

## ▼ Chapter 6 - Data Sourcing via Web

### Part 2 - NavigableString Objects

```
import sys
print(sys.version)
import sys
print(sys.version)
```

```
3.7.13 (default, Apr 24 2022, 01:04:09)
[GCC 7.5.0]
3.7.13 (default, Apr 24 2022, 01:04:09)
[GCC 7.5.0]
```

```
from bs4 import BeautifulSoup
from bs4 import BeautifulSoup
```

## ▼ NavigableString objects

```
soup_object = BeautifulSoup('<h1 attribute_1 = "Heading Level 1">Future Trends in IoT in 2018</h1>', "lxml")
```

```
tag = soup_object.h1
```

```
type(tag)
'''soup-object= BeautifulSoup('','lxml')
tag=soup_object.h1
type(tag)'''
```

```
'soup-object= BeautifulSoup('','lxml')\ntag=soup_object.h1\ntype(tag)'
```

```
tag.name
#tag.name
```

```
'h1'
```

```
tag.string
soup_object.h1.string

'Future Trends in IoT in 2018'
```

```
type(tag.string)
#type(tag.string)
```

```
bs4.element.NavigableString
```

```
our_navigatable_string = tag.string
our_navigatable_string
```

```
'Future Trends in IoT in 2018'
```

```
our_navigatable_string.replace_with('NaN')
tag.string
#tag.string.replace_with('NaN')

'NaN'
```

## ▼ Utilizing NavigableString objects

```
our_html_document = '''
<html><head><title>IoT Articles</title></head>
<body>
<p class='title'><b>2018 Trends: Best New IoT Device Ideas for Data Scientists and Engineers</b></p>

<p class='description'>It's almost 2018 and IoT is on the cusp of an explosive expansion. In this article, I offer you a listing of new IoT device ideas that
<br>
<br>
It's almost 2018 and IoT is on the cusp of an explosive expansion. In this article, I offer you a listing of new IoT device ideas that
<h1>Looking Back at My Coolest IoT Find in 2017</h1>
Before going into detail about best new IoT device ideas, here's the backstory. <span style="text-decoration: underline;"><strong><a href="https://www.ericsson.com/en/connected-vehicle-cloud">https://www.ericsson.com/en/connected-vehicle-cloud</a></strong></span>

It wasn't until I got to the Ericsson Studio that I became extremely impressed by how far IoT has really come. Relying on the promise of a connected car,
this car is connected to Ericsson's Connected Vehicle Cloud, an IoT platform that manages services for the Smart Cars to which it's connected.

</p>
</body>
</html>'''
```

To understand how it works, imagine you're pulling your normal 9-to-5 and you know you need to grab some groceries on your way home. W

To watch some of the amazing IoT device demos I witnessed at Ericsson Studio, make sure to go [Future Trends for IoT in 2018](#)

New IoT device ideas won't do you much good unless you at least know the basic technology trends that are set to impact IoT over the n



- Big Data** & Data Engineering: Sensors that are embedded within IoT devices spin off machine-generated data
- Machine Learning** Data Science: While a lot of IoT devices are still operated according to rules-based decisio
- Blockchain**-Enabled Security: Above all else, IoT networks must be secure. Blockchain technology is primed to

## Best New IoT Device Ideas

This listing of new IoT device ideas has been sub-divided according to the main technology upon which the IoT devices are built. Below

## Raspberry Pi IoT Ideas

Using Raspberry Pi as open-source hardware, you can build IoT applications that offer any one of the following benefits:

- Enable built-in sensing to build a weather station that measures ambient temperature and humidity
- Build a system that detects discrepancies in electrical readings to identify electricity theft
- Use IoT to build a Servo that is controlled by motion detection readings
- Build a smart control switch that operates devices based on external stimuli. Use this for home automation.
- Build a music playing application that enables music for each room in your house
- Implement biometrics on IoT-connected devices

## Arduino IoT Ideas

There are a number of new IoT device ideas that deploy Arduino as a microcontroller. These include:

- Integrate Arduino with Android to build a remote-control RGB LED device.
- Connect PIR sensors across the IoT to implement a smart building.
- Build a temperature and sunlight sensor system to remotely monitor and control the conditions of your garden.
- Deploy Arduino and IoT to automate your neighborhood streetlights.
- Build a smart irrigation system based on IoT-connected temperature and moisture sensors built-in to your agricultural plants.

[caption id="attachment\_3807" align="aligncenter" width="300"]<a href="bit.ly/LP1NDJj">">Last month Ericsson Digital invited me</a>

```
first_link.parent
#soup.a.parent
```

<strong><a href="<http://bit.ly/LP1NDJj>">Last month Ericsson Digital invited me</a></strong>

```
first_link.string
```

```
#soup.a.string
```

```
'Last month Ericsson Digital invited me'
```

```
first_link.string.parent
```

```
<a href="http://bit.ly/LPlNDJj">Last month Ericsson Digital invited me</a>
```