SkillSwap

Documentation Tool: JSDoc

Contents

1 Introduction

1. What is JSDoc?
JSDoc is a documentation syntax for JavaScript, similar to JavaDoc for Java or PyDoc for Python, enabling developers to annotate their code with comments that can later be transformed into a detailed documentation website. This tool not only facilitates better code comprehension but also fosters a culture of documentation-first, which can significantly reduce the learning curve for new team members and streamline the code review process. It also integrates with popular editors like VS Code and JetBrains, displaying documentation in-editor when developers hover over a specific field or method.

2. Basic Syntax:
JSDoc uses a syntax similar to JavaDoc and other documentation tools. It involves adding special comments to your code using a specific format. Here's a basic example:

```
/**
 * Creates a person object with the given properties.

 */
function createPerson(name, age, isDeveloper) {
  return {
    name: name,
    age: age,
    isDeveloper: isDeveloper,
  };
}
```

Figure 1: Basic Syntax of writting documentation

3. Tags and Types:

JSDoc supports a variety of tags to document different aspects of your code. Some common tags include:

- @param: Documents a function parameter.
- @returns: Documents the return value of a function.
- @type: Specifies the data type of a variable.
- @description: Provides a detailed description of the code.
- @example: Includes example code.
- @see: Adds references to other resources or related documentation.
- @example: Includes example code.

2 Installation

How to install JSDoc?
Install JSDoc globally using this command:

```
npm install -g jsdoc
```

Or use the following command to install it for a single project:

```
npm install --save-dev jsdoc
```

Usage: Video link

3 Documentation

To start documenting code, a comment has to be added starting with /** over each block of code the user wants to document: Modules, methods, classes, functions, etc. It can be kept simple by just adding a description:

```
/**
 * Creates a person object with the given properties.

 */
function createPerson(name, age, isDeveloper) {
  return {
    name: name,
    age: age,
    isDeveloper: isDeveloper,
  };
}
```

Or you can take full advantage of JSDoc using tags:

```javascript
/**
 * Creates a person object with the given properties.
 * This is an example of a factory function in JavaScript.
 *
 * @param {string} name The person's full name
 * @param {number} age age of a person
 * @param {boolean} isDeveloper is he a developer or not
 * @returns {Object} the person object
 */
function createPerson(name, age, isDeveloper) {
  return {
    name: name,
    age: age,
    isDeveloper: isDeveloper,
  };
}
```

Remember, the more info you add to your comments, the more detailed your API documentation will be. But also, find the amount of detail that feels right to you. It's better to have all your code documented with only a few tags than to have only a few methods fully documented using all the tags because it was too much and you couldn't keep up.

2. Export

After adding the comments, all that's left to do is generate your documentation website:

Export files or folders

Simply call jsdoc and add the path to the file or folder.

```
jsdoc main.js
```

3. Source Code:

Here are the source codes of three javascript files that we've created: add.js, main.js, and isPrime.js

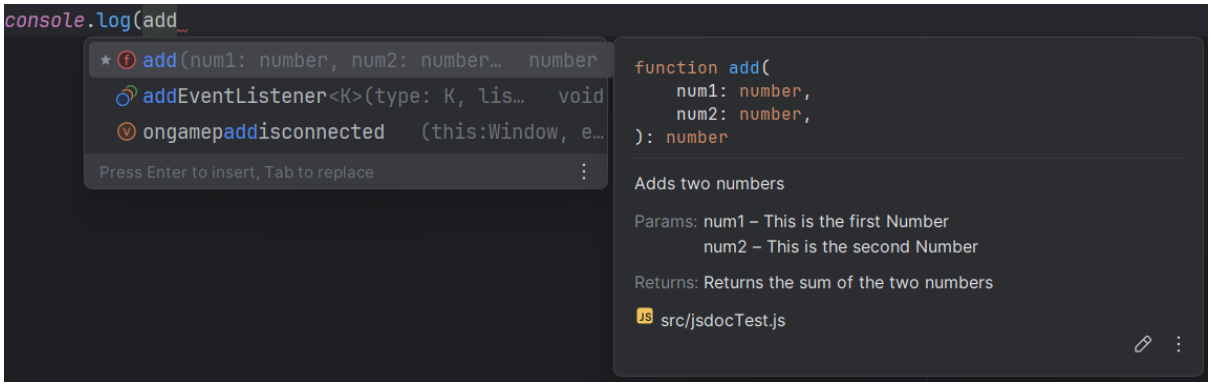
```
/**
 * Adds two numbers
 *
 * @param {number} num1 This is the first Number
 * @param {number} num2 This is the second Number
 * @returns {number} Returns the sum of the two numbers
 */
function add(num1 : number , num2 : number ) : number  {  Show usages
  this.num1 = num1;
  this.num2 = num2;

  return num1 + num2;
}

console.log(add( num1: 2,  num2: 2));
```

