



# NAVODAYA INSTITUTE OF TECHNOLOGY, RAICHUR

## DEPARMENT OF COMPUTER SCIENCE & ENGINEERING

### Web Technology Lab

#### Program - 7

7. Develop JavaScript program (with HTML/CSS) for:
- a) Converting JSON text to JavaScript Object.
  - b) Convert JSON results into a date.
  - c) Converting From JSON To CSV and CSV to JSON.
  - d) Create hash from string using crypto.createHash() method.

#### Program :

```
<!DOCTYPE html>

<head>
  <script src="https://cdnjs.cloudflare.com/ajax/libs/crypto-js/4.1.1/crypto-
js.min.js"></script>
  <title>Simple Converter | vtucode</title>
  <style>
    * {
      padding: 0;
      margin: 0;
      box-sizing: border-box;
    }

    body {
      font-family: Arial, sans-serif;
      color: #000000;
    }

    .container {
      width: 60%;
      margin: 0 auto;
      padding: 20px;
    }

    .head-title h1 {
```

```
font-size: 28px;
padding: 10px;
color: #fff;
margin-bottom: 50px;
}
```

```
.head-title {
width: 100%;
background: #000;
text-align: center;
border-radius: 10px;
}
```

```
.section {
margin-bottom: 40px;
padding: 20px;
border-radius: 8px;
background: #fff;
box-shadow: rgba(0, 0, 0, 0.1) 0px 1px 3px 0px, rgba(0, 0, 0, 0.06) 0px
1px 2px 0px;
transition: all 0.3s;
overflow: hidden;
}
```

```
.section h2 {
color: #000000;
font-size: 20px;
margin-bottom: 15px;
}
```

```
textarea {
font-size: 14px;
width: 100%;
height: 120px;
margin-bottom: 15px;
padding: 12px;
border-radius: 8px;
border: 1px solid #00000022;
box-sizing: border-box;
transition: border-color 0.3s ease, box-shadow 0.3s ease;
}
```

```
textarea:focus {
background: transparent;
border: 1px solid #00000022;
```

```
border-color: #007BFF;
box-shadow: 0 0 12px rgba(0, 123, 255, 0.5);
outline: none;
}

input[type="text"] {
  width: calc(100% - 24px);
  padding: 12px;
  border-radius: 8px;
  border: 1px solid #ddd;
  box-sizing: border-box;
  transition: border-color 0.3s ease, box-shadow 0.3s ease;
  margin-bottom: 15px;
}

input[type="text"]:focus {
  border-color: #007BFF;
  box-shadow: 0 0 8px rgba(0, 123, 255, 0.5);
  outline: none;
}

button {
  display: inline-block;
  padding: 15px 15px;
  margin: 10px 0;
  font-weight: 600;
  border: none;
  border-radius: 7px;
  background-color: #007BFF;
  color: #fff;
  cursor: pointer;
  font-size: 16px;
  transition: box-shadow 0.3s ease, transform 0.3s ease;
}

button:hover {
  box-shadow: 0 0 0 2px #fff, 0 0 0 4px #007BFF;
}

button:focus {
  box-shadow: 0 0 0 2px #fff, 0 0 0 4px #007BFF;
}

pre {
  display: none;
  background: #f8f9fa;
```

```

border: 1px solid #ddd;
padding: 15px;
border-radius: 8px;
overflow: auto;
transition: opacity 0.3s ease;
}

.error {
margin-top: 10px;
font-size: 14px;
color: #000;
background: #ffdddd;
border-color: #ff0000;
padding: 10px;
}

.success {
margin-top: 10px;
font-size: 14px;
color: #000;
background: #6ef08d38;
border-color: #47e56d;
padding: 10px;
}

.adjust-area {
margin-top: 30px;
}
</style>
</head>
<body>
<div class="container">
<div class="head-title">
<h1>Simple Converter</h1>
</div>
<div class="section">
<h2>1. Convert JSON Text to JavaScript Object</h2>
<textarea id="jsonInput" placeholder="Enter JSON
here..."></textarea>
<button onclick="convertJsonToObject()">Convert JSON</button>
<pre id="jsonOutput" class="output"></pre>
</div>

<div class="section">
<h2>2. Convert JSON Results into Date</h2>

