

Lesson 06 Demo 02

Debugging with Visual Studio

Objective: To debug the code using Visual Studio Code

Tools required: Linux Cent OS, Node Package Manager, Visual Studio Code

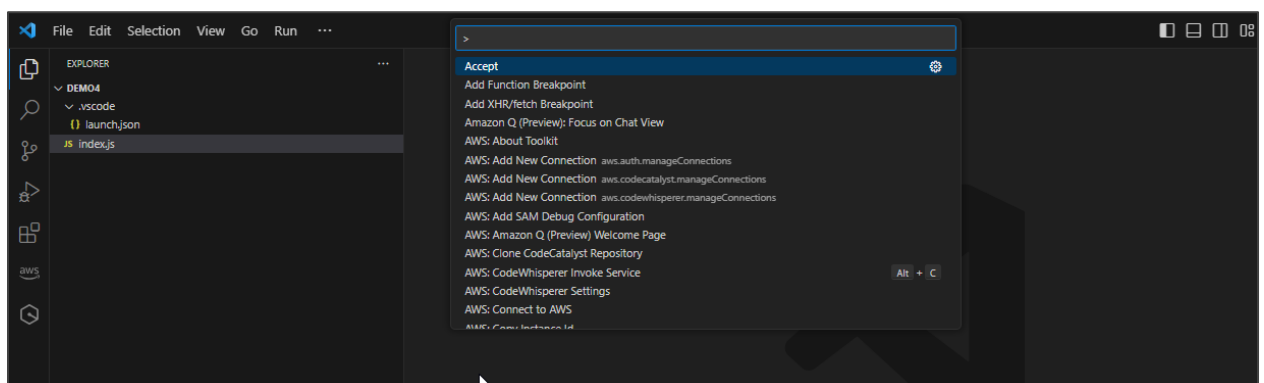
Prerequisites: Basic Linux commands, NPM commands, JavaScript, breakpoints, and VS Code debugging perspective

Steps to be followed:

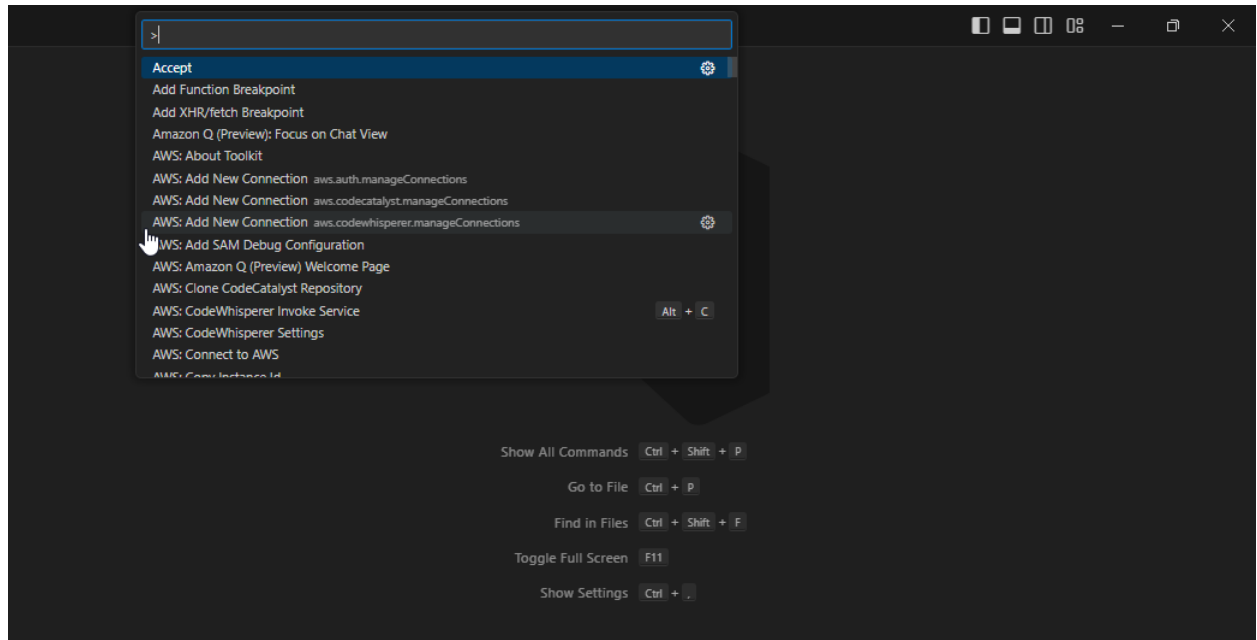
1. Debug using the auto attach feature
2. Create breakpoints

