Tops Technology

Module 16) Python DB and Framework

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HTML in Python

1.Introduction to embedding HTML within Python using web frameworks like Django or Flask.

- ➢ Embedding HTML within Python using web frameworks like **Django** or **Flask** allows developers to create dynamic web pages by combining Python logic with HTML templates. Here's a brief overview:
- ➢ **Django :**
- ➢ **Templating Engine**: Django uses its own templating engine to embed Python data into HTML.
- ➢ **Workflow**:
- ➢ Define a **view** function to handle requests and pass data to a template:

- from django.shortcuts import render
- def home(request):
-     return render(request, 'home.html', {'name': 'Vala'})

- Create an HTML template (home.html) with embedded placeholders:
- <h1>Hello, {{ name }}!</h1>
- Configure URLs to link views to routes.

- **Flask**
- **Templating Engine**: Flask uses **Jinja2** for rendering HTML templates.
- **Workflow**:
- Define a **route** to serve dynamic content:
- from flask import Flask, render_template
- app = Flask(__name__)
- @app.route('/')
- def home():
-     return render_template('home.html', name='Vala')
- Create an HTML template (`home.html`) to display variables:
- `<h1>Welcome, {{ name }}!</h1>`

2.Generating dynamic HTML content using Django templates.

- Django templates enable the generation of dynamic HTML content by embedding Python data using its templating language. Here's how it works:
- **Define a View**: Pass data to the template via a Python function.
- from django.shortcuts import render
- def home(request):
-     context = {'name': 'Vala', 'tasks': ['Learn Django', 'Build a website']}
-     return render(request, 'home.html', context)
- **Create a Template**: Use placeholders to display data dynamically.
- `<h1>Hello, {{ name }}!</h1>`
- `<ul>`
- `    {% for task in tasks %}`
- `        <li>{{ task }}</li>`
- `    {% endfor %}`
- `</ul>`

- **Connect URLs**: Map the view to a URL.
- from django.urls import path
- from . import views
- urlpatterns = [path('', views.home, name='home')]
- **Dynamic Features**:
- **Variables**: {{ variable }}
- **Loops**: {% for item in list %}{% endfor %}
- **Conditionals**: {% if condition %}{% endif %}