

Module 8

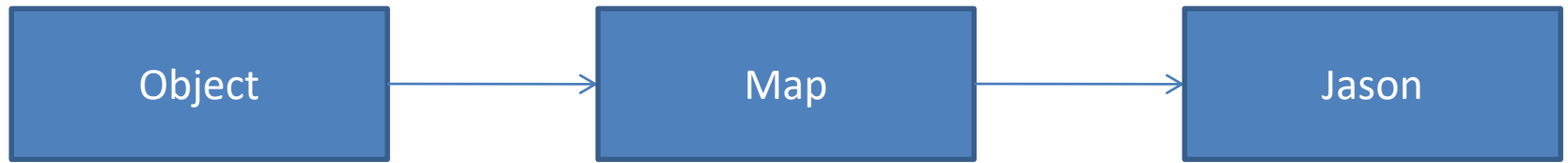
Data handling

Serialization

- Serialization is the process in computer science to convert an object into something that can be saved in a database or be sent via a network request.
- Serialization means to convert an object into that string.

Jason serialization

- Jason Serialization means to convert an object(string) into json format.

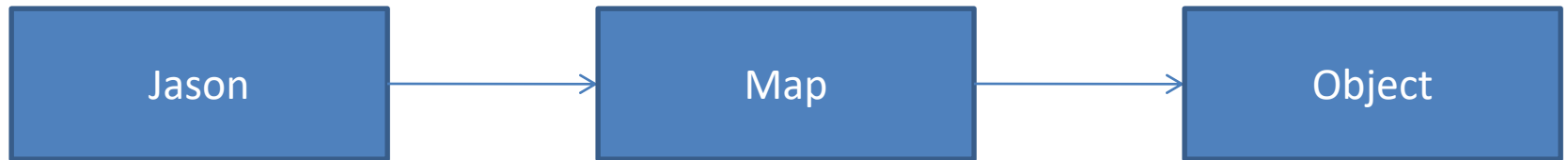


`jsonEncode ()`

Converts object to a JSON string.

Jason deserialization

- Jason deserialization means to convert an json format into object(string).



`jsonDecode()`

Parses the string and returns the resulting object.

- Write a flutter program to demonstrate JSON serialization and deserialization.

usermodel.dart

```
class UserModel
{
  late String id;
  late String fullname;
  late String email;

  // Map to Object
  UserModel ({required this.id, required this.fullname, required this.email});
  UserModel.fromMap(Map<String , dynamic> map){
    this.id = map["id"];
    this.fullname = map["fullname"];
    this.email = map["email"];
  }

  // Object to Map
  Map <String , dynamic> toMap()
  {
    return{
      "id": this.id,
      "fullname": this.fullname,
      "email": this.email,
    };
  }
}
```

main.dart

```
import 'dart:convert';
import 'package:flutter/material.dart';
import 'package:jasonapp/usermodel.dart';

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

class MyApp extends StatelessWidget {
  const MyApp({Key? key}) : super(key: key);
  @override
  Widget build(BuildContext context) {
    return MaterialApp(
      title: 'Flutter Demo',
      theme: ThemeData(
        primarySwatch: Colors.blue,
      ),
      home: HomePage(),
    );
  }
}
```

```

class HomePage extends StatefulWidget {
  @override
  _HomePageState createState() => _HomePageState();
}
class _HomePageState extends State<HomePage> {
  UserModel userObject = new UserModel(id: "1", fullname: "ABC", email: "abc@gmail.com");
  String userJSON = '{"id": "1", "fullname": "ABC", "email": "abc@gmail.com"}';

  @override
  Widget build(BuildContext context) {
    return Scaffold(
      body: Center(
        child: Row(
          mainAxisAlignment: MainAxisAlignment.center,
          children: <Widget>[
            ElevatedButton(
              onPressed: (){
                //Serialization
                Map<String, dynamic> userMap = userObject.toMap();
                var json = jsonEncode(userMap);
                print(json.toString());
              },
              child: Text("Serialize"),
            ),
          ],
        ),
      ),
    );
  }
}

```



```
    SizedBox(width: 20,),
      ElevatedButton(
        onPressed: (){
          var decode = jsonDecode(userJSON);
          Map<String, dynamic> userMap = decode;
          UserModel newUser = new
UserModel.fromMap(userMap);
          print(newUser.fullname.toString());
        },
        child: Text("Deserialize")
      ),
    ],
  ),
),
);
}
```