Step 1: Debug using the auto attach feature

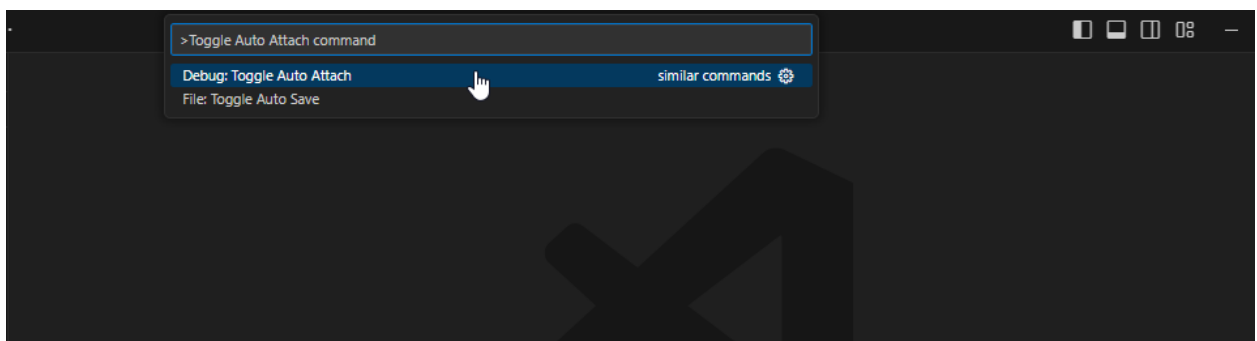
- 1.1 Go to the VS Code interface and open the command palette using **Ctrl + Shift + P**



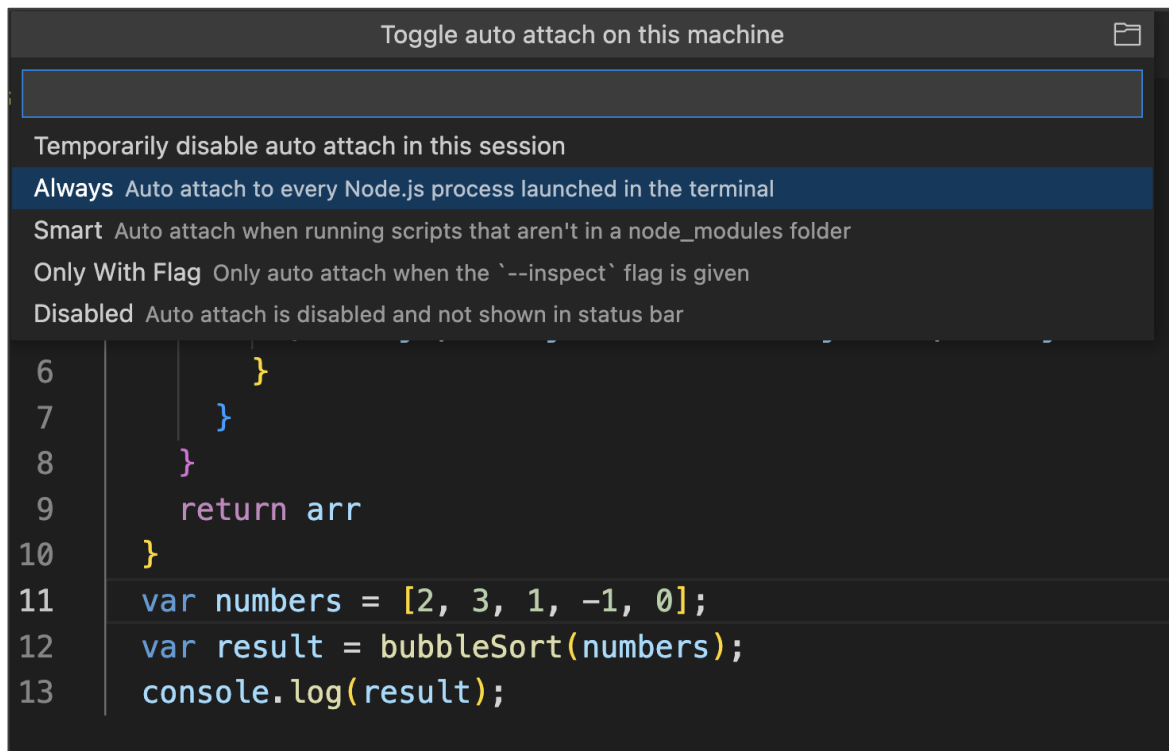
1.2 Open the command palette using Ctrl + Shift + p



