



Βάιος Στεργιόπουλος, Υ.Δ. Τμ. ΗΜΜΥ, Π.Θ.
Μάιος 2022

PyCharm

- A dedicated Python Integrated Development Environment (IDE)
- Εταιρία υποστήριξης: JetBrains
- www.jetbrains.com/pycharm/

Σύγχρονες Τεχνολογίες

- Pattern recognition
- Data mining
- Knowledge discovery
- Classification
- Recommendation
- Neural Networks
- Machine Learning

Σύγχρονες Τεχνολογίες

- Pattern recognition
- Data mining
- Knowledge discovery
- Classification
- Recommendation
- Neural Networks
- Machine Learning



Σύγχρονες Τεχνολογίες

- Pattern recognition
- Data mining
- Knowledge discovery
- Classification
- Recommendation
- Neural Networks
- Machine Learning



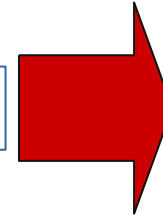
BIG DATA

Σύγχρονες Τεχνολογίες

- Pattern recognition
- Data mining
- Knowledge discovery
- Classification
- Recommendation
- Neural Networks
- Machine Learning



BIG DATA



PyCharm

Σύγχρονες Τεχνολογίες

- Pattern recognition
- Data mining
- Knowledge discovery
- Classification
- Recommendation
- Neural Networks
- Machine Learning



Μεγάλες απαιτήσεις & Προβλήματα για τον Η/Υ μας!

Μεγάλες απαιτήσεις & Προβλήματα για τον Η/Υ μας!

- Απαιτήσεις: CPU, RAM, GPU
- Προβλήματα: -κολλήματα
 - -καθυστερήσεις
 - -αυξημένη θερμοκρασία
 - -αργή εκτέλεση αλγορίθμων
 - -αργή εκπαίδευση μοντέλων ML
 - -θόρυβος

Μεγάλες απαιτήσεις & Προβλήματα για τον Η/Υ μας!

- Απαιτήσεις: CPU, RAM, GPU
- Προβλήματα: -κολλήματα
 - -καθυστερήσεις
 - -αυξημένη θερμοκρασία
 - -αργή εκτέλεση αλγορίθμων
 - -αργή εκπαίδευση μοντέλων ML
 - -θόρυβος



Η προτεινόμενη λύση



PyCharm



Server

Η προτεινόμενη λύση



Το PyCharm εκτελείται
στον προσωπικό μου Η/Υ



Python Interpreter του Server



SSH/VPN
connection



PyCharm + Server

Ο χρήστης ακολουθεί τα παρακάτω βήματα:

1. Αποκτά στοιχεία χρήστη (user & password) για τον απομακρυσμένο server

(UTH Server: 10.64.82.87)

2. Δημιουργεί λογαριασμό (sign up στο <https://www.jetbrains.com/>) χρησιμοποιώντας το email του Π.Θ, ώστε να μπορεί να κατεβάσει το PyCharm Professional edition στον υπολογιστή του (<https://www.jetbrains.com/pycharm/>) και να δηλώσει ότι είναι φοιτητής ώστε να λάβει ειδικό κουπόνι δωρεάν χρήσης του PyCharm Pro Ed.



PyCharm + Server

Ο χρήστης ακολουθεί τα παρακάτω βήματα (συνέχεια):

3. Εγκαθιστά στον προσωπικό του υπολογιστή το PyCharm Professional edition

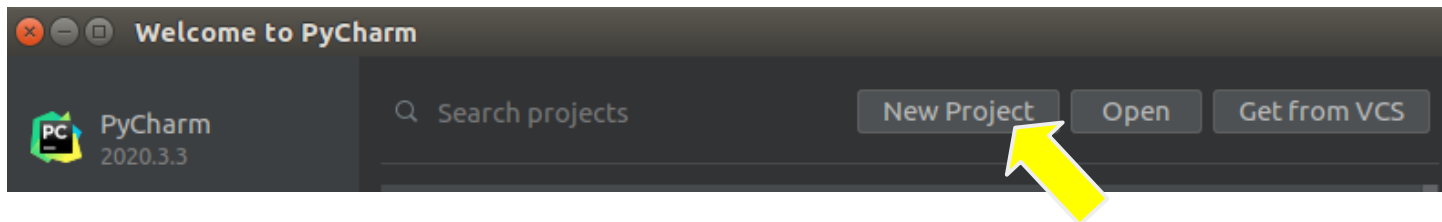
(σημ.: το Community edition δεν παρέχει την δυνατότητα σύνδεσης απομακρυσμένου Python Interpreter).

4. Ενεργοποιεί το VPN connection (<https://it.uth.gr/manuals/odigies-pptp-vpn>).

5. Ξεκινάει το PyCharm και ακολουθεί τις ενέργειες που φαίνονται παρακάτω...

