**Assessment Question**

**Task 1: Python Programming Basics**

1. **Install Frappe Bench: Document each step you followed to install Frappe Bench on your system. Include any issues you encountered and how you resolved them.**

**Answer:**

**Comprehensive Guide for Installing Frappe Bench with ERPNext**

**Prerequisites**

* **Operating System**: Updated Ubuntu 22.04
* **User Privileges**: A user with sudo privileges
* **Software Requirements**:
  + Python 3.10+
  + Node.js 18
* **Hardware Requirements**:
  + 4GB RAM
  + 40GB Hard Disk

**Installation Steps**

**1. Create a User**

Create a new user with sudo privileges:

* sudo adduser username && sudo usermod -aG sudo username

Switch to the newly created user:

* su - username

**2. Update and Upgrade System Packages**

Ensure your system is up to date:

* sudo apt-get update && sudo apt upgrade -y

**3. Install Git**

Install Git to manage version control:

* sudo apt-get install git -y

**4. Install Python and Dependencies**

Install Python and essential development tools:

* sudo apt-get install python3-dev python3.10-dev python3-setuptools python3-pip python3-distutils -y

Set up a Python virtual environment:

* sudo apt-get install python3.10-venv -y

**5. Install MariaDB**

Install MariaDB database server and client:

* sudo apt-get install software-properties-common
* sudo apt install mariadb-server mariadb-client -y

Secure the installation:

* sudo mysql\_secure\_installation

Follow the prompts during the installation:

* Press ENTER for the current root password.
* Confirm options to enable unix\_socket authentication, change the root password, and remove unnecessary settings, disallow root login remotely, remove test db and its access and reload privilege tables.

Modify MariaDB configuration:

* sudo nano /etc/mysql/mariadb.conf.d/50-server.cnf

**Add the following lines:**

[mysqld]

character-set-client-handshake = FALSE

character-set-server = utf8mb4

collation-server = utf8mb4\_unicode\_ci

[mysql]

default-character-set = utf8mb4

Restart MariaDB:

sudo service mysql restart

**6. Install Redis**

Install Redis as the caching server:

* sudo apt-get install redis-server -y

**7. Install Node.js and Yarn**

Install nvm to manage Node.js versions:

* curl https://raw.githubusercontent.com/creationix/nvm/master/install.sh | bash
* source ~/.profile
* export NVM\_DIR="$HOME/.nvm"
* [ -s "$NVM\_DIR/nvm.sh" ] && \ . "$NVM\_DIR/nvm.sh"
* [ -s "$NVM\_DIR/bash\_completion" ] && \ . "$NVM\_DIR/bash\_completion"

Install Node.js version 18:

* nvm install 18

Install Yarn globally:

* sudo apt-get install npm -y
* sudo npm install -g yarn

**8. Install wkhtmltopdf**

Install the library required for PDF generation:

* sudo apt-get install xvfb libfontconfig wkhtmltopdf -y

**9. Install Frappe Bench**

Install the Frappe Bench CLI:

* sudo -H pip3 install frappe-bench

Initialize the bench:

* bench init frappe-bench --frappe-path https://github.com/jaydeep-sigzen/frappe.git --version version-15

**10. Get ERPNext App**

Download the ERPNext app into your bench:

* bench get-app erpnext --branch version-15

**11. Configure and Start Frappe Bench**

Create a new site:

* bench new-site sitename

Install ERPNext on the new site:

* bench --site sitename install-app erpnext

Enable the scheduler for the site:

* bench --site sitename enable-scheduler

Start the bench:

* bench start

**Common Issues and Resolutions**

**Issue: "Node.js not found"**

* **Cause**: nvm installation might not have updated the environment variables.
* **Resolution**: Run source ~/.profile or restart the terminal.

**Issue: "Bench command not found"**

* **Cause**: Bench might not be installed correctly or is not in the PATH.
* **Resolution**: Reinstall Bench using pip3 and ensure it’s accessible globally.

**Issue: “NVM and Bash\_completion command error”**

* [ -s "$NVM\_DIR/nvm.sh" ] && \ . "$NVM\_DIR/nvm.sh"

**Solution:** [ -s "$NVM\_DIR/nvm.sh" ] && \. "$NVM\_DIR/nvm.sh"

* [ -s "$NVM\_DIR/bash\_completion" ] && \ . "$NVM\_DIR/bash\_completion"

**Solution:** [ -s "$NVM\_DIR/bash\_completion" ] && . "$NVM\_DIR/bash\_completion"

**Conclusion**

Following these steps will successfully install and configure Frappe Bench with ERPNext. The documentation includes potential resolutions to common issues and is enhanced with terminal screenshots for clarity.

**Screenshot of commands:**