```

```
    <textarea id="jsonDataInput" placeholder='Enter JSON with date in
"yyyy-mm-dd" format'></textarea>
    <button onclick="convertJsonToDate()">Convert to Date</button>
    <pre id="jsonDataOutput" class="output"></pre>
</div>
```

```
<div class="section">
    <h2>3. Convert JSON to CSV and CSV to JSON</h2>
    <textarea id="jsonCsvInput" placeholder="Enter JSON for CSV
conversion..."></textarea>
    <button onclick="convertJsonToCsv()">JSON to CSV</button>
    <pre id="csvOutput" class="output"></pre>
    <textarea id="csvInput" placeholder="Enter CSV here..." class="adjust-
area"></textarea>
    <button onclick="convertCsvToJson()">CSV to JSON</button>
    <pre id="jsonCsvOutput" class="output"></pre>
</div>
```

```
<div class="section">
    <h2>4. Create Hash from String</h2>
    <input type="text" id="hashInput" placeholder="Enter string to hash">
    <button onclick="createHash()">Create Hash</button>
    <pre id="hashOutput" class="output"></pre>
</div>
</div>
```

```
<script>
    function showResult(id, text, isSuccess) {
        const element = document.getElementById(id);
        element.textContent = text;
        element.className = isSuccess ? 'success' : 'error';
        element.style.display = 'block';
        element.style.opacity = '1';
    }

    function convertJsonToObject() {
        const jsonInput = document.getElementById('jsonInput').value;
        try {
            const jsonObject = JSON.parse(jsonInput);
            showResult('jsonOutput', JSON.stringify(jsonObject, null, 2), true);
        } catch (error) {
            showResult('jsonOutput', 'Invalid JSON', false);
        }
    }

    function convertJsonToDate() {
```

```

const jsonDateInput =
document.getElementById('jsonDateInput').value;
try {
  const data = JSON.parse(jsonDateInput);
  if (data.date && !isNaN(new Date(data.date).getTime())) {
    const date = new Date(data.date);
    showResult('jsonDateOutput', date.toString(), true);
  } else {
    showResult('jsonDateOutput', 'Invalid Date Format', false);
  }
} catch (error) {
  showResult('jsonDateOutput', 'Invalid JSON', false);
}
}

function convertJsonToCsv() {
  const jsonInput = document.getElementById('jsonCsvInput').value;
  try {
    const jsonArray = JSON.parse(jsonInput);
    if (Array.isArray(jsonArray) && jsonArray.length > 0) {
      const keys = Object.keys(jsonArray[0]);
      const csv = [
        keys.join(','),
        ...jsonArray.map(row => keys.map(key =>
JSON.stringify(row[key])).join(','))
      ].join('\n');
      showResult('csvOutput', csv, true);
    } else {
      showResult('csvOutput', 'Invalid JSON: Expected an array with
objects.', false);
    }
  } catch (error) {
    showResult('csvOutput', 'Invalid JSON', false);
  }
}

function convertCsvToJson() {
  const csvInput = document.getElementById('csvInput').value;
  try {
    const lines = csvInput.trim().split('\n');
    if (lines.length > 1) {
      const keys = lines[0].split(',');
      if (keys.length > 0) {
        const jsonArray = lines.slice(1).map(line => {
          const values = line.split(',');
          return keys.reduce((obj, key, index) => {

```

```

        obj[key] = values[index];
        return obj;
    }, {});
});
showResult('jsonCsvOutput', JSON.stringify(jsonArray, null, 2),
true);
    } else {
        showResult('jsonCsvOutput', 'Invalid CSV: No columns found.',
false);
    }
    } else {
        showResult('jsonCsvOutput', 'Invalid CSV: No data found.', false);
    }
} catch (error) {
    showResult('jsonCsvOutput', 'Invalid CSV', false);
}
}

function createHash() {
    const hashInput = document.getElementById('hashInput').value.trim();
    if (hashInput.length > 0) {
        const hash = CryptoJS.SHA256(hashInput).toString();
        showResult('hashOutput', hash, true);
    } else {
        showResult('hashOutput', 'Input cannot be empty', false);
    }
}
</script>
</body>

</html>

```

**Output :**

**Note:** Take input from below box or you can enter you own input make sure format is correct as per below format to convert.

Convert JSON Text to JavaScript Object\*\*\*\*\*

```

{
  "name": "Alice",
  "age": 30,
  "city": "New York"
}

```

Convert JSON Results into Date\*\*\*\*\*

```
{
  "date": "2024-09-01"
}
```

Convert JSON to CSV\*\*\*\*\*

```
[
  { "name": "Alice", "age": 30, "city": "New York" },
  { "name": "Bob", "age": 25, "city": "San Francisco" },
  { "name": "Charlie", "age": 35, "city": "Chicago" }
]
```

Convert CSV to JSON\*\*\*\*\*

name,age,city  
Alice,30,New York  
Bob,25,San Francisco  
Charlie,35,Chicago

Create Hash from String\*\*\*\*\*

NITPulse

Simple Converter

1. Convert JSON Text to JavaScript Object

Enter JSON here...

Convert JSON

2. Convert JSON Results into Date

Enter JSON with date in "yyyy-mm-dd" format

Convert to Date

3. Convert JSON to CSV and CSV to JSON

Enter JSON for CSV conversion...

JSON to CSV

Enter CSV here...



CSV to JSON

#### 4. Create Hash from String

Enter string to hash

Create Hash

### Simple Converter

#### 1. Convert JSON Text to JavaScript Object

```
{
  "name": "Alice",
  "age": 30,
  "city": "New York"
}
```

Convert JSON

```
{
  "name": "Alice",
  "age": 30,
  "city": "New York"
}
```

#### 2. Convert JSON Results into Date

```
{
  "date": "2024-09-01"
}
```

Convert to Date

Sun Sep 01 2024 05:30:00 GMT+0530 (India Standard Time)

#### 3. Convert JSON to CSV and CSV to JSON

```
[
  { "name": "Alice", "age": 30, "city": "New York" },
  { "name": "Bob", "age": 25, "city": "San Francisco" },
  { "name": "Charlie", "age": 35, "city": "Chicago" }
]
```

JSON to CSV

```
name,age,city
"Alice",30,"New York"
"Bob",25,"San Francisco"
"Charlie",35,"Chicago"
```

```
name,age,city
Alice,30,New York
Bob,25,San Francisco
Charlie,35,Chicago
```

CSV to JSON

```
[
  {
    "name": "Alice",
    "age": "30",
    "city": "New York"
  },
  {
    "name": "Bob",
    "age": "25",
    "city": "San Francisco"
  },
  {
    "name": "Charlie",
    "age": "35",
    "city": "Chicago"
  }
]
```

#### 4. Create Hash from String

vtuocode

Create Hash

873bb049b049be7044c0ba5a179556294945ccaa0ad06d9f9ce3cb05c1933bb7