JSON (JavaScript Object Notation) is a lightweight, human-readable data interchange format.

JSON Basics

- JSON is a collection of key-value pairs.

- Keys are strings, and values can be:

- Strings

- Numbers

- Booleans

- Arrays

- Objects

- Null

JSON Syntax

- Objects: { key: value, ... }

- Arrays: [ value, ... ]

- Strings: "string"

- Numbers: 123

- Booleans: true or false

- Null: null

JSON Example

{

"name": "John Doe",

"age": 30,

"address": {

"street": "123 Main St",

"city": "New York",

"state": "NY"

},

"interests": ["reading", "hiking", "coding"]

}

JSON Methods

- JSON.parse(): Parses a JSON string into a JavaScript object.

- JSON.stringify(): Converts a JavaScript object into a JSON string.

JSON.parse() Example

const jsonString = '{"name":"John Doe","age":30}';

const jsonObject = JSON.parse(jsonString);

console.log(jsonObject.name); // Output: John Doe

JSON.stringify() Example

const jsonObject = { name: "John Doe", age: 30 };

const jsonString = JSON.stringify(jsonObject);

console.log(jsonString); // Output: {"name":"John Doe","age":30}

Use Cases

- Data storage and exchange

- API responses

- Configuration files

- Debugging and logging

In the context of JSON, "lightweight" refers to its compact and efficient format, making it easy to:

1. Transmit data over networks (reduced bandwidth usage)

2. Store data (reduced storage requirements)

3. Parse and process data (faster execution)