

[Read](#)[Discuss](#)[Courses](#)[Practice](#)[Video](#)

# HTML Geolocation

Difficulty Level : Hard • Last Updated : 01 Jun, 2022

In this article, we will know **HTML Geolocation**, various properties, methods & their implementation through the examples.

**Geo-location** in HTML5 is used to share the location with some websites and be aware of the exact location. It is mainly used for local businesses, restaurants, or showing locations on the map. It uses JavaScript to give latitude and longitude to the backend server. Most of the browsers support Geolocation API. Geo-location API uses a global navigator object which can be created as follows:

## Syntax:

```
var loc = navigator.geolocation
```

**Location Properties:** The following table determines properties used in `getCurrentPosition()` and their returning values.



**coords.latitude:** Always returns latitude as a decimal number.

# Start Your Coding Journey Now!

[Login](#)[Register](#)[Read](#)[Discuss](#)[Courses](#)[Practice](#)[Video](#)

- **coords.altitudeAccuracy**: Returns altitude accuracy of position if available.
- **coords.heading**: Returns heading in degree clockwise from North if available
- **coords.speed**: Returns speed in mps, if available.
- **timestamp**: Returns date or time of response if available

**Geolocation Methods:** The Geolocation has following methods which make it interesting and easier to work.

- **getCurrentPosition()**: It fetches the current location of the user.
- **watchPosition()**: It fetches periodic updates of the user's current location.
- **clearWatch()**: It cancels a watchPosition call currently in execution.

**Example:** This example explains returning the user's current location using the `getCurrentPosition()` method.

## HTML

```
var loc = navigator.geolocation;
function getLoc() {
  loc.getCurrentPosition(showLoc, errHand);
}
```

The above function can also be written without creating a navigator object as shown below:

## HTML

```
function getlocation(){
  navigator.geolocation.getCurrentPosition(showLoc, errHand);
}
```

**Example:** In this example, we simply display the current location with the help of latitude and longitude via HTML Geolocation.

# Start Your Coding Journey Now!

[Read](#)[Discuss](#)[Courses](#)[Practice](#)[Video](#)

```
<html>
```

```
<body>
```

```
<p>Displaying location using Latitude and Longitude</p>
```

```
<button class="geeks" onclick="getlocation()">
```

```
    Click Me
```

```
</button>
```

```
<p id="demo1"></p>
```

```
<script>
```

```
    var variable1 = document.getElementById("demo1");
```

```
    function getlocation() {
```

```
        navigator.geolocation.getCurrentPosition(showLoc);
```

```
    }
```

```
    function showLoc(pos) {
```

```
        variable1.innerHTML =
```

```
            "Latitude: " +
```

```
            pos.coords.latitude +
```

```
            "<br>Longitude: " +
```

```
            pos.coords.longitude;
```

```
    }
```

```
</script>
```

```
</body>
```

```
</html>
```

## Output:



# Start Your Coding Journey Now!

[Read](#)[Discuss](#)[Courses](#)[Practice](#)[Video](#)

Latitude: 28.502412399999997

Longitude: 77.40561009999999

*Getting the current location using latitude and longitude*

**Error and Rejection Handling:** It is very important to handle the errors generated in Geolocation and show a required message when an error occurs. Functions like `getCurrentPosition()` make use of an error handler to handle the error generated (function `errHand` as used in the above example). The `PositionError` object used by the error handler has two properties that let the function handle error efficiently.

- Code
- Message

## Generated errors in geolocation:

Error	Error Description
UNKNOWN_ERROR	An unknown error
PERMISSION_DENIED	The application doesn't have the permission to make use of location services
POSITION_UNAVAILABLE	The location of the device is uncertain

# Start Your Coding Journey Now!

[Read](#)[Discuss](#)[Courses](#)[Practice](#)[Video](#)

timeout interval

## Example:

## HTML

```
<!DOCTYPE html>
<html>

<head>
  <title>Errors in geolocation</title>
  <style>
    .gfg {
      font-size: 40px;
      font-weight: bold;
      color: #009900;
      margin-left: 20px;
    }

    .geeks {
      margin-left: 150px;
    }

    p {
      font-size: 20px;
      margin-left: 20px;
    }
  </style>
</head>

<body>
  <div class="gfg">GeeksforGeeks</div>

  <p>Error handling in geolocation</p>
```

```
<button class="geeks" onclick="getlocation()">
  Click
```

