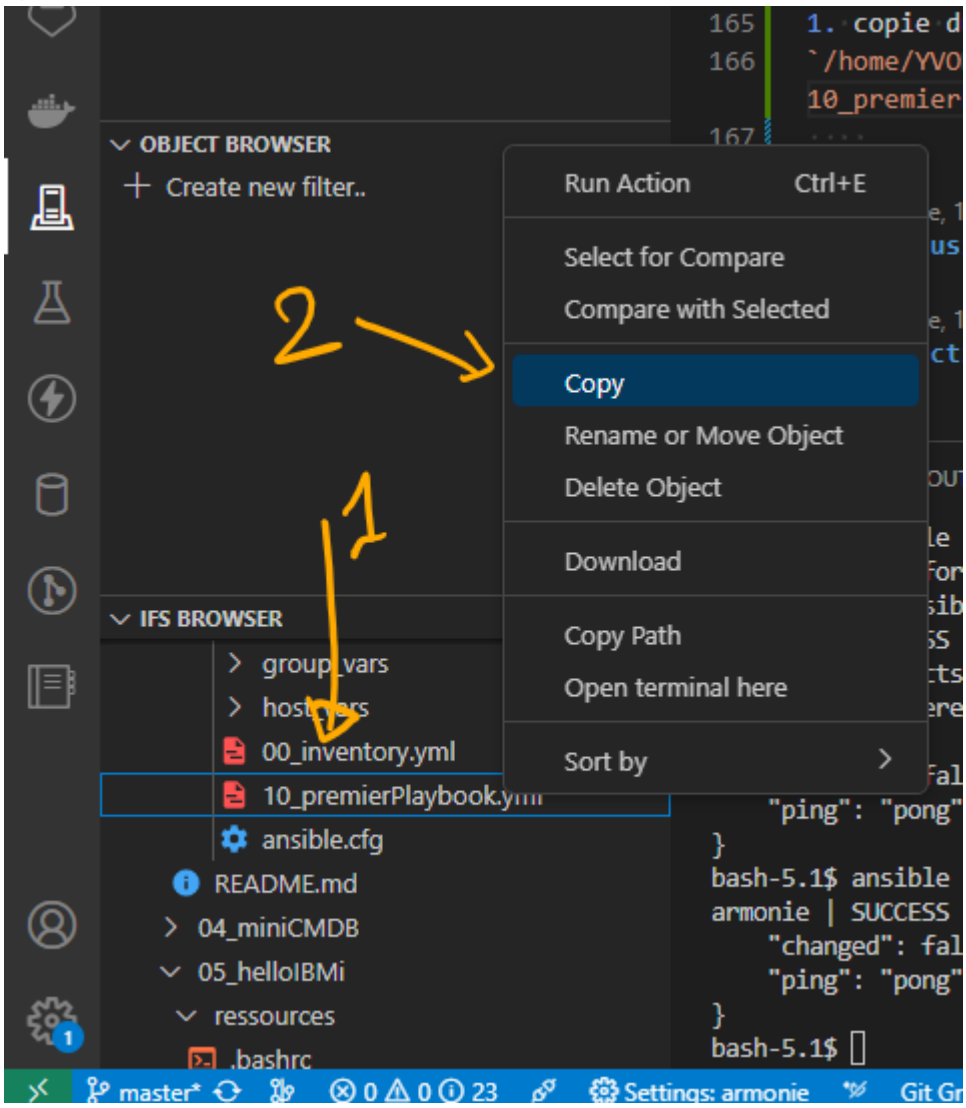
```
bash-5.1$ ansible -i 00_inventory.yml all -m ping
armonie | SUCCESS => {
    "changed": false,
    "ping": "pong"
}
bash-5.1$
```

un premier playbook ?

nous allons lancer un playbook du TP03. pour afficher le contenu d'une variable d'inventaire et créer un dossier tmp.

