# Lab Instructions: Retrieve and Display Remote Directory Contents Using Fabric

## Step 1: Prerequisites

1. Install Python:

- Ensure Python (3.6 or later) is installed on your system.

- Verify the installation:

python3 --version

2. Install Fabric:

- Fabric is required for running the fab tasks. Install it using pip:

pip install fabric

3. Create a Virtual Environment:

- Use a Python virtual environment to isolate your Fabric project.

python3 -m venv venv

- Activate the virtual environment:

source venv/bin/activate # For Linux/macOS

.\venv\Scripts\activate # For Windows

- Install Fabric within the virtual environment:

pip install fabric

## Step 2: Create the Fabfile

1. Create a Fabfile:

- Create a file named fabfile.py in your working directory and add the following content:

from fabric import task, Connection  
  
REMOTE\_HOST = "192.168.1.166"  
USERNAME = "rps"  
PASSWORD = "rps@123"  
  
@task  
def get\_remote\_directory\_contents(c):  
 """Retrieve and display the contents of a remote directory dynamically."""  
 # Accept remote directory as user input  
 remote\_directory = input("Enter the remote directory path: ")  
  
 print(f"Querying the contents of the remote directory: {remote\_directory}\n")  
 try:  
 # Establish connection to the remote machine  
 conn = c.Connection if hasattr(c, 'connection') else Connection(  
 host=REMOTE\_HOST,  
 user=USERNAME,  
 connect\_kwargs={"password": PASSWORD},  
 )  
 conn.open() # Explicitly open the connection  
  
 # Command to list directory contents (Windows-specific)  
 command = f'dir "{remote\_directory}"'  
 result = conn.run(command, hide=True)  
  
 # Display the output  
 print(f"Contents of {remote\_directory}:\n")  
 print(result.stdout.strip())  
  
 conn.close() # Close the connection  
  
 except Exception as e:  
 print(f"Error obtaining remote directory contents: {e}")

## Step 3: List Tasks in Fabfile

1. List Tasks:

- Use the fab command to list available tasks in the fabfile.py:

fab --list

2. Expected Output:

- You should see the following task listed:

get\_remote\_directory\_contents Retrieve and display the contents of a remote directory dynamically.

## Step 4: Execute Tasks

1. Run the Task:

- Execute the get\_remote\_directory\_contents task:

fab get\_remote\_directory\_contents

2. Provide Input:

- When prompted, enter the remote directory path you want to query (e.g., home/rps/Downloads).

## Step 5: Verify Virtual Environment

1. Check Active Virtual Environment:

- Ensure the virtual environment is active. The prompt should include (venv).

2. Deactivate When Done:

- Deactivate the virtual environment to exit:

deactivate