WP LAB 7– Form processing using Django – Part 1

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Q1)Develop a web application using Django framework to demonstrate the transfer of multiple parameters between web pages. User should be presented with a dropdown list containing car manufacturers, a text box which takes model name of the manufacturer and a submit button. On submitting the web page, the user is forwarded to a new page. This new page should display the selected car manufacturer name and the model name.

i) settings.py

```
INSTALLED_APPS = [
    'django.contrib.admin',
    'django.contrib.auth',
    'django.contrib.contenttypes',
    'django.contrib.sessions',
    'django.contrib.messages',
    'django.contrib.staticfiles',
    'car',
]

STATIC_URL = '/static/'

# This tells Django where to look for static files
STATICFILES_DIRS = [
    BASE_DIR / "car" / "static",
]
```

ii) car_project/urls.py
```
from django.contrib import admin
from django.urls import path, include

urlpatterns = [
    path('admin/', admin.site.urls),
    path('', include('car.urls')),  # Add this line to include car app URLs
]
```

iii) car/urls.py
```
from django.urls import path
from . import views

urlpatterns = [
    path('', views.car_form, name='car_form'),
    path('car_result/', views.car_result, name='car_result'),
]
```

iv) views.py
```
from django.shortcuts import render
```
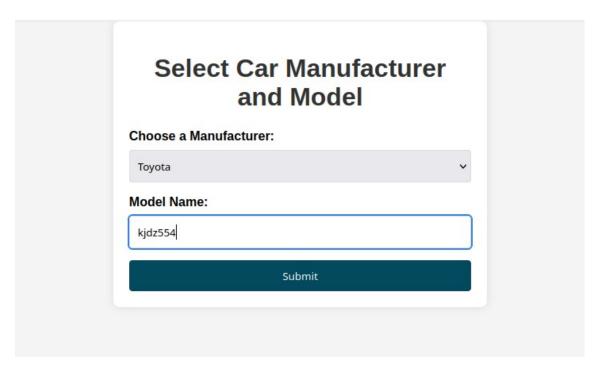
```python
def car_form(request):
    # List of car manufacturers for dropdown list
    manufacturers = ['Toyota', 'Ford', 'BMW', 'Honda', 'Audi']

    if request.method == 'POST':
        manufacturer = request.POST.get('manufacturer')
        model = request.POST.get('model')
        return render(request, 'car/car_result.html', {'manufacturer': manufacturer, 'model': model})

    return render(request, 'car/car_form.html', {'manufacturers': manufacturers})

def car_result(request):
    manufacturer = request.GET.get('manufacturer', '')
    model = request.GET.get('model', '')
    return render(request, 'car/car_result.html', {'manufacturer': manufacturer, 'model': model})
```

v) car_form.html
```html
{% load static %}
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Car Form</title>
    <link rel="stylesheet" type="text/css" href="{% static 'css/styles.css' %}">
</head>
<body>
    <div class="container">
        <h1>Select Car Manufacturer and Model</h1>
        <form method="POST">
            {% csrf_token %}
            <label for="manufacturer">Choose a Manufacturer:</label>
            <select name="manufacturer" id="manufacturer">
                {% for manufacturer in manufacturers %}
                    <option value="{{ manufacturer }}">{{ manufacturer }}</option>
                {% endfor %}
            </select>
            <label for="model">Model Name:</label>
            <input type="text" name="model" id="model" required>
            <button type="submit">Submit</button>
        </form>
    </div>
</body>
</html>
```
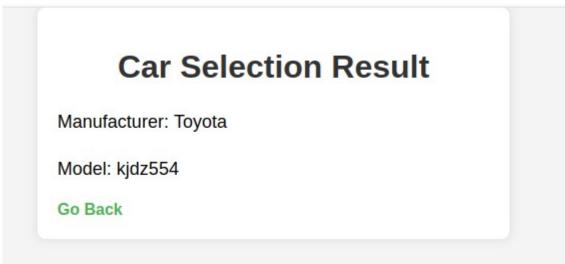
vi) car_result.html
```html
{% load static %}
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
```

```html
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Car Result</title>
    <link rel="stylesheet" type="text/css" href="{% static 'css/styles.css' %}">
</head>
<body>
    <div class="container">
        <h1>Car Selection Result</h1>
        <p>Manufacturer: {{ manufacturer }}</p>
        <p>Model: {{ model }}</p>
        <a href="/">Go Back</a>
    </div>
</body>
</html>
```