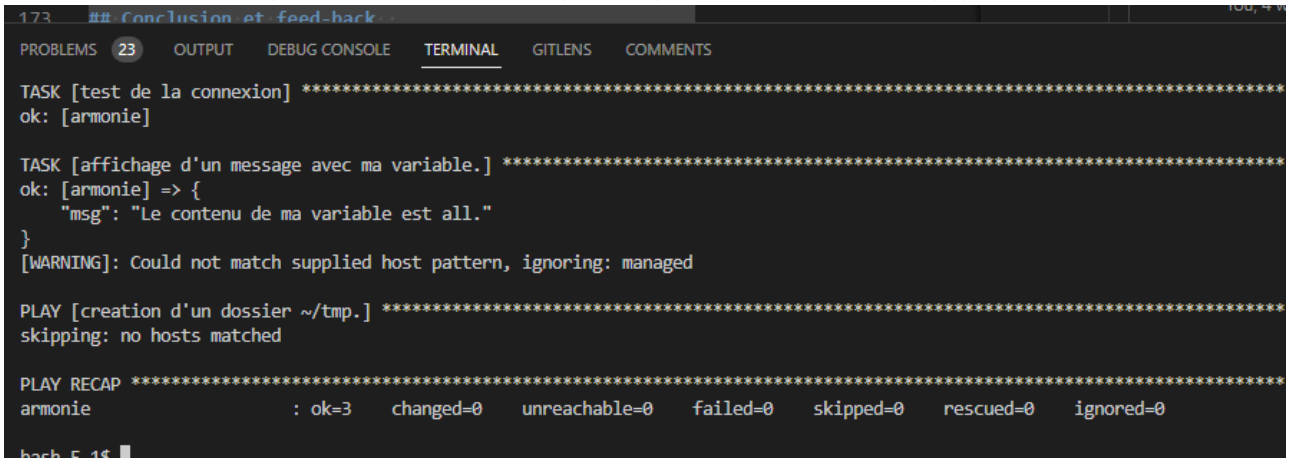
1. ajout de la variable maVariable dans l'inventaire.
   - ouvrez le fichier variables.yml de `/home/YVON/ansibleMelodie/myWork/TP05/group_vars/all/variables.yml`
   - ajouter la ligne `maVariable: all`
2. copie du playbook du TP03 dans notre projet `/home/YVON/ansibleMelodie/TP/03_PremierPlaybook/TP/correction/03/10_premierPlaybook`

.yml



dans `/home/YVON/ansibleMelodie/myWork/TP05/10_premierPlaybook.yml`

3. testons `ansible-playbook 10_premierPlaybook.yml -i 00_inventory.yml`



Nous devons modifié notre playbook , nous n'avons plus de group `managed`

1. modification du playbook

```
---
- name: tests de notre configuration.
  hosts: all
```

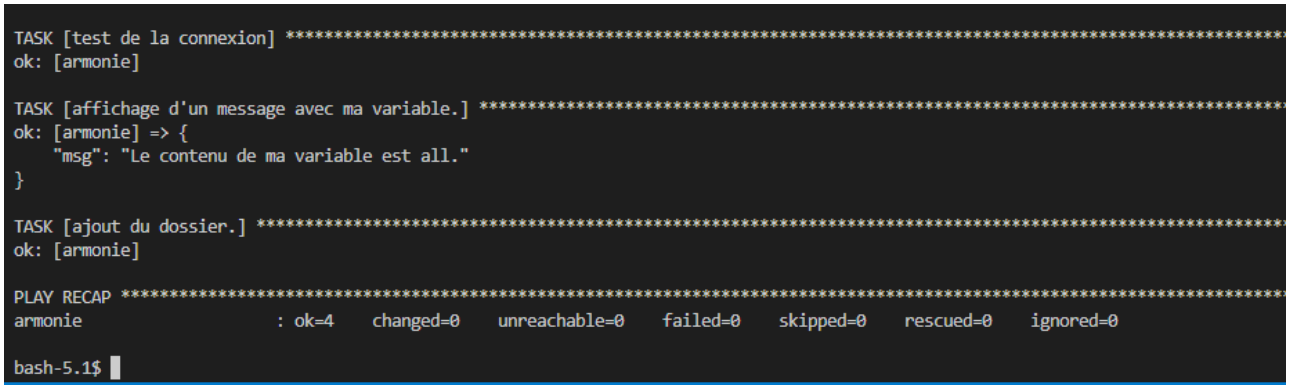
```
  tasks:
   - name: test de la connexion
     ping:
   - name: affichage d'un message avec ma variable.
     debug:
      msg: Le contenu de ma variable est {{ maVariable }}.

- name: creation d'un dossier ~/tmp.
  hosts: managed
  tasks:
    - name: ajout du dossier.
      file:
        state: directory
        path: ~/tmp
...
```

