# Installation of Django

## Step 1: Python Installation:

* Ensure Python is installed on your system.
* To verify, open a terminal or command prompt and type `**python --version**`.
* If Python is not installed, refer to the **"Installation of Python"** guide.

## Step 2: Installing pip:

* pip is Python's package manager and is usually installed with Python.
* Verify pip installation by typing `pip --version` in the terminal or command prompt.
* If pip is not installed, download it from https://pip.pypa.io/en/stable/installation/

## Step 3: Installing Django:

To install Django, open the terminal or command prompt and execute the following command:

* `pip install django`
* This will download and install the latest version of Django.

To install a specific version, use:

* `pip install django==<version\_number>`
* Example: `pip install django==4.2`

## Step 4: Verifying Django Installation:

After installation, verify Django by running the command:

* `django-admin --version`
* This will display the installed version of Django.

## Step 5: Setting up a Django Project:

To create a new Django project, navigate to the desired directory and run:

* `django-admin startproject <project\_name>`
* Example: `django-admin startproject mysite`
* This will create a directory structure with essential files for the project.

## Step 6: Running the Development Server:

Navigate to the project directory:

* `cd <project\_name>`

### Run the development server using:

* `python manage.py runserver`
* Open a browser and go to `http://127.0.0.1:8000/` to see the Django welcome page.

## Step 7: Setting up a Virtual Environment (Recommended):

To isolate your Django project dependencies, create a virtual environment:

* python -m venv <env\_name>`

Activate the virtual environment:

* On Windows: `<env\_name>\Scripts\activate`
* On macOS/Linux: `source <env\_name>/bin/activate`

Install Django within the virtual environment using:

* `pip install django`

## Step 8: Managing Django Apps:

Django uses apps to organize code. To create an app, run:

* `python manage.py startapp <app\_name>`
* Register the app in `settings.py` under `INSTALLED\_APPS`.

## Step 9: Applying Migrations:

Django uses migrations to apply changes to the database schema. Run the following commands:

1**. `python manage.py makemigrations`** - Detects changes in models.  
2. `**python manage.py migrate`** - Applies changes to the database.

## Step 10: Creating a Superuser:

To create an admin account, use:

* **`python manage.py createsuperuser`**
* Follow the prompts to set a username, email, and password.
* Access the admin interface at `http://127.0.0.1:8000/admin/`.