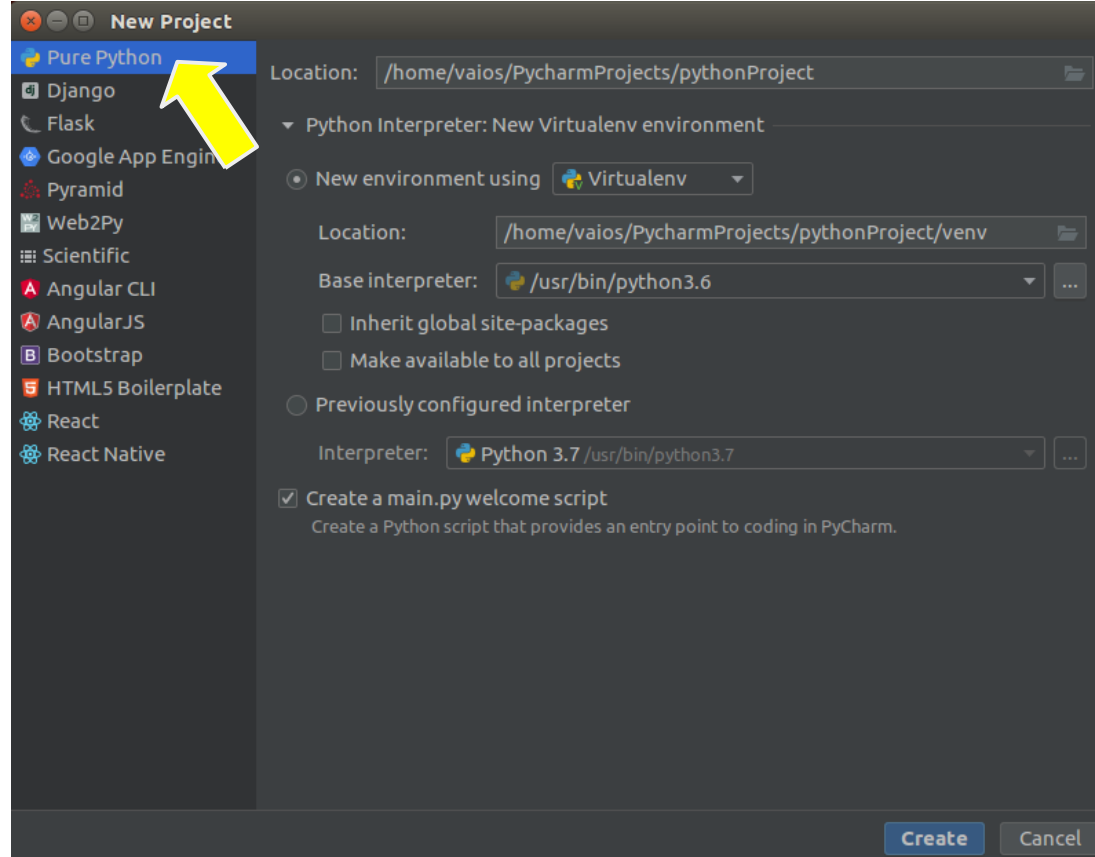


PyCharm + Server



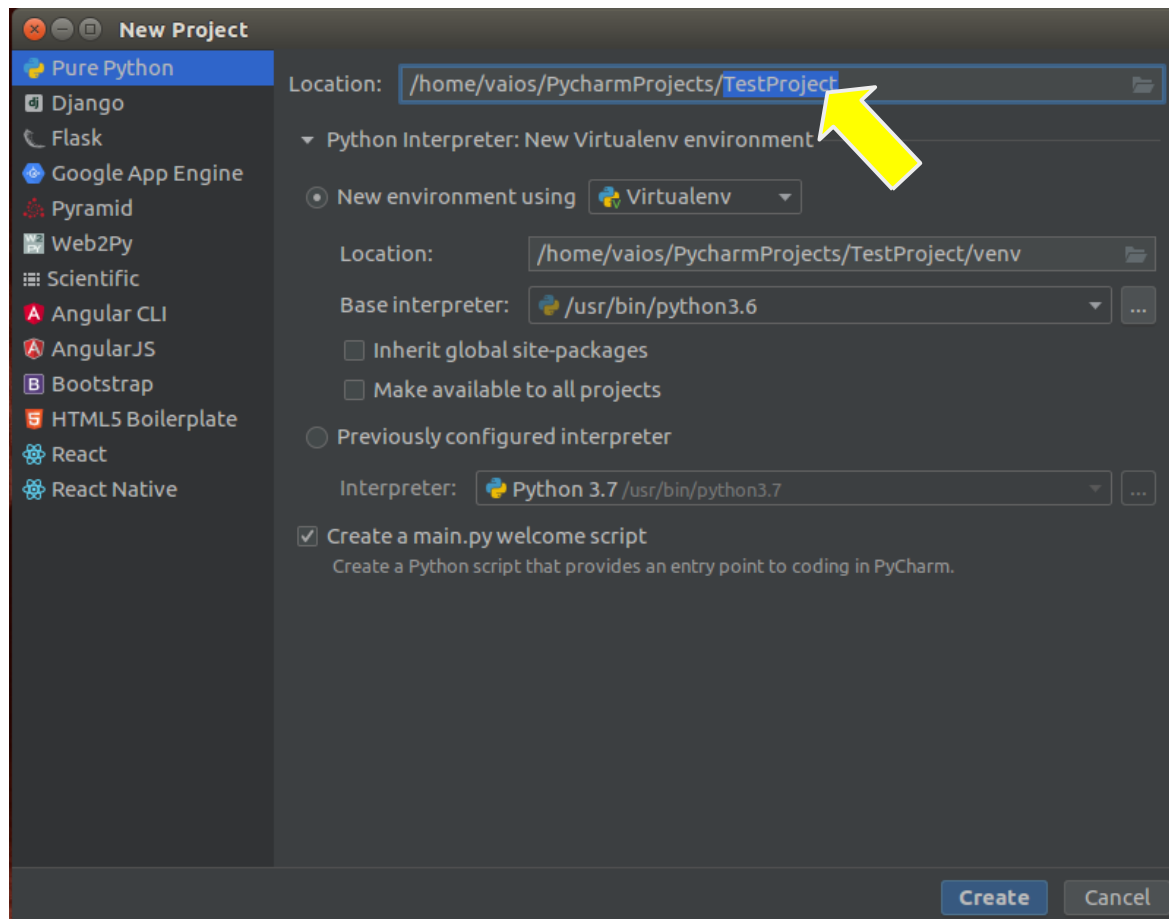


PyCharm + Server





PyCharm + Server





PyCharm + Server

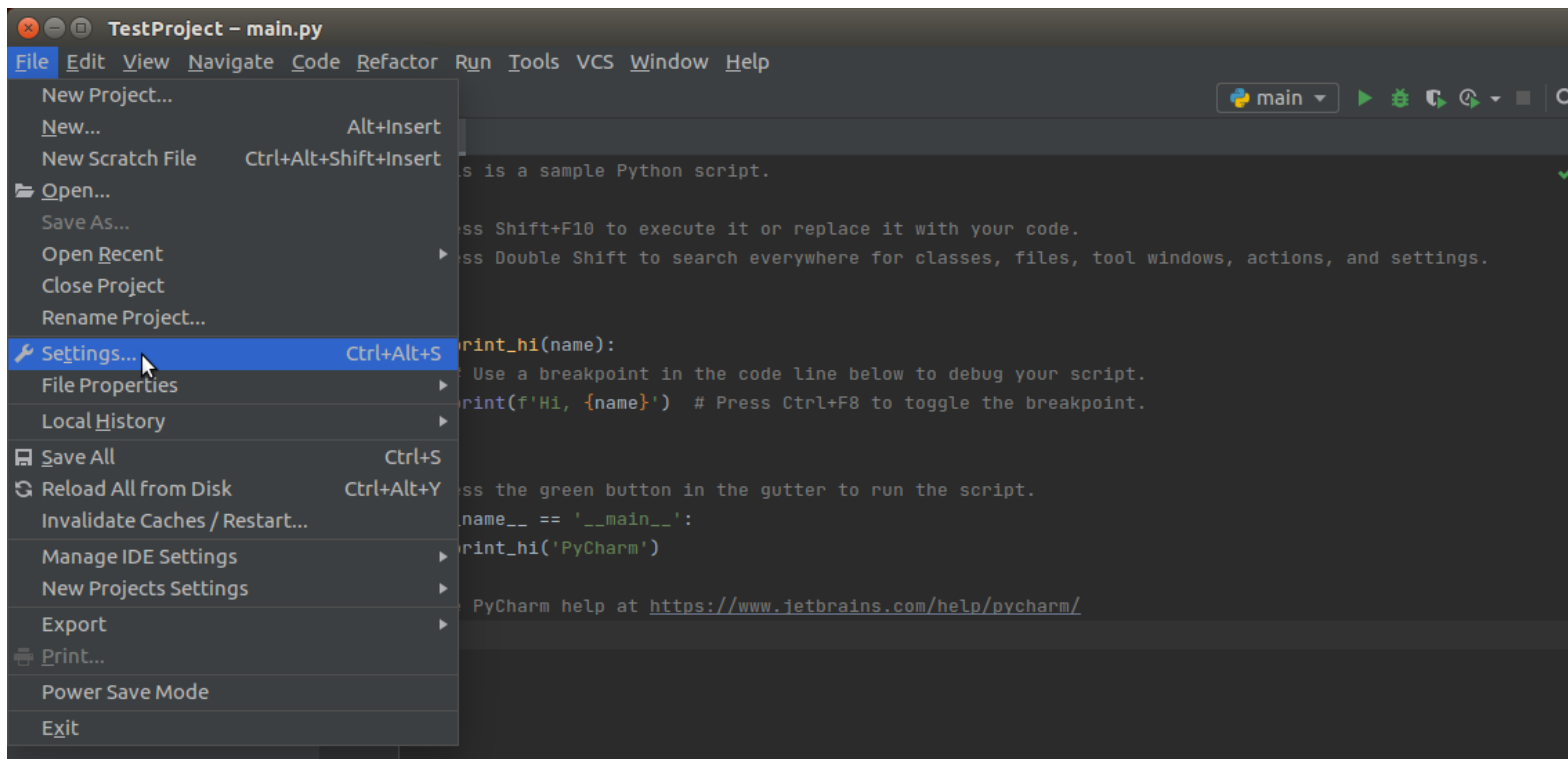
The screenshot displays the PyCharm IDE with a project named 'TestProject'. The main editor window shows the file 'main.py' with the following Python code:

```
1  # This is a sample Python script.
2
3  # Press Shift+F10 to execute it or replace it with your code.
4  # Press Double Shift to search everywhere for classes, files, tool windows, actions, and settings.
5
6
7  def print_hi(name):
8      # Use a breakpoint in the code line below to debug your script.
9      print(f'Hi, {name}') # Press Ctrl+F8 to toggle the breakpoint.
10
11
12 # Press the green button in the gutter to run the script.
13 if __name__ == '__main__':
14     print_hi('PyCharm')
15
16 # See PyCharm help at https://www.jetbrains.com/help/pycharm/
17
```

The left sidebar shows the project structure with 'TestProject' containing a 'venv' directory and the 'main.py' file. The 'main.py' file is selected, and its contents are displayed in the editor. The top menu bar includes 'File', 'Edit', 'View', 'Navigate', 'Code', 'Refactor', 'Run', 'Tools', 'VCS', 'Window', and 'Help'. The top toolbar shows a dropdown menu with 'main' and several icons for running and debugging the code.

