

## What is JSON?

- JSON is a lightweight data interchange format that is easy for humans to read and write and easy for machines to parse and generate.
- It is primarily used to transmit data between a server and a web application as text.
- JSON data is represented as key-value pairs and supports arrays and nested objects.

## What is a Promise?

- A Promise is an object representing the eventual completion or failure of an asynchronous operation.
- Promises allow you to associate handlers with an asynchronous action's eventual success value or failure reason.
- This helps in managing asynchronous operations more effectively.

A Promise can be in one of three states:

- **Pending:** The initial state, neither fulfilled nor rejected.
- **Fulfilled:** The operation completed successfully.
- **Rejected:** The operation failed.

## Example

```
const myPromise = new Promise((resolve, reject) => {  
  let success = true;  
  if (success) {  
    resolve("Operation was successful!");  
  } else {  
    reject("Operation failed.");  
  }  
});  
  
myPromise  
  .then((message) => {  
    console.log("Success: " + message);  
  })  
  .catch((error) => {  
    console.log("Error: " + error);  
  });
```

## Fetch Example with Promises

```
<!DOCTYPE html>

<html lang="en">

<head>

  <meta charset="UTF-8">

  <meta name="viewport" content="width=device-width, initial-scale=1.0">

  <title>Fetch API Example</title>

</head>

<body>

  <h1>Products</h1>

  <div id="products"></div>

  <script>

    // Function to fetch products from the API and display them
    const fetchProducts = () => {
      fetch('https://fakestoreapi.com/products')
        .then(response => {
          if (!response.ok) {
            throw new Error('Network response was not ok');
          }
          return response.json();
        })
        .then(data => {
          displayProducts(data);
        })
        .catch(error => {
          console.error('There has been a problem with your fetch operation:', error);
        });
    };
  </script>
</body>
</html>
```

```
// Function to display products on the HTML page
const displayProducts = (products) => {
  const productsContainer = document.getElementById('products');
  productsContainer.innerHTML = "";

  products.forEach(product => {
    const productElement = document.createElement('div');
    productElement.innerHTML = `
      <h2>${product.title}</h2>
      
      <p>Price: ${product.price}</p>
      <p>${product.description}</p>
      productsContainer.appendChild(productElement);
    `;
  });
};

// Fetch products when the page loads
window.onload = fetchProducts;

</script>
</body>
</html>
```