# Node.js URL Module

**Topics :** Node js
**Written on** November 25, 2022

## Node.js URL Module

URL Module is used to parse an address into host, pathname, search and query string.

parse method of URL module is used to get url properties.

**Syntax :**

```
<%

var url = require('url');

 url.parse();

%>
```

**Parsing a URL using url.parse()**

**Example :**

```
var url = require('url');
var student = 'http://localhost:5555/getData.html?city=ahmedabad&country=india';
var data = url.parse(student, true);

console.log(data.host); //returns 'localhost:5555'
console.log(data.pathname); //returns '/getData.html'
console.log(data.search); //returns '?city=ahmedabad&country=india'

var objdata = data.query; //returns an object: { city: ahmedabad, country: 'india' }
console.log(objdata.country); //returns 'india'
```

## Using URL Constructor (Modern Approach)

Since Node.js v7+, you should use the URL class instead of url.parse().

```
const { URL } = require('url');

const myUrl = new URL('https://example.com:8080/path/page?name=John Doe&age=80');
```

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```
console.log('Protocol:', myUrl.protocol);
console.log('Host:', myUrl.host);
console.log('Pathname:', myUrl.pathname);
console.log('Search Params:', myUrl.searchParams);
console.log('Get Query Parameter (name):', myUrl.searchParams.get('name'));
```

**Output :**

```
Protocol: https:
Host: example.com:8080
Pathname: /path/page
Search Params: URLSearchParams { 'name' => 'John', 'age' => '80' }
Get Query Parameter (name): John Doe
```

## Formatting a URL using url.format()

Converts an object into a URL string.

```
const url = require('url');

const urlObject = {
   protocol: 'http',
   host: 'localhost',
   pathname: '/page',
   query: { name: 'John', age: '70' }
};

const formattedUrl = url.format(urlObject);
console.log(formattedUrl);
```

**Output :**

```
http://localhost/page?name=John&age=70
```

## Creating a Simple HTTP Server with URL Parsing

**Example:**

```
const http = require('http');
const { URL } = require('url');

const server = http.createServer((req, res) => {
   const myUrl = new URL(req.url, `http://${req.headers.host}`);

   res.writeHead(200, { 'Content-Type': 'text/plain' });
   res.write('\nPathname: '+myUrl.pathname);
   res.write('\nQuery Parameters: '+myUrl.searchParams);
   var searchArr = myUrl.searchParams;
```

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```
    searchArr.forEach((value, key) => {
        res.write('\n'+key+':'+value);
    });
    res.end();
});

server.listen(3000, () => {
    console.log('Server running at http://localhost:3000/');
});
```

**Now visit =>** http://localhost:3000/contactus/address?q=ahmedabad&state=gujarat
**It will display:**

```
Pathname: /contactus/address
Query Parameters: q=ahmedabad&state=gujarat
q:ahmedabad
state:gujarat
```

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