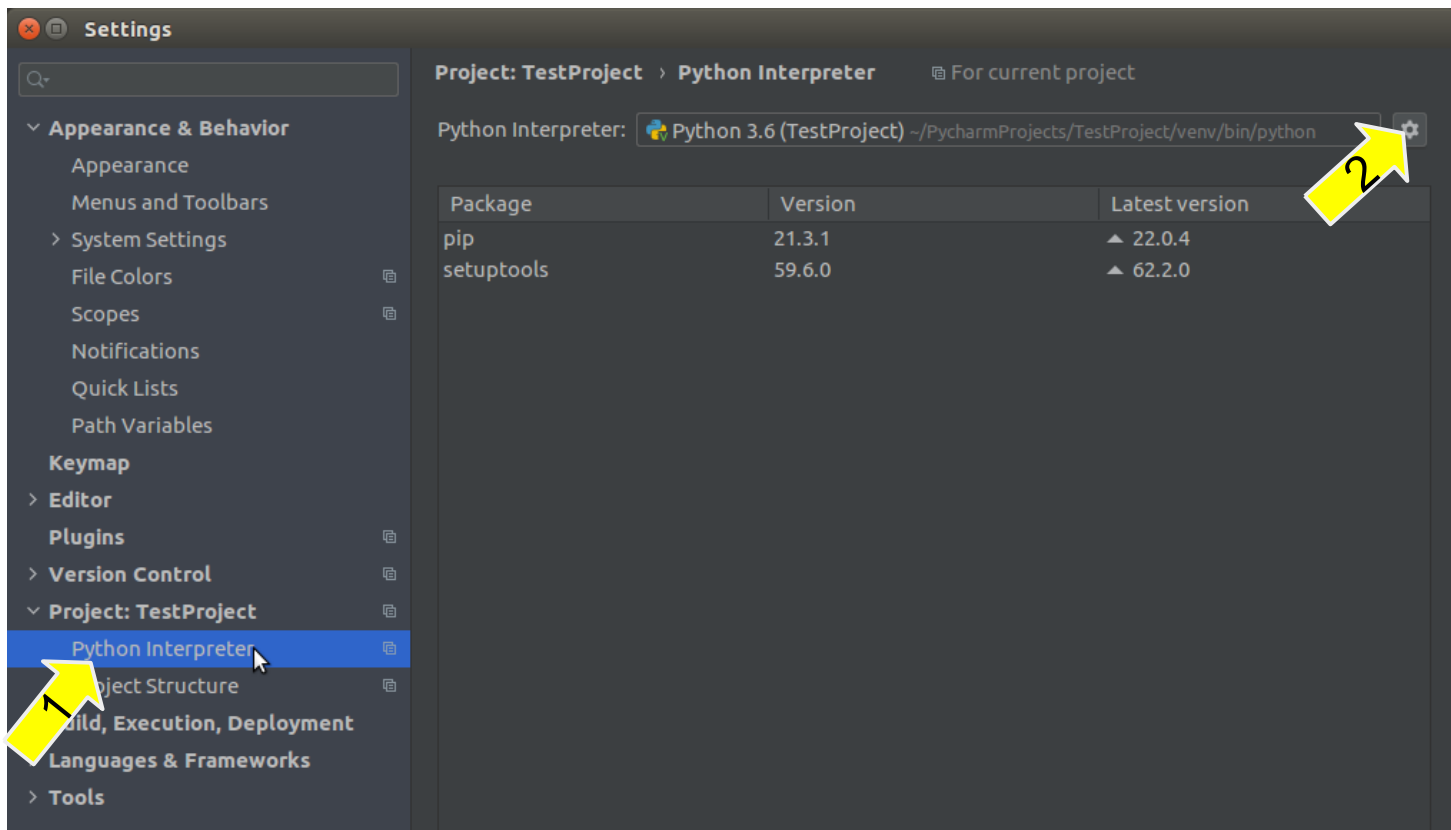


PyCharm + Server





PyCharm + Server





PyCharm + Server

Settings

Project: TestProject > Python Interpreter For current project

Python Interpreter: Python 3.6 (TestProject) ~/PycharmProjects/TestProject/venv/bin/python Add... how

Package	Version	Latest version
pip	21.3.1	▲ 22.0.4
setuptools	59.6.0	▲ 62.2.0

Appearance & Behavior

- Appearance
- Menus and Toolbars
- > System Settings
- File Colors
- Scopes
- Notifications
- Quick Lists
- Path Variables