vii) styles.css

```css
/* Global styles */
body {
    font-family: Arial, sans-serif;
    margin: 0;
    padding: 0;
    background-color: #f4f4f4;
}

.container {
    width: 60%;
    margin: 0 auto;
    background-color: white;
    padding: 20px;
    border-radius: 8px;
    box-shadow: 0 0 10px rgba(0, 0, 0, 0.1);
}

/* Heading */
h1 {
    text-align: center;
    color: #333;
}

/* Form styles */
form {
    display: flex;
    flex-direction: column;
}

label {
    font-weight: bold;
    margin-bottom: 8px;
}

select, input[type="text"] {
    padding: 10px;
    margin-bottom: 15px;
```

```css
    border: 1px solid #ddd;
    border-radius: 4px;
}

button /* Global styles */
body {
    font-family: Arial, sans-serif;
    margin: 0;
    padding: 0;
    background-color: #f4f4f4;
}

.container {
    width: 60%;
    margin: 0 auto;
    background-color: white;
    padding: 20px;
    border-radius: 8px;
    box-shadow: 0 0 10px rgba(0, 0, 0, 0.1);
}

/* Heading */
h1 {
    text-align: center;
    color: #333;
}

/* Form styles */
form {
    display: flex;
    flex-direction: column;
}

label {
    font-weight: bold;
    margin-bottom: 8px;
}

select, input[type="text"] {
    padding: 10px;
    margin-bottom: 15px;
    border: 1px solid #ddd;
    border-radius: 4px;
}

button {
    padding: 10px 20px;
    background-color: #034a5f;
    color: white;
    border: none;
    border-radius: 4px;
    cursor: pointer;
```

```css
}

button:hover {
    background-color: #041c2c;
}

/* Result page styles */
p {
    font-size: 18px;
    line-height: 1.6;
}

a {
    text-decoration: none;
    color: #4CAF50;
    font-weight: bold;
}

a:hover {
    text-decoration: underline;
}{
    padding: 10px 20px;
    background-color: #034a5f;
    color: white;
    border: none;
    border-radius: 4px;
    cursor: pointer;
}

button:hover {
    background-color: #041c2c;
}

/* Result page styles */
p {
    font-size: 18px;
    line-height: 1.6;
}

a {
    text-decoration: none;
    color: #4CAF50;
    font-weight: bold;
}

a:hover {
    text-decoration: underline;
}
```

viii) Screenshots

Select Car Manufacturer and Model

Choose a Manufacturer:

Toyota ⌄

Model Name:

kjdz554

Submit

Car Selection Result

Manufacturer: Toyota

Model: kjdz554

Go Back

Q2) Create a page firstPage.html with two TextBoxes [Name, Roll], DropDownList [Subjects], and a button. Create another page secondPage.html with a label and a button. When the user clicks the button in first Page, he should be sent to the second page and display the contents passed from first page in the label. The button in second page should navigate the user back to firstPage. Use Django sessions to transfer information.

