

7. Dynamic Pages with Date and Time

Dynamic HTML Page Activities may include:

- Display current date on a Web page
- Validate the system date
- Customize the message to reflect the time of day: Good morning, Good afternoon, Good evening
- Time conversion
- Tell how much time left before a special event

Create a new Date object in JavaScript:

Syntax:

```
dateObj = new Date(arguments); or  
dateObj = new Date(yr, mth, dy, hrs: mins;secs); or  
dateObj= new Date("mth, dy, yr, hrs: mins;secs)
```

Examples:

```
dateObj = new Date("October 8, 2018, 10:00:00")  
Today = new Date(2018, 10, 8, 10:00:00")  
now = new Date(2018, 10, 8, 10:00:00")
```

Methods

```

dateObj.getYear()    // return year minus 1900
dateObj.getMonth()  // return month from 0-11
dateObj.getDay()     // return day of week from Sunday (0)- Saturday(6)
dateObj.getDate()    // return date in month from 1-31
dateObj.getTime()    // return milliseconds since Jan. 1, 1970 00:00:00
dateObj.getHours()   // return hour of day in military time from 0 to 23
dateObj.getMinutes() // return minutes of hour from 0-59
dateObj.getSeconds() // return seconds of minute from 0-59
dateObj.setYear()    // set year minus 1900
dateObj.setMonth()   // set month from 0-11
dateObj.setDay()     // set day of week from Sunday (0)- Saturday(6)
dateObj.setDate()    // set date in month from 1-31
dateObj.setTime()    // set milliseconds since Jan. 1, 1970 00:00:00
dateObj.setHours()   // set hour of day in military time from 0 to 23
dateObj.setMinutes() // set minutes of hour from 0-59
dateObj.setSeconds() // set seconds of minute from 0-59

```

Creating Day and Month Arrays in JavaScript

```

dayOfWeeks = new Array("Sunday", "Monday", "Tuesday", "Wednesday",
    "Thursday", "Friday", "Saturday")

monthOfYear = new Array("January", "February", "March", "April", "May",
    "June", "July", "August", "September", "October", "November",
    "December")

```

Check if the date is valid:

```

If (now.getDay() > 0 && now.getDay() < 6)
{
    // it is a valid day
}

```

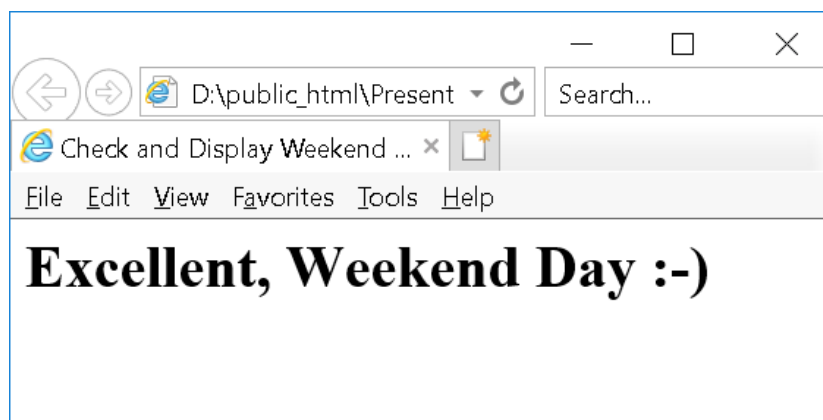
Customize the message to reflect the time of day: Good morning, Good afternoon, Good evening

```
If (now.getHour() < 5)
{
    // this is before 5 AM, Early birds?
}

If (now.getHour() > 23 )
{
    // this is after 11 PM, Burning mid-night oil?
}
```

[Example 7-1](#): This JavaScript program checks to see if it is week day or weekend day.

```
<html>
<!-- checkweekend.html -->
<head>
    <title>Check and Display Weekend or Week Day</title>
</head>
<body>
<h1>
    <script language=javascript>
        thisDate = new Date;
        if(thisDate.getDay() > 0 && thisDate.getDay() < 6) {
            document.write("Too Bad, Week Day :-(");
        }
        else {
            document.write("Excellent, Weekend Day :-)");
        }
    </script>
</h1>
</html>
```