Keymap

> Editor

Plugins

> Version Control

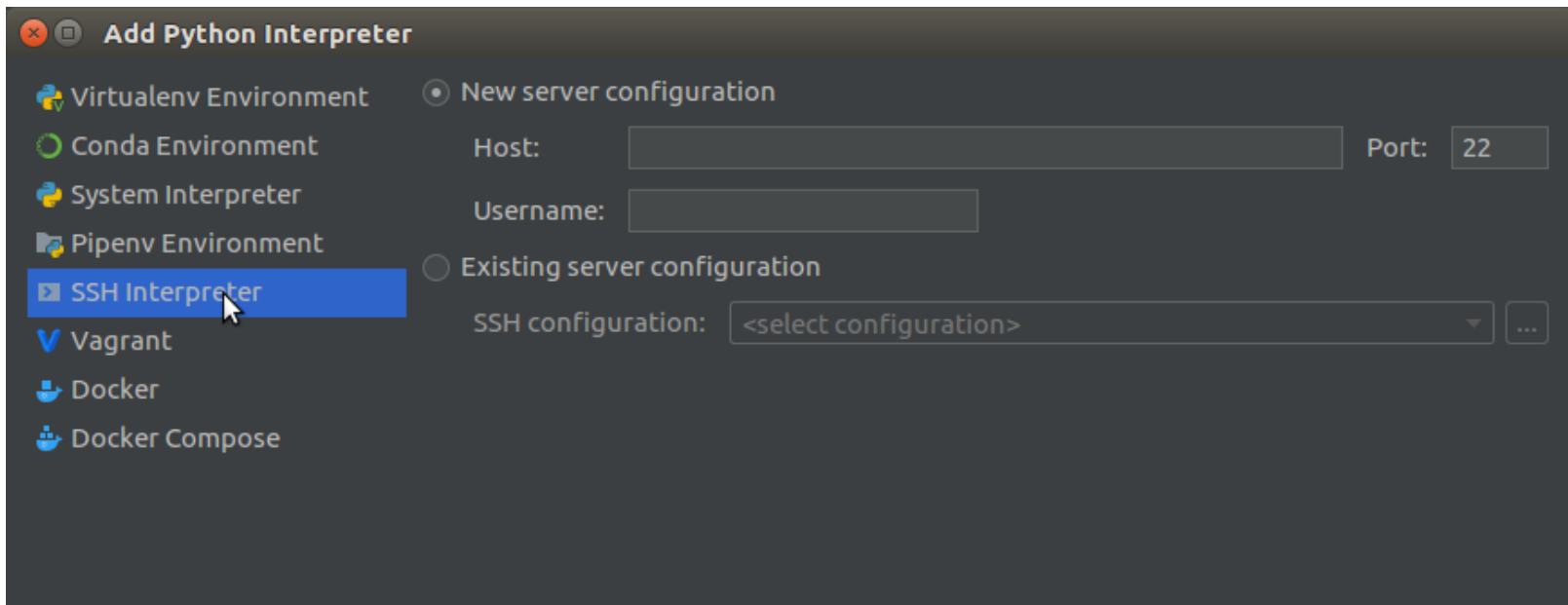
> Project: TestProject

- Python Interpreter
- Project Structure

> Build, Execution, Deployment

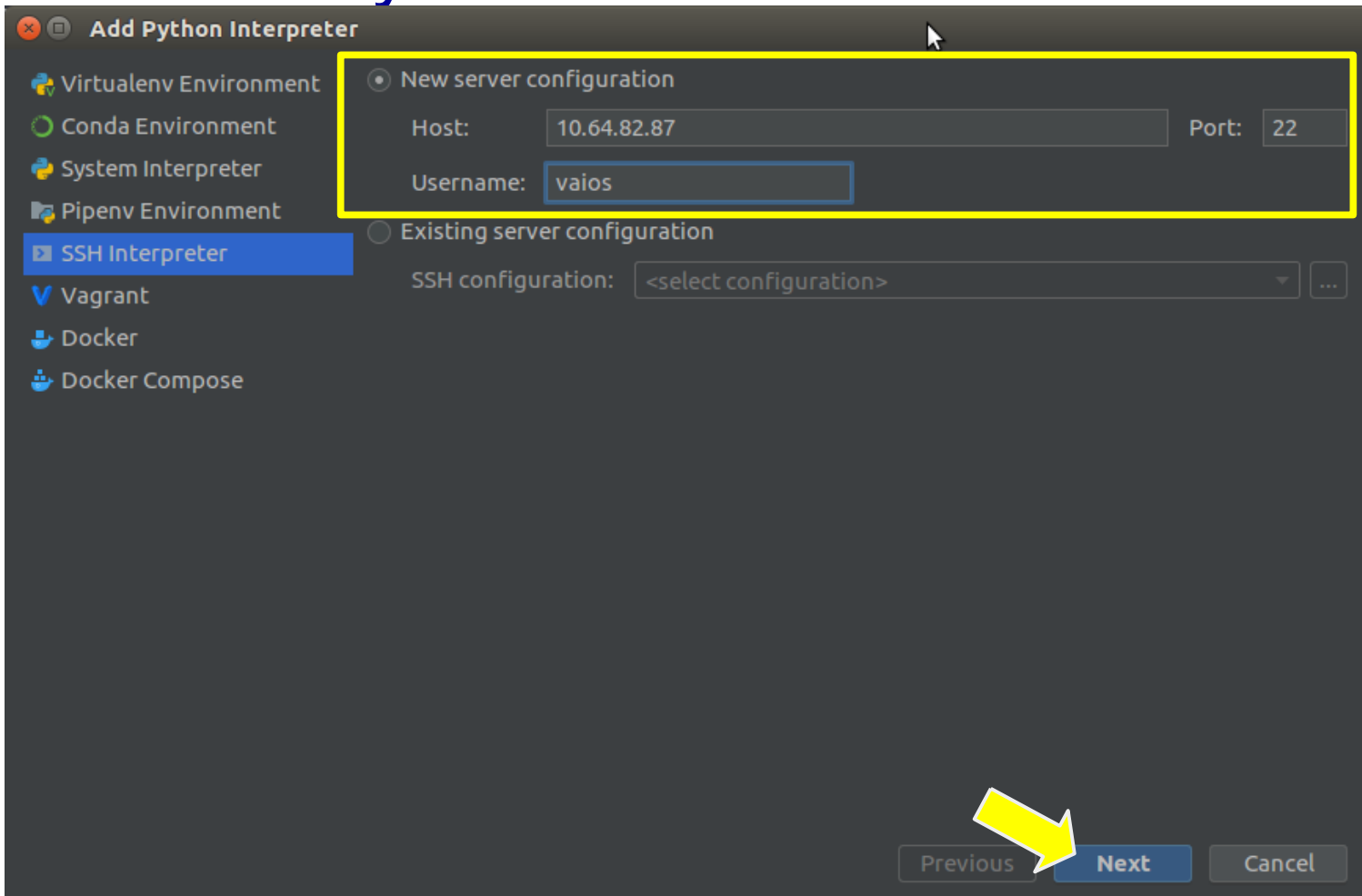


PyCharm + Server





PyCharm + Server






PyCharm + Server

Authentication options for connecting to **[redacted]**

☒ Password: ☒ Save password

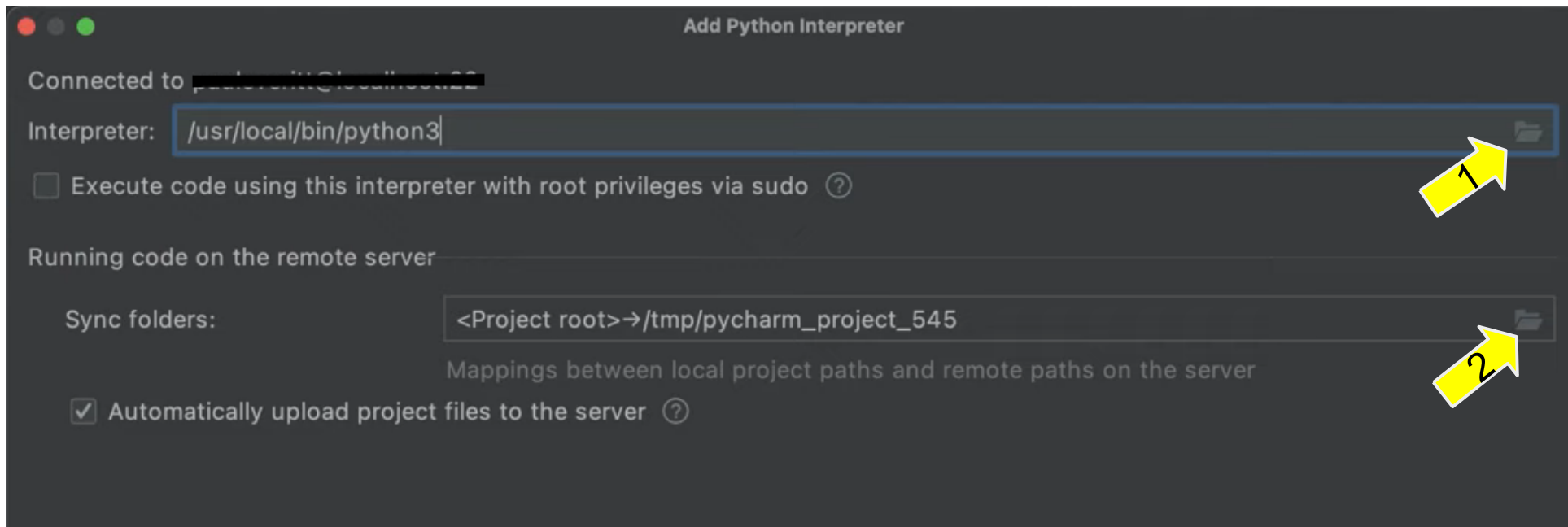
☐ Key pair (OpenSSH or PuTTY):

Private key file: 