i) settings.py
```
INSTALLED_APPS = [
    'django.contrib.admin',
    'django.contrib.auth',
    'django.contrib.contenttypes',
    'django.contrib.sessions',
    'django.contrib.messages',
    'django.contrib.staticfiles',
    'myapp',
]
```

```python
# Static files (CSS, JavaScript, Images)
# https://docs.djangoproject.com/en/5.1/howto/static-files/

STATIC_URL = '/static/'

# This tells Django where to look for static files
STATICFILES_DIRS = [
    BASE_DIR / "myapp" / "static",
]
```

ii) myproject/ urls.py
```python
from django.contrib import admin
from django.urls import path, include

urlpatterns = [
    path('admin/', admin.site.urls),
    path('', include('myapp.urls')),
]
```

iii) myapp/ urls.py
```python
from django.urls import path
from . import views

urlpatterns = [
    path('', views.first_page, name='first_page'),
    path('second/', views.second_page, name='second_page'),
]
```

iv) views.py
```python
from django.shortcuts import render, redirect

def first_page(request):
    if request.method == "POST":
        # Get data from the form
        name = request.POST.get('name')
        roll = request.POST.get('roll')
        subject = request.POST.get('subject')

        # Store data in session
        request.session['name'] = name
        request.session['roll'] = roll
        request.session['subject'] = subject

        # Redirect to second page
        return redirect('second_page')

    return render(request, 'firstPage.html')

def second_page(request):
    # Retrieve data from session
    name = request.session.get('name')
    roll = request.session.get('roll')
```

```python
    subject = request.session.get('subject')

    # Check if the session data exists, if not, redirect to the first page
    if not name or not roll or not subject:
        return redirect('first_page')

    context = {
        'name': name,
        'roll': roll,
        'subject': subject
    }

    return render(request, 'secondPage.html', context)
```

v) firstPage.html
```html
<!DOCTYPE html>
<html>
<head>
    <title>First Page</title>
    {% load static %}
    <link rel="stylesheet" type="text/css" href="{% static 'myapp/styles.css' %}">
</head>
<body>
    <h2>First Page</h2>
    <form method="POST">
        {% csrf_token %}
        <label for="name">Name:</label>
        <input type="text" id="name" name="name"><br><br>

        <label for="roll">Roll:</label>
        <input type="text" id="roll" name="roll"><br><br>

        <label for="subject">Subject:</label>
        <select name="subject" id="subject">
            <option value="Maths">Maths</option>
            <option value="Science">Science</option>
            <option value="History">History</option>
        </select><br><br>

        <button type="submit">Submit</button>
    </form>
</body>
</html>
```

vi) secondPage.html
```html
<!DOCTYPE html>
<html>
<head>
    <title>Second Page</title>
    {% load static %}
    <link rel="stylesheet" type="text/css" href="{% static 'myapp/styles.css' %}">
</head>
```

```html
<body>
    <h2>Second Page</h2>
    <p>Name: {{ name }}</p>
    <p>Roll: {{ roll }}</p>
    <p>Subject: {{ subject }}</p>

    <form action="{% url 'first_page' %}" method="get">
        <button type="submit">Back to First Page</button>
    </form>
</body>
</html>
```

vii) styles.css
```css
/* Global Styles */
body {
    font-family: Arial, sans-serif;
    background-color: #f4f4f4;
    color: #333;
    margin: 0;
    padding: 0;
}

h2 {
    text-align: center;
    color: #5b5b5b;
}

form {
    max-width: 400px;
    margin: 30px auto;
    padding: 20px;
    background-color: #fff;
    border-radius: 8px;
    box-shadow: 0 4px 6px rgba(0, 0, 0, 0.1);
}

label {
    font-size: 14px;
    color: #555;
}

input, select {
    width: 100%;
    padding: 8px;
    margin: 10px 0;
    border: 1px solid #ccc;
    border-radius: 4px;
}

button {
    width: 100%;
    padding: 10px;
```

```css
    background-color: #4CAF50;
    color: white;
    border: none;
    border-radius: 4px;
    cursor: pointer;
}

button:hover {
    background-color: #45a049;
}

/* Button Styling in Second Page */
form button {
    background-color: #007BFF;
}

form button:hover {
    background-color: #0056b3;
}

p {
    font-size: 16px;
    text-align: center;
}
```

viii) Screenshots