# Start Your Coding Journey Now!

[Read](#)[Discuss](#)[Courses](#)[Practice](#)[Video](#)

```
<script>
var variable1 = document.getElementById("demo1");
function getLocation() {
    navigator.geolocation.getCurrentPosition(showLoc, errHand);
}
function showLoc(pos) {
    variable1.innerHTML =
        "Latitude: " +
        pos.coords.latitude +
        "<br>Longitude: " +
        pos.coords.longitude;
}

function errHand(err) {
    switch (err.code) {
        case err.PERMISSION_DENIED:
            variable1.innerHTML =
                "The application doesn't have the" +
                "permission to make use of location services";
            break;
        case err.POSITION_UNAVAILABLE:
            variable1.innerHTML = "The location of the device is uncertain";
            break;
        case err.TIMEOUT:
            variable1.innerHTML = "The request to get user location timed out";
            break;
        case err.UNKNOWN_ERROR:
            variable1.innerHTML =
                "Time to fetch location information exceeded" +
                "the maximum timeout interval";
            break;
    }
}
</script>
</body>

</html>
```

## Output:



# Start Your Coding Journey Now!

[Read](#)[Discuss](#)[Courses](#)[Practice](#)[Video](#)[Click](#)

Latitude: 28.5011974

Longitude: 77.4099066

*Error handling in Geolocation*

**Displaying result in MAP:** Displaying location in a map is a very interesting task. These services are used to provide the exact location on the map.

**Example:** This example describes getting the current position in Google Map with the help of latitude and longitude via HTML Geolocation.

## HTML

```
<!DOCTYPE html>
<html>

<head>
  <title>Display location in map</title>
  <style>
    .gfg {
      font-size: 40px;
      font-weight: bold;
      color: #009900;
      margin-left: 20px;
    }

    .geeks {
      margin-left: 150px;
    }

    p {
      font-size: 20px;
      margin-left: 20px;
    }
  </style>
</head>

<body>
  <div class="gfg">GeeksforGeeks</div>
```

# Start Your Coding Journey Now!

[Read](#)
[Discuss](#)
[Courses](#)
[Practice](#)
[Video](#)

</p>Display location in map</p>

```
<button class="geeks" type="button" onclick="getlocation();">
    Current Position
</button>
<div id="demo2"
    style="width: 500px; height: 500px"></div>
<script src=
"https://maps.google.com/maps/api/js?sensor=false">
</script>
<script type="text/javascript">
    function getlocation() {
        if (navigator.geolocation) {
            navigator.geolocation.getCurrentPosition(showLoc, errHand);
        }
    }
    function showLoc(pos) {
        latt = pos.coords.latitude;
        long = pos.coords.longitude;
        var lattlong = new google.maps.LatLng(latt, long);
        var OPTions = {
            center: lattlong,
            zoom: 10,
            mapTypeControl: true,
            navigationControlOptions: {
                style: google.maps.NavigationControlStyle.SMALL,
            },
        };
        var mapg = new google.maps.Map(
            document.getElementById("demo2"),
            OPTions
        );
        var markerg = new google.maps.Marker({
            position: lattlong,
            map: mapg,
            title: "You are here!",
        });
    }

    function errHand(err) {
        switch (err.code) {
            case err.PERMISSION_DENIED:
                result.innerHTML =
```



# Start Your Coding Journey Now!

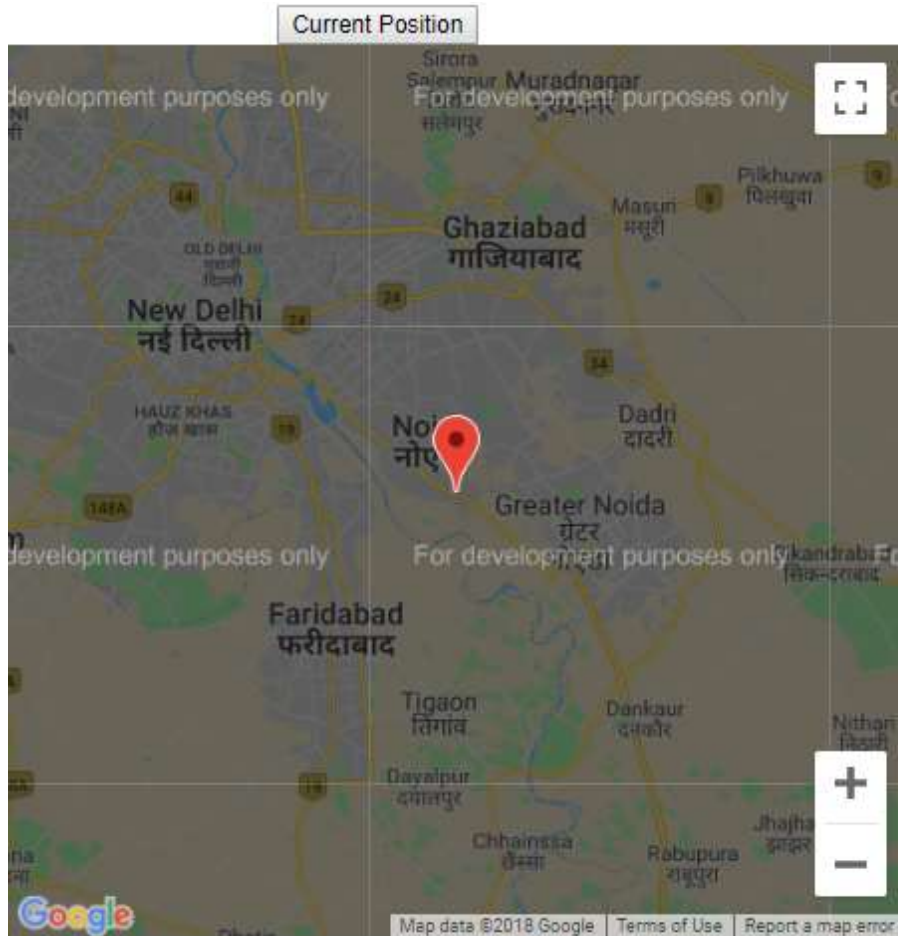
[Read](#)[Discuss](#)[Courses](#)[Practice](#)[Video](#)

```
result.innerHTML = "The location of the device is uncertain";  
break;  
case err.TIMEOUT:  
    result.innerHTML = "The request to get user location timed out";  
    break;  
case err.UNKNOWN_ERROR:  
    result.innerHTML =  
        "Time to fetch location information exceeded" +  
        "the maximum timeout interval";  
    break;  
}  
}  
</script>  
</body>  
  
</html>
```