Passphrase: ☒ Save passphrase

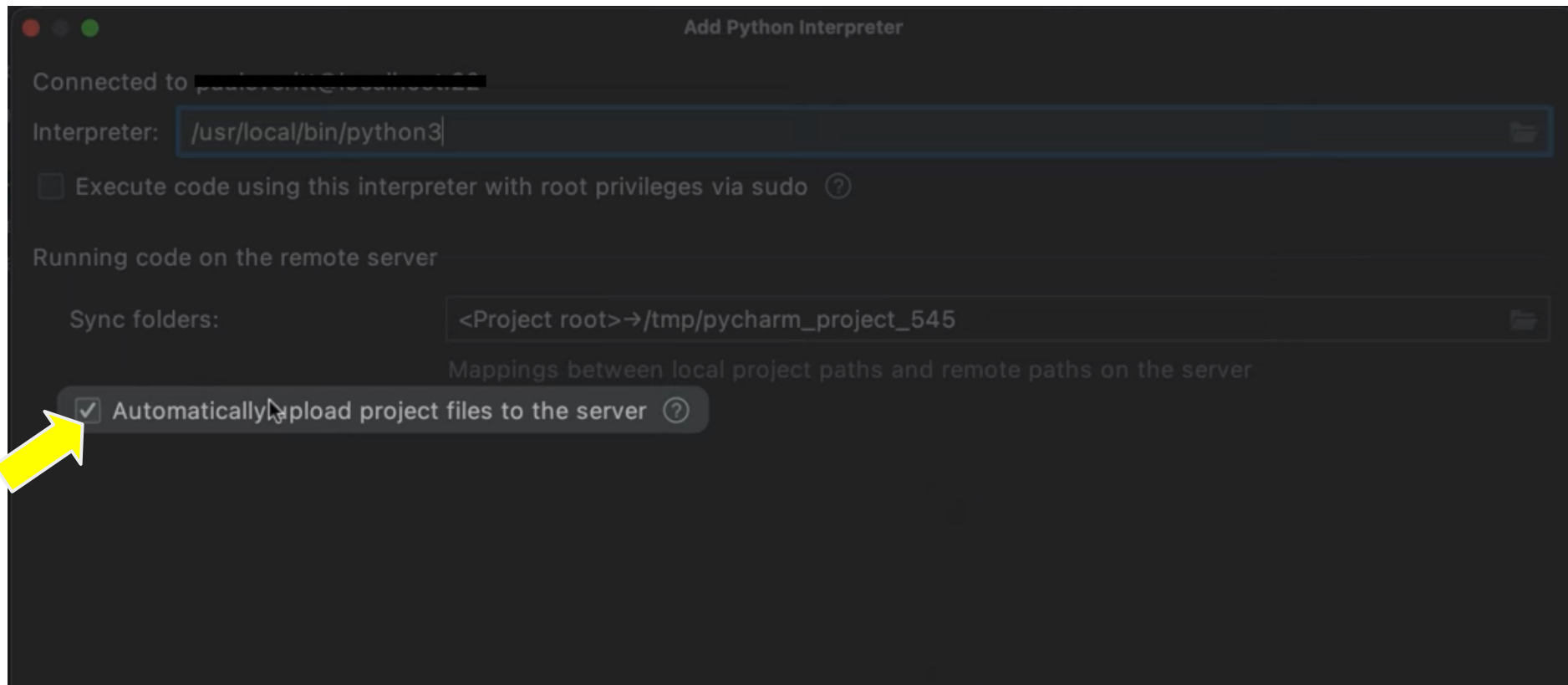


PyCharm + Server



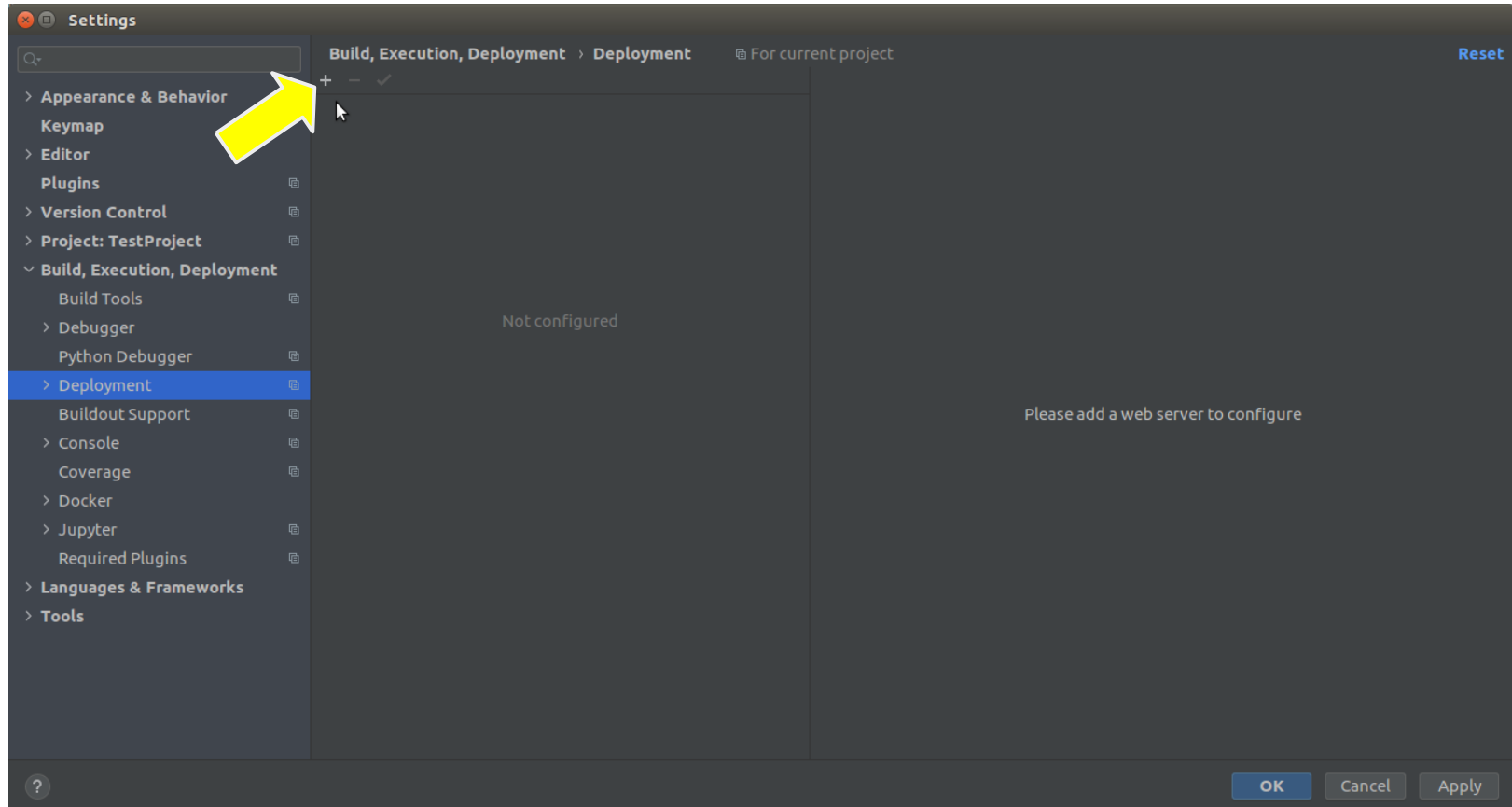


PyCharm + Server



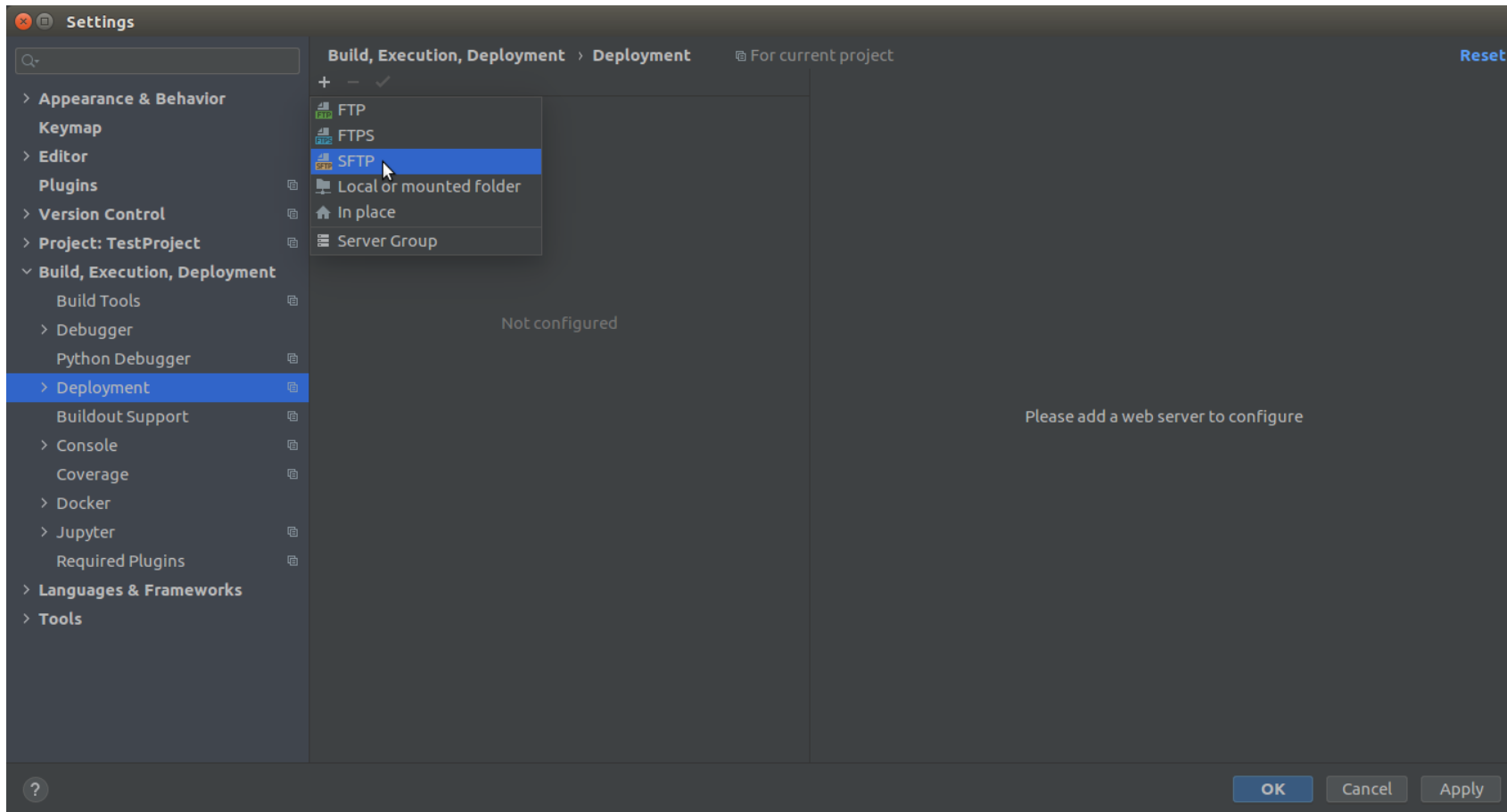


PyCharm + Server



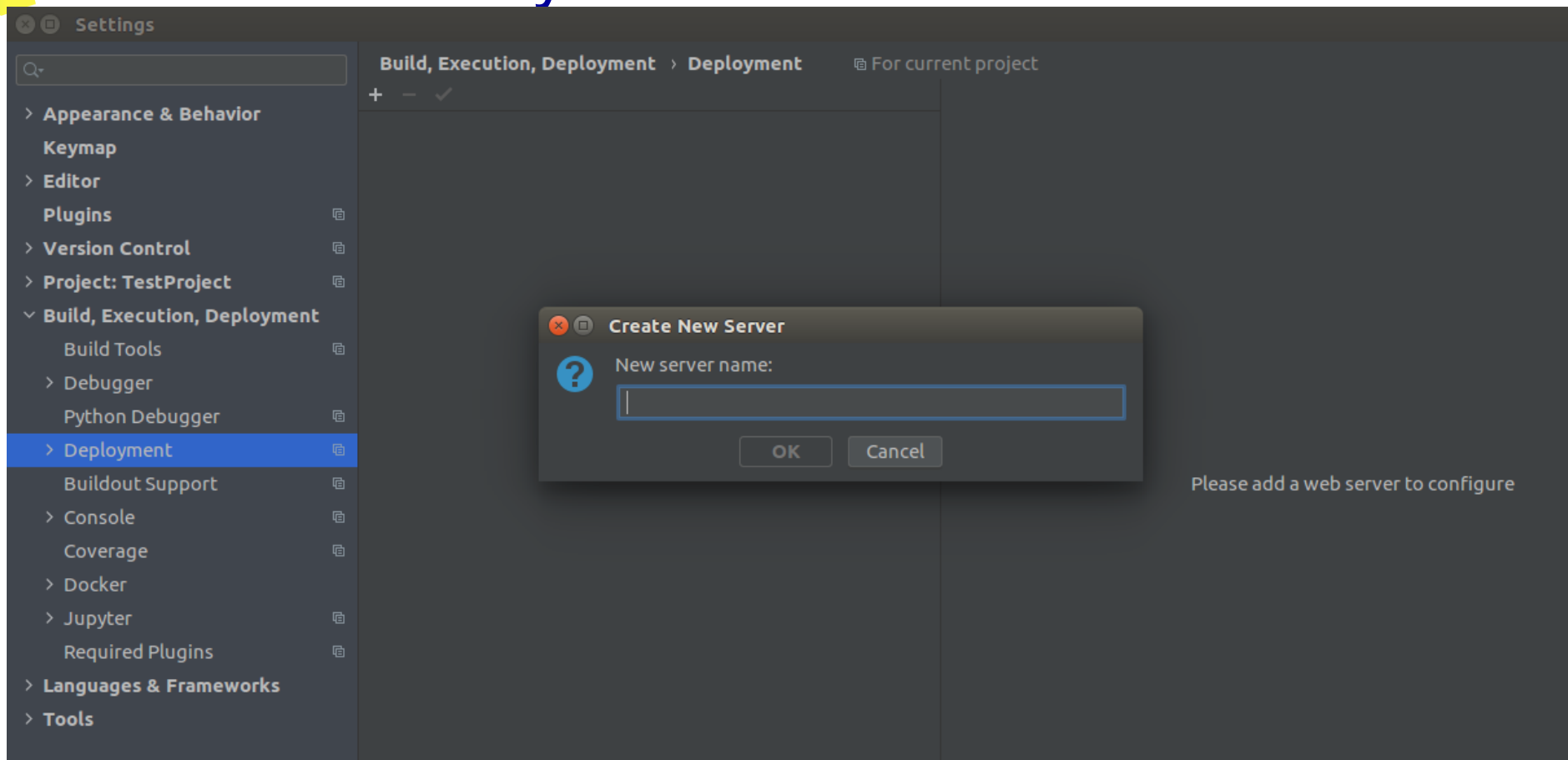


PyCharm + Server



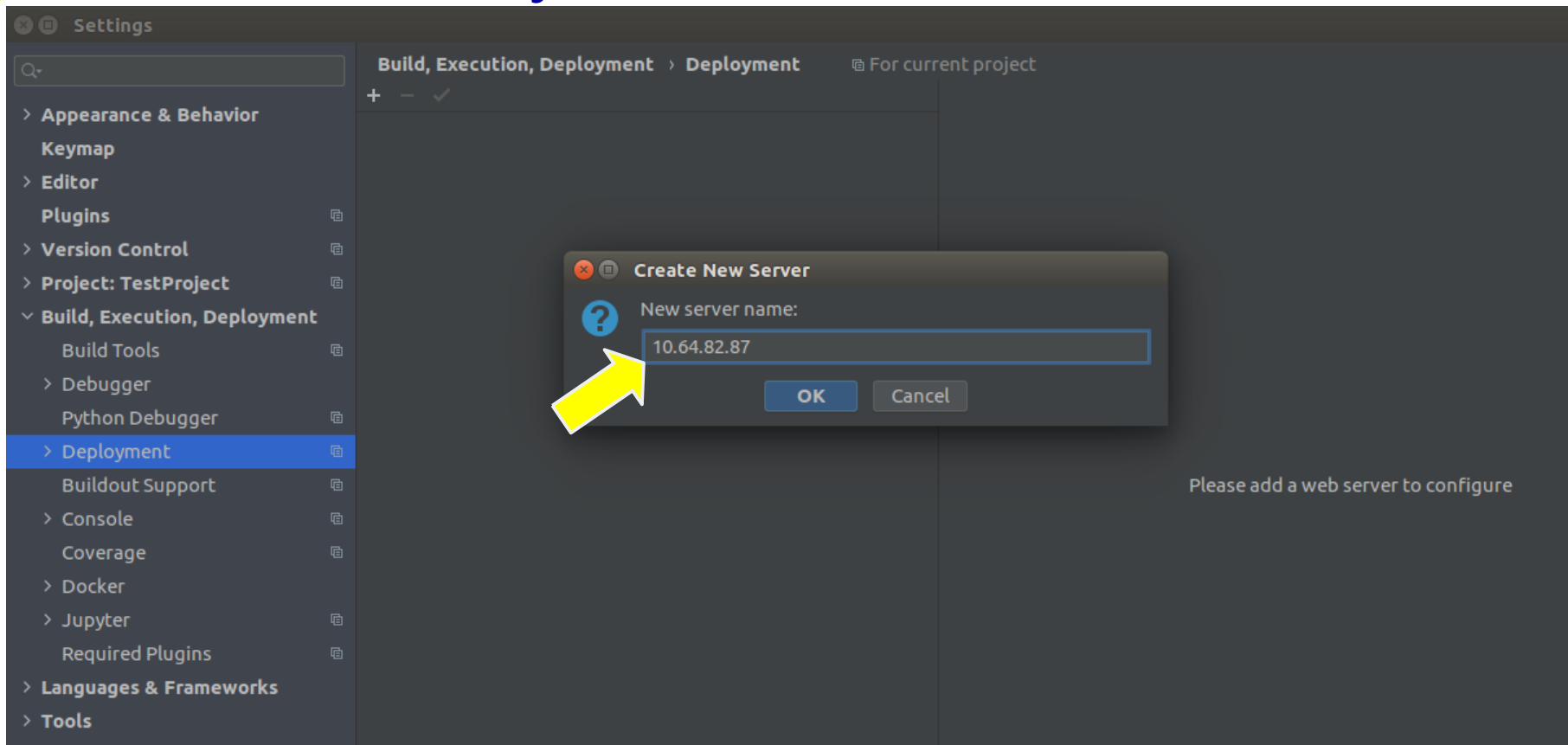


PyCharm + Server



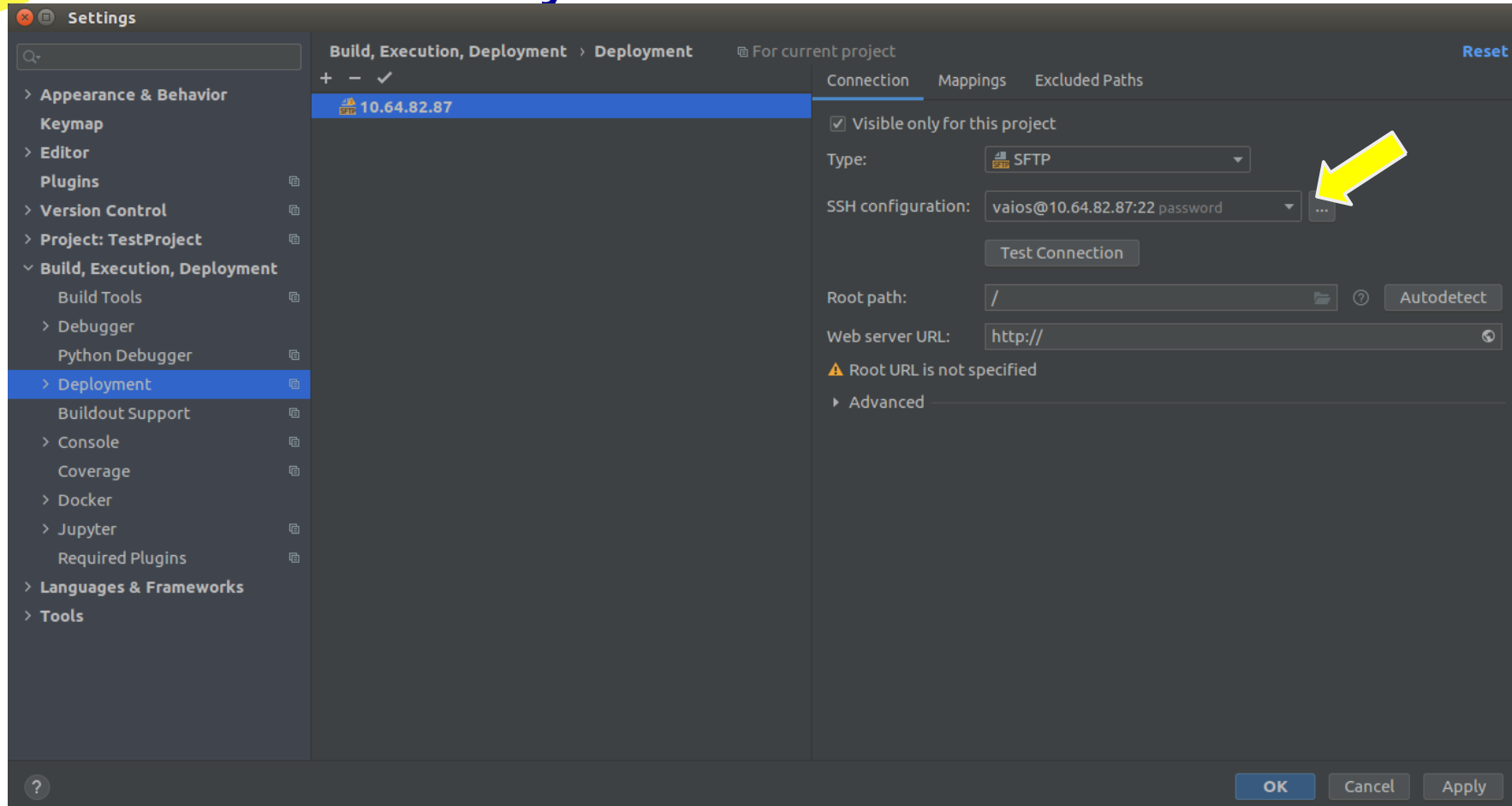


PyCharm + Server



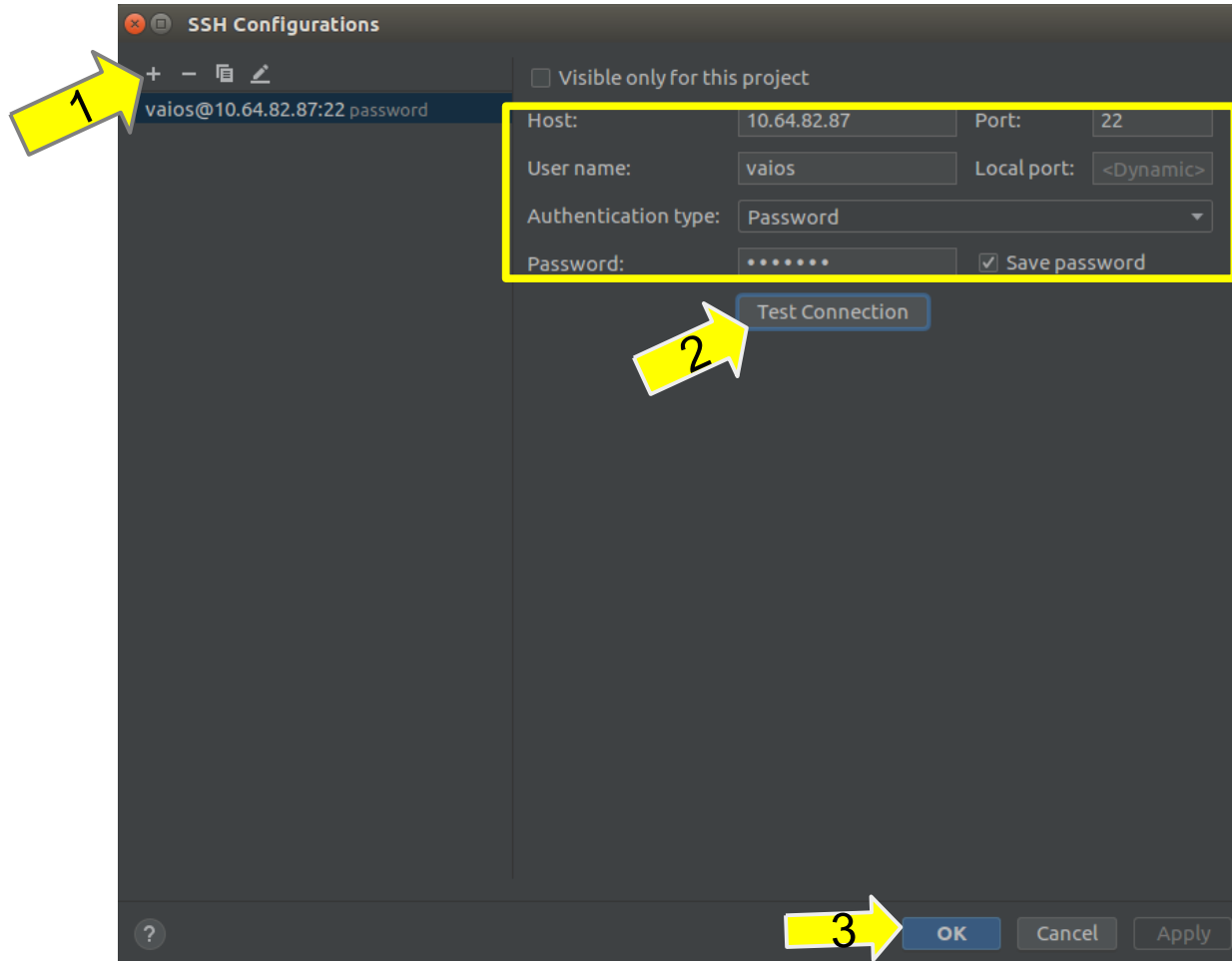


PyCharm + Server





PyCharm + Server





PyCharm + Server

Settings

Build, Execution, Deployment > Deployment

For current project

