

Lesson 2: Setting Up the Development Environment

2.1 Installing Required Tools

Backend Setup (Django & PostgreSQL)

Step 1: Install Python

Download Python from python.org and install it.

Verify installation:

```
python --version
```

Step 2: Create a Virtual Environment

```
python -m venv env
```

```
source env/bin/activate (For macOS/Linux)
```

```
env\Scripts\activate (For Windows)
```

Step 3: Install Django & Django REST Framework

```
pip install django djangorestframework
```

Step 4: Install PostgreSQL

Download PostgreSQL from postgresql.org and install it.

Verify installation:

```
psql --version
```

Step 5: Create a New Django Project

```
django-admin startproject backend
```

```
cd backend
```

```
python manage.py runserver
```

Frontend Setup (Angular)

Step 1: Install Node.js & NPM

Download from nodejs.org and install it.

Verify installation:

```
node -v
```

```
npm -v
```

Step 2: Install Angular CLI

```
npm install -g @angular/cli
```

Verify installation:

```
ng version
```

Step 3: Create a New Angular Project

```
ng new frontend
```

```
cd frontend
```

```
ng serve
```

2.2 Configuring the Development Environment

Recommended Tools:

- VS Code (code.visualstudio.com)
- Git (git-scm.com)
- Postman for API testing

Git Configuration:

```
git config --global user.name 'Your Name'
```

```
git config --global user.email 'youremail@example.com'
```

2.3 Running the Backend & Frontend

Start Django Backend:

```
python manage.py runserver
```

Start Angular Frontend:

```
ng serve
```

Access the applications:

- Backend: <http://127.0.0.1:8000/>
- Frontend: <http://localhost:4200/>