## Output:

[Mega Job-a-thon](#)[DSA](#)[Data Structures](#)[Algorithms](#)[Interview Preparation](#)[Data Science](#)[T](#)

# Start Your Coding Journey Now!

[Read](#)[Discuss](#)[Courses](#)[Practice](#)[Video](#)

Getting the current position in Google Map

## Supported Browsers:

- Google Chrome 5 and above
- Microsoft Edge 12 and above
- Firefox 3.5 and above
- Internet Explorer 9 and above
- Opera 10.6 and above
- Safari 5 and above



**MEGA**  
JOB-A-THON

**For Freshers  
& Professionals**

1 Contest | 30+ Opportunities

**Register Now**



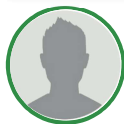
# Start Your Coding Journey Now!

[Read](#)[Discuss](#)[Courses](#)[Practice](#)[Video](#)**Like** 14[Previous](#)[Next](#)

## Related Articles

1. [HTML | Navigator geolocation Property](#)
2. [HTML | DOM Geolocation position Property](#)
3. [HTML | DOM Geolocation coordinates Property](#)
4. [HTML DOM Geolocation coords.longitude Property](#)
5. [HTML DOM Geolocation coords.latitude Property](#)
6. [HTML DOM Geolocation timestamp Property](#)
7. [HTML DOM Geolocation coords.accuracy Property](#)
8. [HTML DOM Geolocation coords.altitude Property](#)
9. [HTML DOM Geolocation coords.speed Property](#)
10. [HTML DOM Geolocation coords.altitudeAccuracy Property](#)

# Start Your Coding Journey Now!

[Read](#)[Discuss](#)[Courses](#)[Practice](#)[Video](#)**DikshaTewari**

@DikshaTewari

## Vote for difficulty

Current difficulty : [Hard](#)

Easy

Normal

Medium

Hard

Expert

**Improved By :** [arorakashish0911](#), [ysachin2314](#), [shubhamyadav4](#), [bhaskargeeksforgeeks](#), [kumargaurav97520](#)

**Article Tags :** [HTML-Basics](#), [Picked](#), [CSS](#), [HTML](#), [Web Technologies](#)

**Practice Tags :** [HTML](#)

[Improve Article](#)[Report Issue](#)**GeeksforGeeks**

A-143, 9th Floor, Sovereign Corporate Tower,  
Sector-136, Noida, Uttar Pradesh - 201305

[feedback@geeksforgeeks.org](mailto:feedback@geeksforgeeks.org)

## Company

[About Us](#)[Careers](#)

## Learn

[DSA](#)[Algorithms](#)

# Start Your Coding Journey Now!

[Read](#) [Discuss](#) [Courses](#) [Practice](#) [Video](#)

[Copyright Policy](#)

[CS Subjects](#)

[Advertise with us](#)

[Video Tutorials](#)

[Courses](#)

## News

## Languages

[Top News](#)

[Python](#)

[Technology](#)

[Java](#)

[Work & Career](#)

[CPP](#)

[Business](#)

[Golang](#)

[Finance](#)

[C#](#)

[Lifestyle](#)

[SQL](#)

[Knowledge](#)

[Kotlin](#)

## Web Development

## Contribute

[Web Tutorials](#)

[Write an Article](#)

[Django Tutorial](#)

[Improve an Article](#)

[HTML](#)

[Pick Topics to Write](#)

[JavaScript](#)

[Write Interview Experience](#)

[Bootstrap](#)

[Internships](#)

[ReactJS](#)

[Video Internship](#)

[NodeJS](#)

@geeksforgeeks , Some rights reserved

