Faculty of Technology and Engineering

Chandubhai S. Patel Institute of Technology
Department of Computer Science & Engineering

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Laboratory Manual Performa

Academic Year	:	2024-25	Semester	:	5TH
Course code	:	CSE309	Course name	:	Mobile Application and Development

Practical - 5

Fetch any API data from the internet and display on List View Builder.

Introduction of relevant concepts used:

- **http package**: A Dart package used for making HTTP requests to fetch data from the internet, allowing interaction with web services and APIs.
- **ListView.builder**: A constructor in Flutter that builds a scrollable, efficient list of widgets on demand, suitable for displaying dynamic data fetched from APIs.

main.dart

```dart
import 'package:flutter/material.dart';
import 'screens/data_screen.dart';

void main() {
 runApp(MyApp());
}

class MyApp extends StatelessWidget {
 @override
 Widget build(BuildContext context) {
  return MaterialApp(
   title: 'Fetch Data Example',
   theme: ThemeData(
    primarySwatch: Colors.blue,
   ),
   home: DataScreen(),
  );
 }
}
```

data_screen.dart

```dart
import 'package:flutter/material.dart';
import 'package:http/http.dart' as http;
import 'dart:convert';
```

```dart
class DataScreen extends StatefulWidget {
  @override
  _DataScreenState createState() => _DataScreenState();
}

class _DataScreenState extends State<DataScreen> {
  List<dynamic> _posts = [];
  bool _isLoading = true;

  @override
  void initState() {
    super.initState();
    fetchPosts();
  }

  Future<void> fetchPosts() async {
    final response = await http.get(Uri.parse('https://jsonplaceholder.typicode.com/posts'));
    if (response.statusCode == 200) {
      setState(() {
        _posts = json.decode(response.body);
        _isLoading = false;
      });
    } else {
      throw Exception('Failed to load posts');
    }
  }

  @override
  Widget build(BuildContext context) {
    return Scaffold(
      appBar: AppBar(
        title: Text('Fetch Data Example'),
      ),
      body: _isLoading
        ? Center(child: CircularProgressIndicator())
        : ListView.builder(
          itemCount: _posts.length,
          itemBuilder: (context, index) {
            return ListTile(
              title: Text(_posts[index]['title']),
              subtitle: Text(_posts[index]['body']),
            );
          },
        ),
    );
  }
}
```

Output (Screenshot)

Fetch Data Example

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