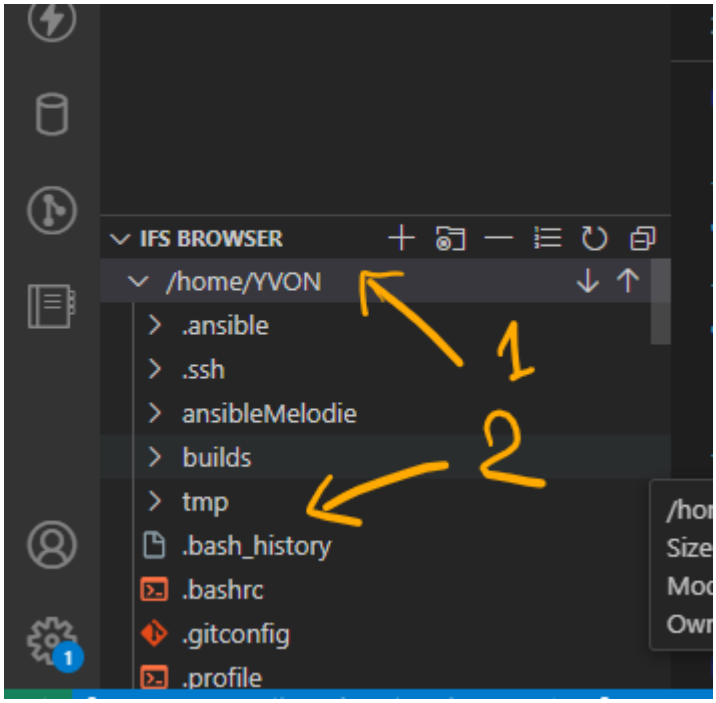
devient

```
---
---
- name: tests de notre configuration.
  hosts: all
  tasks:
   - name: test de la connexion
     ping:
   - name: affichage d'un message avec ma variable.
     debug:
      msg: Le contenu de ma variable est {{ maVariable }}.
   - name: ajout du dossier.
     file:
      state: directory
      path: ~/tmp
...
```

1. relançons



vérifions



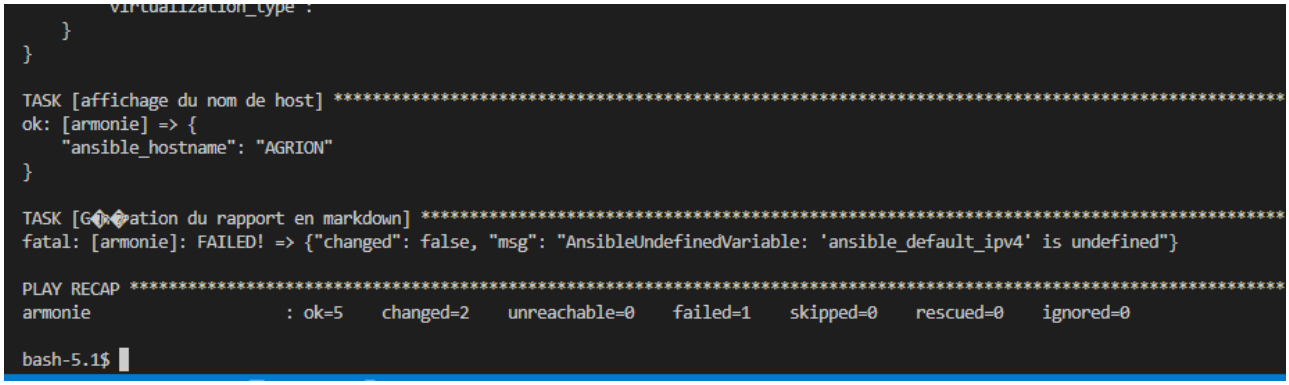
correction

la miniCMDB ?

1. copie du playbook TP\04_miniCMDB\TP\correction\03\20_miniCMDB.yml
2. copie du dossier avec la template TP\04_miniCMDB\TP\correction\03\templates
3. modification playbook Nous n'avons qu'une seule machine donc nous pouvons supprimer le jeu pour la partie `managed`

```
- name: download des rapports des machines hôtes
  hosts: managed
  gather_facts: no
  tasks:
    - name: recup é/tmp/*.html ==> localhost ~/tmp
      fetch:
        src: "~/tmp/{{ inventory_hostname }}.md"
        dest: ~/tmp
        flat: true
        validate_checksum: false
...
```