Example 7-2: This JavaScript program prints the day of a week, plus, the message if this is a “week day” or “weekend day”.

```
<html>
<!-- checkweekend.html -->
<head>
  <title>Check and Display Weekend or Week Day</title>
</head>
<body>
<h1>
  <script language=javascript>
    thisDate = new Date;
    //Sun, Mon, Tue, Wed, Thur, Fri, Sat
    // 0,  1,  2,  3,  4,  5,  6
    var n = thisDate.getDay();
    var today = " ";
    switch(n)
    {
    case 0: today = "Today is Sunday." ; break;
    case 1: today = "Today is Monday." ; break;
    case 2: today = "Today is Tuesday." ; break;
    case 3: today = "Today is Wednesday.";break;
    case 4: today = "Today is Thursday."; break;
    case 5: today = "Today is Friday." ; break;
    case 6: today = "Today is Saturday."; break;
    }
    document.write(today);

    if (n > 0 && n < 6)
    {
      document.write("Too Bad, Week Day :-(");
    }
    else {
      document.write("Excellent, Weekend Day :-)");
    }
  </script>
</body>
</html>
```



Example 7-3: A JavaScript program that displays date and year in a friendly format.

```
<html>
<!-- friendlydate.html -->
<head>
  <title>Date Display</title>
  <script language=javascript>

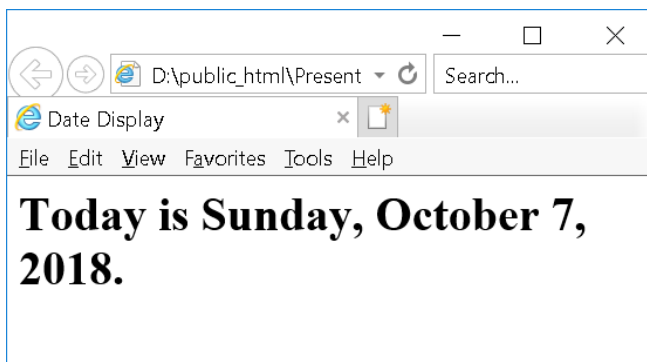
    dayNameArray = new Array ("Sunday","Monday","Tuesday",
                              "Wednesday","Thursday","Friday","Saturday");
    monNameArray = new Array ("January", "February", "March",
                              "April", "May", "June", "July", "August",
                              "September", "October", "November",
    "December");

    thisDate = new Date;

  </script>
</head>
<body>
<script language=javascript>
  var thisYear = thisDate.getYear();
  thisYear += 1900;

  document.write("<h1>Today is " +
                 dayNameArray[thisDate.getDay()] +
                 ", " +
                 monNameArray[thisDate.getMonth()] +
                 " " + thisDate.getDate() + ", " +
                 thisYear + ".</h1>");

</script>
</body>
</html>
```



Example 7-4: This JavaScript program displays clock, system time and date, and universal time and date.

```
<html>
<!-- clock.html -->
<head>
  <title>JavaScript Clock Example</title>
  <script language=javascript>
    var sysTimeFormat;
    function showClock()
    {
      var ampmStr, clockDspStr, secStr, minStr, hourStr;
      var second, minutes, hours;
      clkTime = new Date;
      hours   = clkTime.getHours();
      minutes = clkTime.getMinutes();
      seconds = clkTime.getSeconds();
      if (document.clockForm.hours24[0].checked)
      {
        ampmStr = "";
        hourStr = hours;
      }
      else
      {
        if(hours == 0) hourStr = 12;
        if(hours > 0 && hours < 13)
          hourStr = hours;
        else
          hourStr = hours - 12;

        if (hours < 12) ampmStr = " AM";
        if (hours > 12) ampmStr = " PM";
      }
      if (minutes > 9)
        minStr = ":" + minutes;
      else minStr = ":0" + minutes;
      if (seconds > 9)
        secStr = ":" + seconds;
      else secStr = ":0" + seconds;

      document.clockForm.clockDisplay.value =
        hourStr + minStr + secStr + ampmStr;

      document.clockForm.sysTimeDisplay.value =
        clkTime.toLocaleString();

      document.clockForm.universalTimeDisplay.value =
        clkTime.toGMTString();
      setTimeout("showClock()",1000);
    }
  }
</script>
</head>
</html>
```

[illegible]