# What is JSX?

JSX is a JavaScript Extension Syntax used in React to easily write HTML and JavaScript together.

Some where you can also see JavaScript XML the full form of JSX.

Take a look at the below code:

const jsx = <h1>This is JSX</h1>

This is simple JSX code in React. But the browser does not understand this JSX because it's not valid JavaScript code. This is because we're assigning an HTML tag to a variable that is not a string but just HTML code.

So to convert it to browser understandable JavaScript code, we use a tool like [Babel](https://babeljs.io/) which is a JavaScript transpiler internally it uses compiler to translate javascript into machine code.

You can set up your own babel configuration using Webpack as I show in [this article](https://medium.com/javascript-in-plain-english/webpack-and-babel-setup-with-react-from-scratch-bef0fe2ae3e7?source=friends_link&sk=880a6b9a35fb638eef19e5e99276428e). Or you can use [create-react-app](https://github.com/facebook/create-react-app) which internally uses Babel for the JSX to JavaScript conversion.

It is a template script where you will have the power of using HTML and Javascript together.

Here is a simple example of a JSX code.

const h1tag = <h1>Hello, from Guru99 Tutorials!</h1>;

**Why we need JSX in React?**

For a UI, we need Html, and each element in the dom will have events to be handled, state changes, etc.

In case of React, it allows us to make use of Html and javascript in the same file and take care of the state changes in the dom in an efficient manner.

**Expressions in JSX**

Here is a simple example of how to use expressions in JSX.

In earlier ReactJS examples, we had written something like :

**index.js**

import React from 'react';

import ReactDOM from 'react-dom';

ReactDOM.render(

<h1>Hello, from Guru99 Tutorials!</h1>,

document.getElementById('root')

);

We will now change the above code to add expressions. Expressions are used inside curly brackets {}, and they are expanded during run time. Expressions in react are the same as javascript expressions.

Let us now add changes and create a .jsx file, as shown below:

**test.jsx**

import React from 'react';

import ReactDOM from 'react-dom';

const display = "Hello, to Guru99 Tutorials";

const h1tag =<h1>{display}</h1>;

export default h1tag;

We have added the required code and will use the text.jsx file in index.js.We want the **h1tag**variable to be used inside script.js, so the same is exported as shown above in the test.jsx

Here is the modified code in index.js

import React from 'react';

import ReactDOM from 'react-dom';

import h1tag from './test.jsx';

ReactDOM.render(

h1tag,

document.getElementById('root')

);

To use the test.jsx in index.js we have to import it first as shown below:

import h1tag from './test.jsx';

We can use the h1tag now in the ReactDOM.render as shown below:

ReactDOM.render(

h1tag,

document.getElementById('root')

);

**Here is the output when we check the same in the browser:**