Connection Mappings Excluded Paths

10.64.82.87

☒ Visible only for this project

Type: SFTP

SSH configuration: vaios@10.64.82.87:22 password

Test Connection

Root path: / Autodetect

Web server URL: http://

⚠ Root URL is not specified

Advanced

Appearance & Behavior

Keymap

Editor

Plugins

Version Control

Project: TestProject

Build, Execution, Deployment

Build Tools

Debugger

Python Debugger

Deployment

Buildout Support

Console

Coverage

Docker

Jupyter

Required Plugins

Languages & Frameworks

Tools



PyCharm + Server

Settings

Build, Execution, Deployment > Deployment For current project

+ - ✓

10.64.82.87

Connection Mappings Excluded Paths

☒ Visible only for this project

Type: SFTP

SSH configuration: vaios@10.64.82.87:22 password ...

Test Connection

Root path: /home/vaios ? Autodetect

Web server URL: http:// ?

⚠ Root URL is not specified

Advanced



PyCharm + Server

Settings

Build, Execution, Deployment > Deployment For current project

+ - ✓

10.64.82.87

Connection Mappings Excluded Paths

☒ Visible only for this project

Type: SFTP

SSH configuration: vaios@10.64.82.87:22 password ...

Test Connection

Root path: /home/vaios ? Autodetect

Web server URL: http:// ?