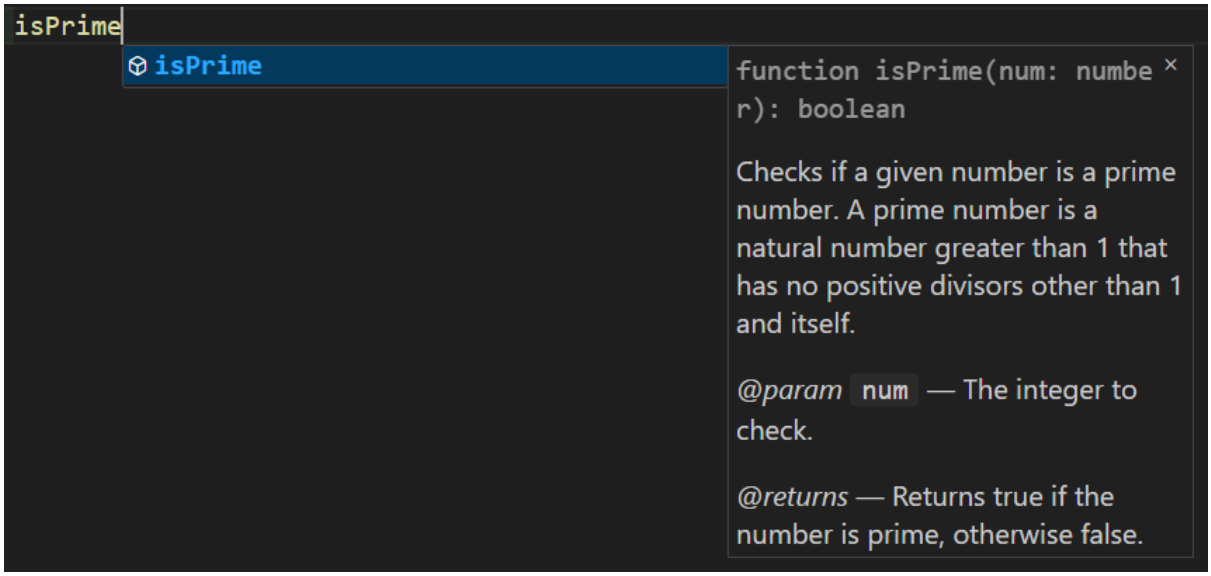
```
/**
 * Creates a person object with the given properties.
 * This is an example of a factory function in JavaScript.
 *
 * @param {string} name The person's full name
 * @param {number} age age of a person
 * @param {boolean} isDeveloper is he a developer or not
 * @returns {Object} the person object
 */
function createPerson(name, age, isDeveloper) {
  return {
    name: name,
    age: age,
    isDeveloper: isDeveloper,
  };
}
```

```javascript
/**
 * Checks if a given number is a prime number.
 * A prime number is a natural number greater than 1 that has no positive divisors other than 1 and itself.
 *
 * @param {number} num The integer to check.
 * @returns {boolean} Returns true if the number is prime, otherwise false.
 */
function isPrime(num) {
    // Prime numbers must be greater than 1.
    if (num <= 1) {
        return false;
    }

    // Numbers 2 and 3 are prime.
    if (num <= 3) {
        return true;
    }
    // If the number is divisible by 2 or 3, it's not prime.
    // This is an optimization to skip many non-prime numbers quickly.
    if (num % 2 === 0 || num % 3 === 0) {
        return false;
    }

    // Check for divisors from 5 up to the square root of the number.
    // We can increment by 6 because all primes greater than 3 are of the form 6k ± 1.
    for (let i = 5; i * i <= num; i = i + 6) {
        if (num % i === 0 || num % (i + 2) === 0) {
            return false;
        }
    }

    return true;
}
```

4. Produced documentation:

Here is the documentation created for those JavaScript files.




isPrime
isPrime
function isPrime(num: numbe
r): boolean
Checks if a given number is a prime number. A prime number is a natural number greater than 1 that has no positive divisors other than 1 and itself.
@param num — The integer to check.
@returns — Returns true if the number is prime, otherwise false.