1. lançons



ça ne marche pas . `'ansible_default_ipv4' is undefined"}`

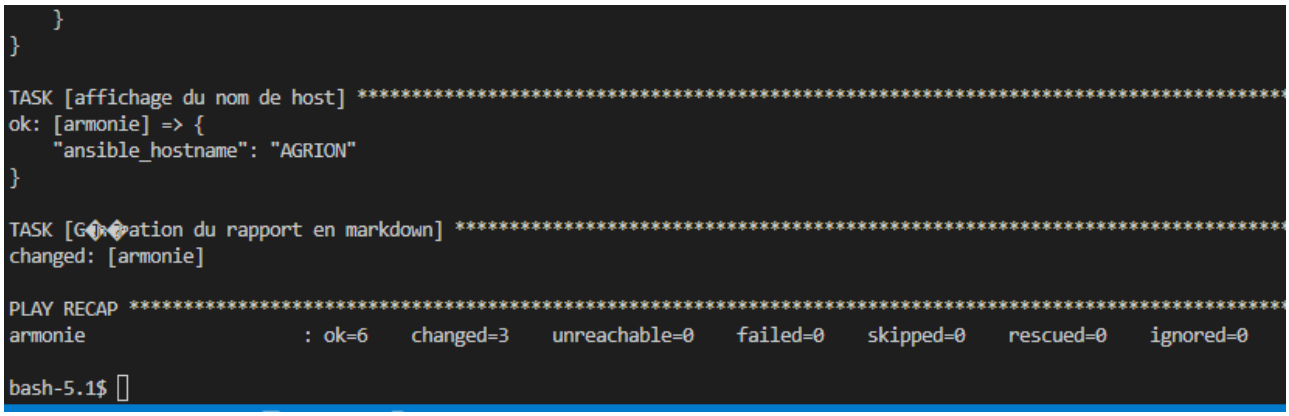
2. modifions notre template

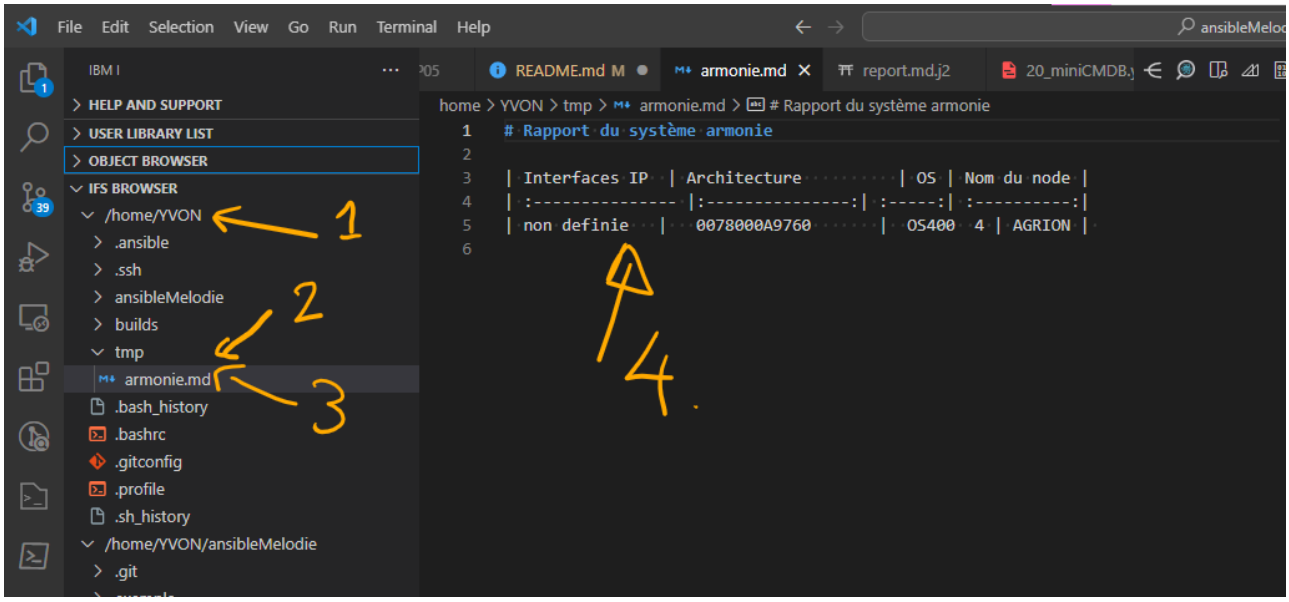
- supprimons la variable {{ ansible_default_ipv4.alias }} {{ ansible_distribution_major_version }} notre template devient

```
# Rapport du système {{ inventory_hostname }}

| Interfaces IP  | Architecture          | OS | Nom du node |
| :--------------- |:---------------:| :-----:| :----------:|
| non definie   |   {{ ansible_architecture }}       |  {{ ansible_distribution }} {{ ansible_distribution_release }} | {{ ansible_nodename }} |
```

1. relançons





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Conclusion et feed-back

Correction

Idées

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