1.3 Enable the debugging feature using the **Toggle Auto Attach** command from the command palette



1.4 Enable the three auto-attach modes: **smart**, **always**, and **onlyWithFlag**



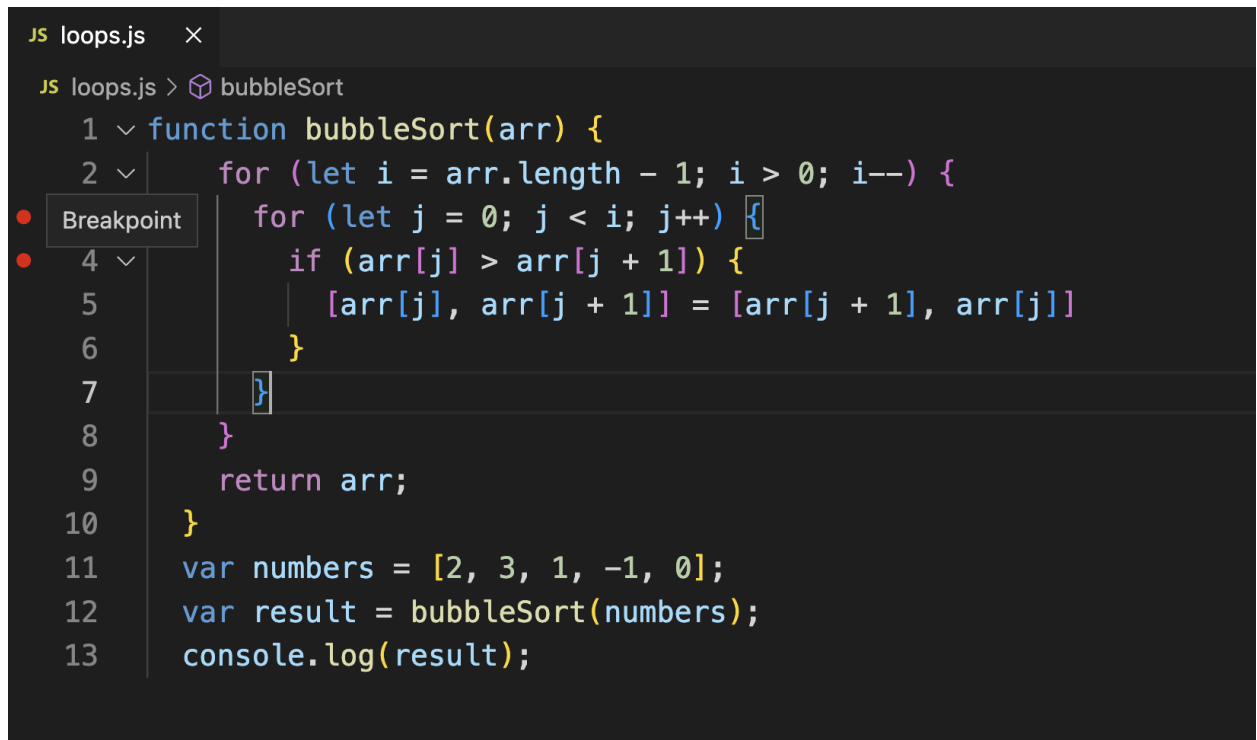
```
Toggle auto attach on this machine
[ ]
Temporarily disable auto attach in this session
Always Auto attach to every Node.js process launched in the terminal
Smart Auto attach when running scripts that aren't in a node_modules folder
Only With Flag Only auto attach when the '--inspect' flag is given
Disabled Auto attach is disabled and not shown in status bar

6      }
7    }
8  }
9    return arr
10 }
11 var numbers = [2, 3, 1, -1, 0];
12 var result = bubbleSort(numbers);
13 console.log(result);
```

After enabling the auto-attach, restart the terminal.

