

22. D3JS Timer API.

Timer API module is used to perform the concurrent animations with synchronized timing delay. It uses `requestAnimationFrame` for animation. This chapter explains Timer API module in detail.

requestAnimationFrame

This method tells the browser that you wish to perform an animation and requests that the browser call a specified function to update an animation.

22.1. Configuring Requests

We can easily load the timer directly from `d3js.org` by using the following script.

Example:

```
<script src = "https://d3js.org/d3-timer.v1.min.js"></script>
<script>
    var timer = d3.timer(callback);
</script>
```

22.2. Timer API Methods

The Timer API supports the following important methods. All of these are explained in detail as follows.

- **d3.now()** - This method returns the current time.
- **d3.timer(callback[, delay[, time]])** - This method is used to schedule a new timer and invokes the timer until stopped. You can set a numeric delay in MS, but it is optional otherwise, it defaults to zero. If time is not specified, it is considered as `d3.now()`.

- **timer.restart(callback[, delay[, time]])** - Restart a timer with the specified callback and optional delay and time.
- **timer.stop()** - This method stops the timer, preventing subsequent callbacks.
- **d3.timeout(callback[, delay[, time]])** - It is used to stop the timer on its first callback. Callback is passed as the elapsed time.
- **d3.interval(callback[, delay[, time]])** - It is invoked on a particular time delay interval. If delay is not specified, it takes the timer time.

Example: Create a webpage “timer.html” and add the following script to it.

```
<!DOCTYPE html>
<html>
  <head>
    <script src = "https://d3js.org/d3.v4.min.js"></script>
  </head>

  <body>
    <h3> Timer API </h3>
    <script>
      var timer = d3.timer(function(duration) {
        console.log(duration);
        if (duration > 150) timer.stop();
      }, 100);
    </script>
  </body>
</html>
```

We will see the following response on the screen.

Output:

