Setup Guide: Virtual Machine for Hangman Project CI/CD

# 1. VM Specifications

- OS: Ubuntu 22.04 LTS (64-bit)  
- CPU: 2 cores minimum  
- RAM: 4 GB minimum  
- Storage: 20 GB (expandable)  
- Network: Internet access

# 2. Update the System

Run the following command to update the system:

sudo apt update && sudo apt upgrade -y

# 3. Install Python

Install Python and verify installation:

sudo apt install -y python3 python3-pip python3-venv  
python3 --version  
pip3 --version

# 4. Install Git

Install Git and configure identity:

sudo apt install -y git  
git --version  
git config --global user.name "Your Name"  
git config --global user.email "you@example.com"

# 5. Install GitHub CLI

Install GitHub CLI and login:

curl -fsSL https://cli.github.com/packages/githubcli-archive-keyring.gpg | sudo dd of=/usr/share/keyrings/githubcli-archive-keyring.gpg  
sudo chmod go+r /usr/share/keyrings/githubcli-archive-keyring.gpg  
echo "deb [arch=$(dpkg --print-architecture) signed-by=/usr/share/keyrings/githubcli-archive-keyring.gpg] https://cli.github.com/packages stable main" | sudo tee /etc/apt/sources.list.d/github-cli.list > /dev/null  
sudo apt update  
sudo apt install gh -y  
gh --version  
gh auth login

# 6. Install & Configure CI/CD Tools

Set up a virtual environment and install dependencies:

python3 -m venv venv  
source venv/bin/activate  
pip install pytest flake8  
pip freeze > requirements.txt

# 7. Clone Your Project

Clone your repository:

git clone https://github.com/<your-username>/hangman-club-project.git  
cd hangman-club-project

# 8. Setup GitHub Actions (CI/CD)

Create a workflow file at `.github/workflows/python-ci.yml`:

name: Python CI  
  
on: [push, pull\_request]  
  
jobs:  
 build:  
 runs-on: ubuntu-latest  
  
 steps:  
 - uses: actions/checkout@v2  
 - name: Set up Python  
 uses: actions/setup-python@v2  
 with:  
 python-version: '3.10'  
 - name: Install dependencies  
 run: |  
 python -m pip install --upgrade pip  
 pip install -r requirements.txt  
 - name: Lint with flake8  
 run: |  
 flake8 . --count --select=E9,F63,F7,F82 --show-source --statistics  
 flake8 . --count --exit-zero --max-complexity=10 --max-line-length=127 --statistics  
 - name: Test with pytest  
 run: pytest

Commit & push:

git add .github/workflows/python-ci.yml  
git commit -m "Add CI/CD pipeline"  
git push origin master

# 9. Verify the Pipeline

1. Go to your GitHub repo.  
2. Click on the Actions tab.  
3. You should see your pipeline run automatically after the push.