Step 2: Create breakpoints

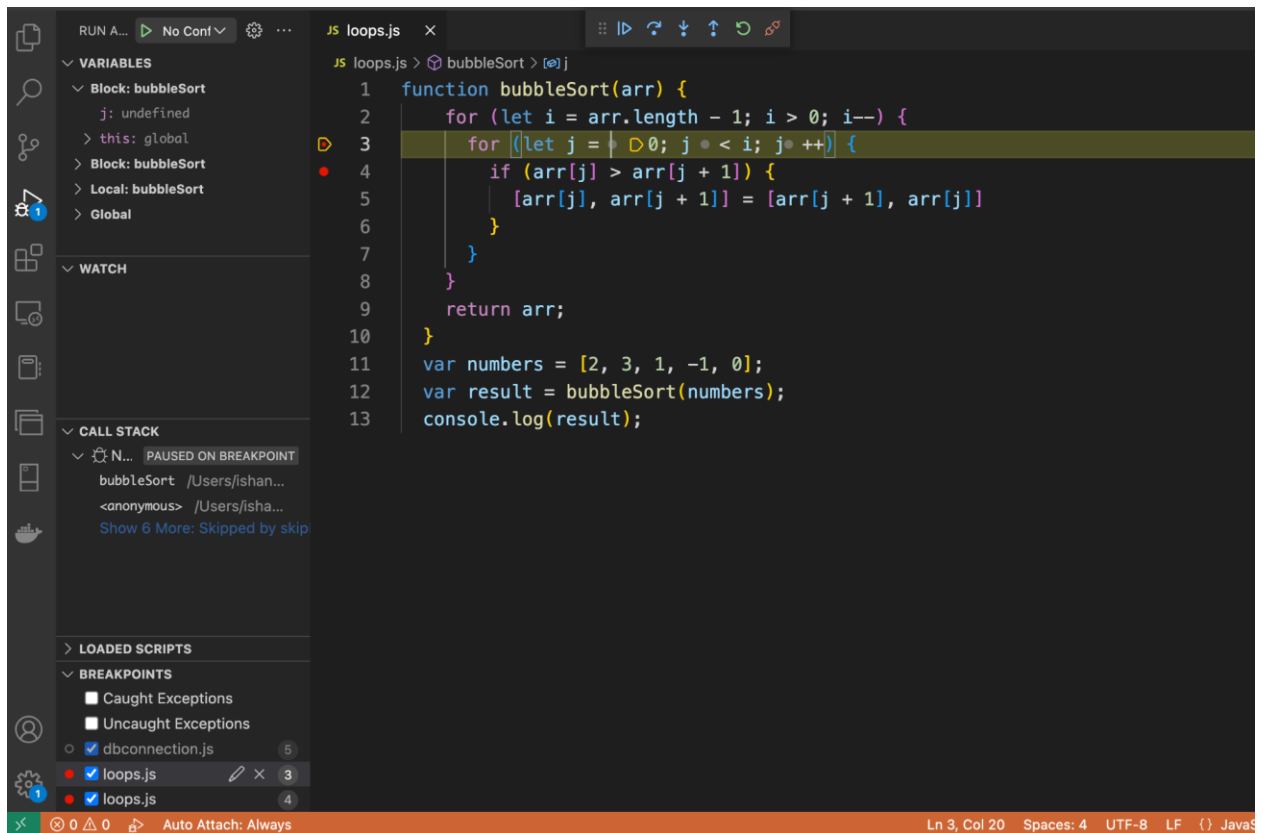
2.1 Add the breakpoints in the code:



```
JS loops.js x
JS loops.js > bubbleSort
1  function bubbleSort(arr) {
2    for (let i = arr.length - 1; i > 0; i--) {
3      for (let j = 0; j < i; j++) {
4        if (arr[j] > arr[j + 1]) {
5          [arr[j], arr[j + 1]] = [arr[j + 1], arr[j]]
6        }
7      }
8    }
9    return arr;
10 }
11 var numbers = [2, 3, 1, -1, 0];
12 var result = bubbleSort(numbers);
13 console.log(result);
```

The screenshot shows a code editor with a file named 'loops.js'. The code defines a 'bubbleSort' function and uses it to sort an array. Two breakpoints are indicated by red dots on the left margin: one at line 4 (inside the inner loop's 'if' statement) and another at line 7 (at the end of the inner loop's 'for' block). A 'Breakpoint' tooltip is visible over the first breakpoint.

2.2 Run the code using the command in the terminal: **node loops.js**



The debugger perspective will be viewed in the VS Code.

2.3 Click the buttons to proceed with debugging **continue**, **step over**, **step into**, **step out**, **restart**, **disconnect**

By following these steps, you have successfully debugged the code using Visual Studio Code.