⚠ Root URL is not specified

Advanced



PyCharm + Server

Settings

Build, Execution, Deployment > Deployment

For current project

Connection Mappings Excluded Paths

☒ Visible only for this project

Type: SFTP

SSH configuration: vaio@10.64.82.87:22 password

Test Connection

Root path: /home/vaio

Web server URL: http://

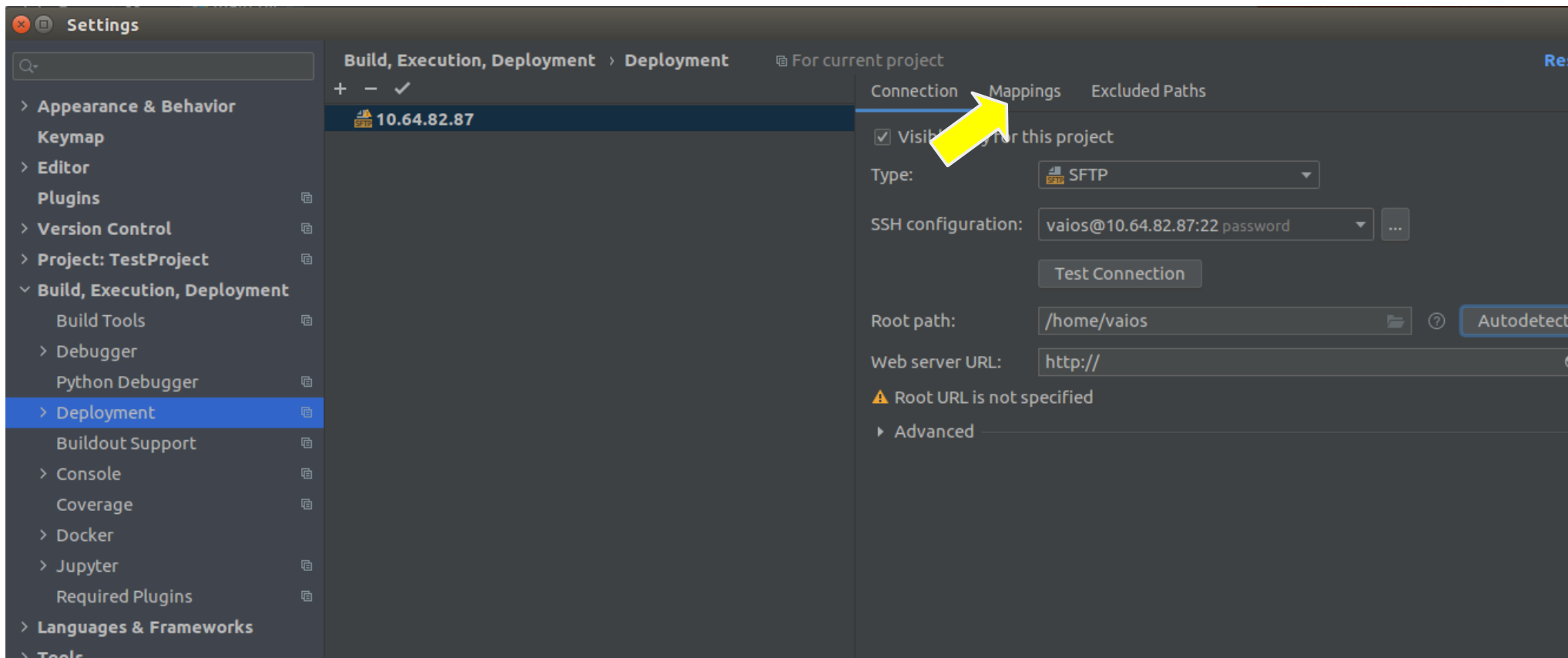
Test SFTP Connection

Successfully connected to 10.64.82.87.

OK



PyCharm + Server





PyCharm + Server

Settings

Build, Execution, Deployment > Deployment

For current project

Connection Mappings Excluded Paths

Local path: /home/vaios/PycharmProjects/TestProject

Deployment path:

Web path: /

Local path is absolute. Deployment path is relative to the server root path (/).
Web path is relative to the web server URL (http://).

Add New Mapping

10.64.82.87

Appearance & Behavior

Keymap

Editor

Plugins

Version Control

Project: TestProject

Build, Execution, Deployment

Build Tools

Debugger

Python Debugger

Deployment

Buildout Support

Console

Coverage

Docker

Jupyter

Required Plugins

Languages & Frameworks

Tools



PyCharm + Server

The screenshot shows the PyCharm Settings dialog with the 'Build, Execution, Deployment' section expanded and the 'Deployment' sub-section selected. The 'Mappings' tab is active, showing a table of mappings for the current project. A yellow arrow with the number 1 points to the 'Deployment path' field in the first mapping row.

Connection	Mappings	Excluded Paths						
10.64.82.87	<table><tr><td>Local path:</td><td>/home/vaios/PycharmProjects/TestProject</td></tr><tr><td>Deployment path:</td><td>/TestProject</td></tr><tr><td>Web path:</td><td>/</td></tr></table>	Local path:	/home/vaios/PycharmProjects/TestProject	Deployment path:	/TestProject	Web path:	/	
Local path:	/home/vaios/PycharmProjects/TestProject							
Deployment path:	/TestProject							
Web path:	/							

Local path is absolute. Deployment path is relative to the server root path (/).
Web path is relative to the web server URL (http://).

Add New Mapping



PyCharm + Server

The image shows the PyCharm Settings dialog, specifically the 'Deployment' tab under 'Build, Execution, Deployment'. The left sidebar lists various settings categories, with 'Deployment' selected. The main panel shows a table of deployment mappings for the current project. A yellow arrow labeled '1' points to the 'Deployment path' field, which is set to '/TestProject'. Below the table, there is a section for 'Local path', 'Deployment path', and 'Web path', with a note explaining their relative paths. A yellow arrow labeled '2' points to the 'OK' button at the bottom right.

Settings

Build, Execution, Deployment > Deployment For current project

Connection Mappings Excluded Paths

10.64.82.87

Local path: /home/vaios/PycharmProjects/TestProject

Deployment path: /TestProject

Web path: /

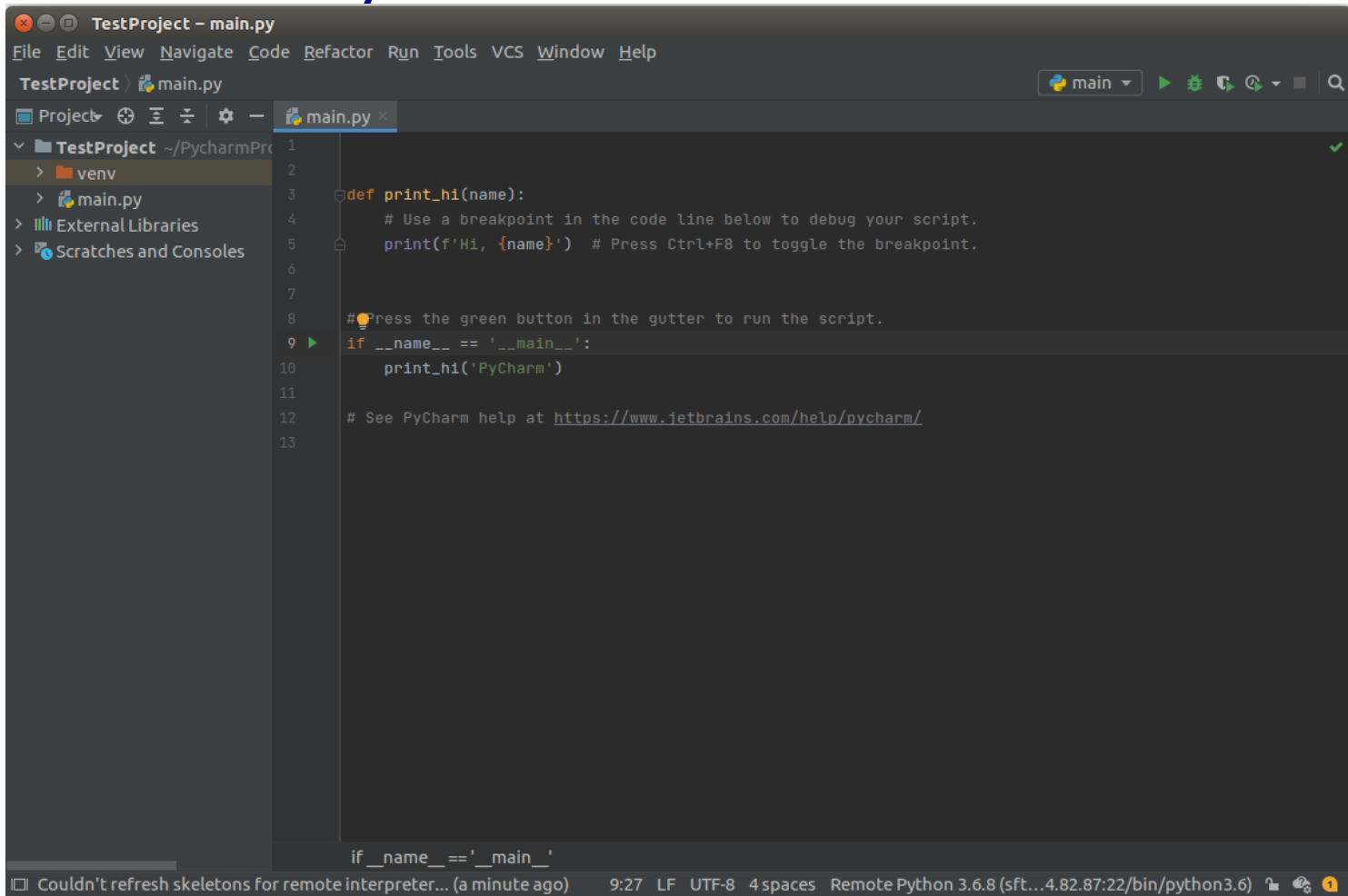
Local path is absolute. Deployment path is relative to the server root path (/).
Web path is relative to the web server URL (http:///).

Add New Mapping

2 OK Cancel Apply



PyCharm + Server



PyCharm

Python IDE for Professional
Developers

JET
BRAINS

—

• IF IN DOUBT PLEASE ASK •