

Table

An HTML table is a structure that organizes data into rows and columns. Tables are created using the `<table>` tag and other related tags that define the structure of rows, headers, and cells. Here's a comprehensive guide to creating and understanding HTML tables:

HTML Table Structure

1. Basic Tags:

- `<table>`: Defines the table element.
- `<tr>`: Represents a table row.
- `<th>`: Defines a table header cell. Content in `<th>` is bold and centered by default.
- `<td>`: Defines a table data cell.

2. Example:

```
<table>
  <tr>
    <th>Header 1</th>
    <th>Header 2</th>
    <th>Header 3</th>
  </tr>
  <tr>
    <td>Data 1</td>
    <td>Data 2</td>
    <td>Data 3</td>
  </tr>
  <tr>
    <td>Data 4</td>
    <td>Data 5</td>
    <td>Data 6</td>
  </tr>
</table>
```

Attributes in HTML Tables

1. Table Attributes:

- `border`: Adds a border around the table and its cells.

- **cellpadding**: Adds space between the content and the cell border.
- **cellspacing**: Adds space between cells.
- **width**: Sets the width of the table.
- **height**: Sets the height of the table.

Example:

```
<table border="1" cellpadding="5" cellspacing="0" width="100%">
  <!-- Table Content -->
</table>
```

2.

3. Row and Cell Attributes:

- **colspan**: Merges multiple columns into one cell.
- **rowspan**: Merges multiple rows into one cell.
- **align**: Aligns the content horizontally (deprecated; use CSS).
- **valign**: Aligns the content vertically (deprecated; use CSS).

Example:

```
<table border="1">
  <tr>
    <th colspan="2">Merged Header</th>
  </tr>
  <tr>
    <td rowspan="2">Merged Cell</td>
    <td>Cell 2</td>
  </tr>
  <tr>
    <td>Cell 3</td>
  </tr>
</table>
```

Styling Tables

CSS can be used to style tables for better appearance.

Basic Styling:

```
<style>
  table {
    border-collapse: collapse;
    width: 100%;
```

```

}
th, td {
  border: 1px solid black;
  padding: 8px;
  text-align: left;
}
th {
  background-color: #f2f2f2;
}
</style>

```

1. Advanced Styling:

Use `nth-child` pseudo-class for alternate row coloring:

```

tr:nth-child(even) {background-color: #f9f9f9;}
tr:hover {background-color: #f1f1f1;}

```

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Semantic Enhancements

Caption: Adds a title to the table.

```

<table>
  <caption>Student Scores</caption>
  <!-- Table Content -->
</table>

```

1. Grouping:

- `<thead>`: Defines the header section of the table.
- `<tbody>`: Defines the body section of the table.
- `<tfoot>`: Defines the footer section of the table.

Example:

```

<table border="1">
  <thead>
    <tr>

```

```
        <th>Header 1</th>
        <th>Header 2</th>
        <th>Header 3</th>
    </tr>
</thead>
<tbody>
    <tr>
        <td>Data 1</td>
        <td>Data 2</td>
        <td>Data 3</td>
    </tr>
</tbody>
<tfoot>
    <tr>
        <td colspan="3">Footer Information</td>
    </tr>
</tfoot>
</table>
```

Accessibility in Tables

Scope Attribute: Associates headers with rows or columns for screen readers.

```
<th scope="col">Column Header</th>
<th scope="row">Row Header</th>
```

1. **aria-label** and **aria-labelledby**: Provide additional descriptions for better accessibility.
 2. **Summary Attribute (deprecated, use <caption> instead)**: Gives a brief description of the table's purpose.
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