

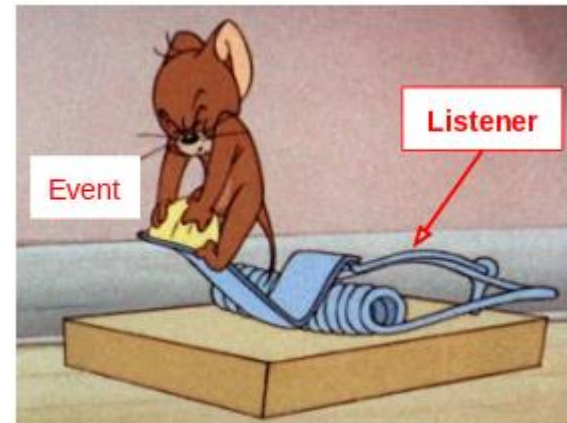


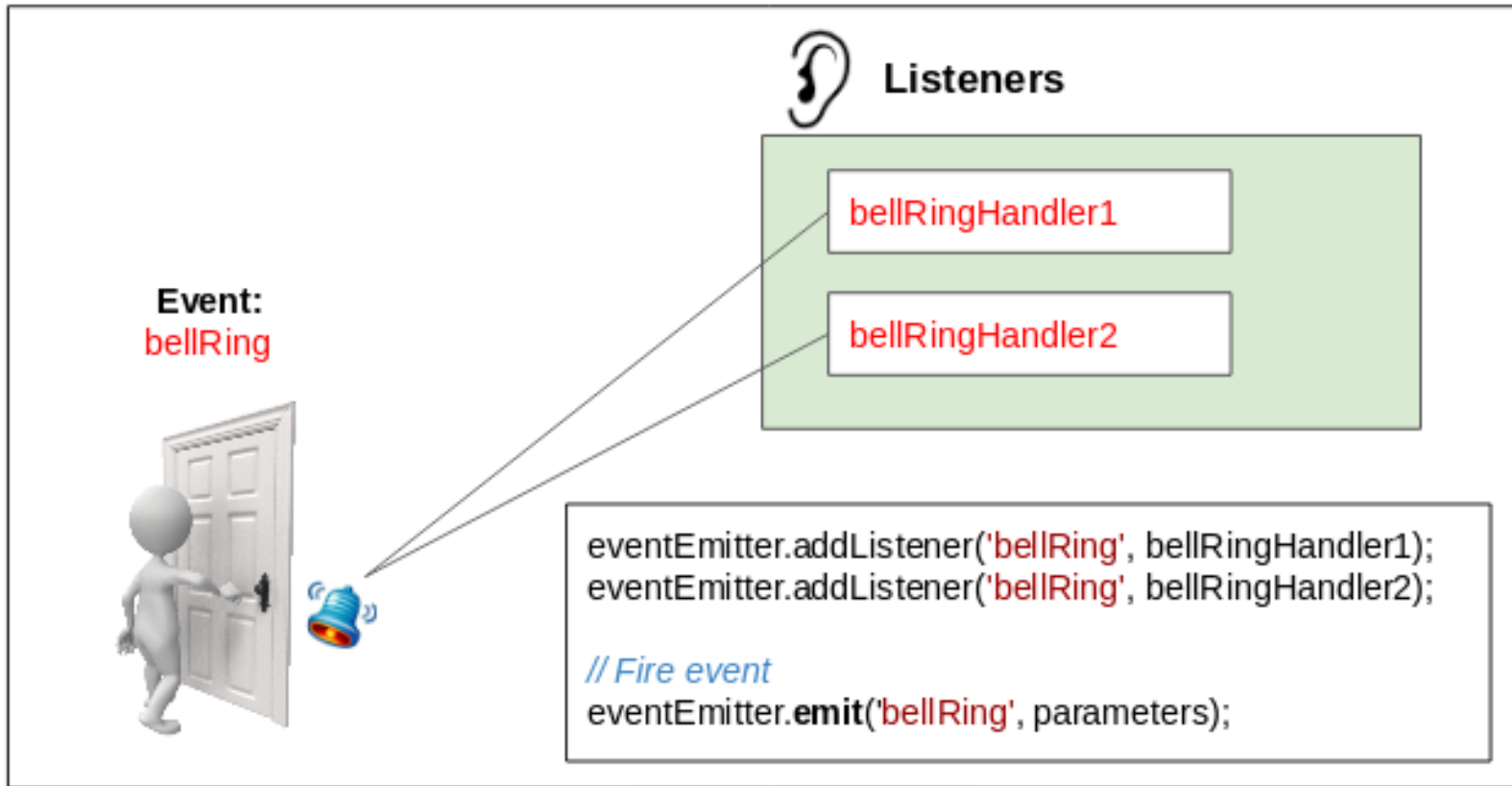
# Node js Event

#Node JS Notes

# Event Emitters

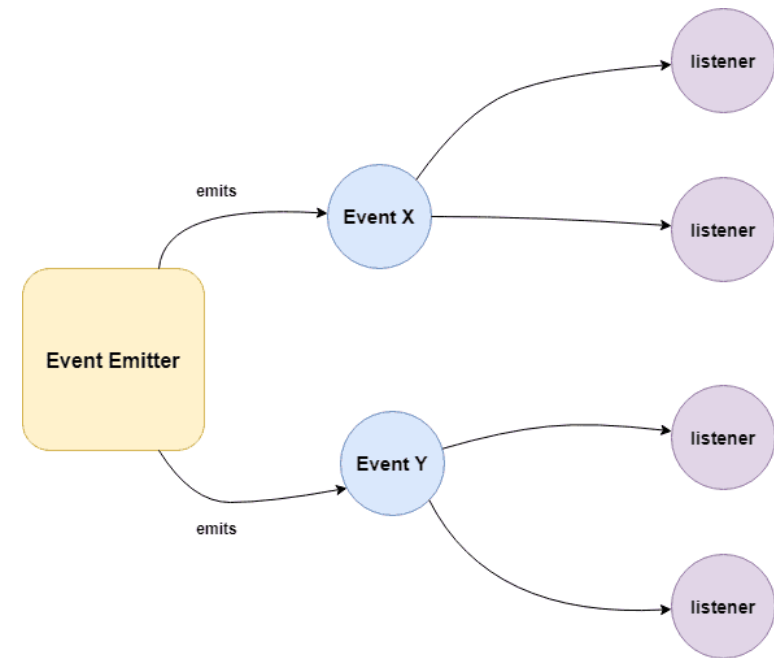
- EventEmitter is a class that helps us create a publisher-subscriber pattern in NodeJS.
- With an event emitter, we can simply raise a new event from a different part of an application, and a listener will listen to the raised event and have some action performed for the event.





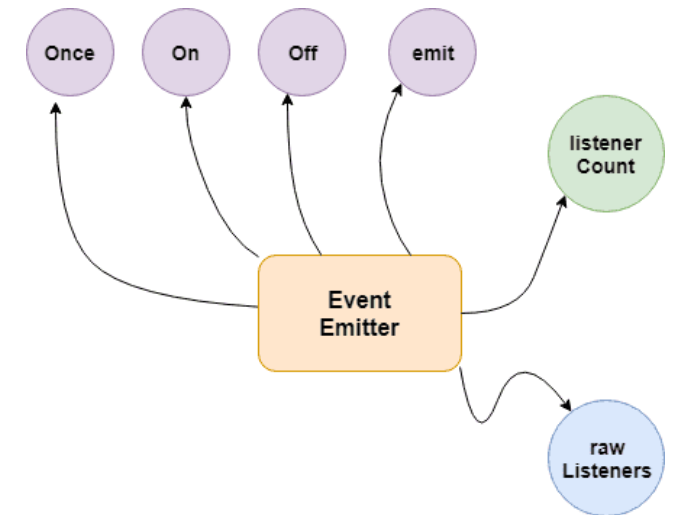
# How does it work?

- Event Emitter emits the data in an event called **message**
- A Listener is registered on the event **message**
- when the **message** event emits some data, the listener will get the data.



# Building Blocks

- **.emit()** - this method in event emitter is to emit (trigger) an event in module
- **.on()** - this method is to listen to data on a registered event in node.js (add a callback function that's going to be executed when the event is triggered)
- **.once()** - it listen to data on a registered event only once.
- **.addListener()** - it checks if the listener is registered for an event.
- **.removeListener()** - it removes the listener for an event.



# Methods

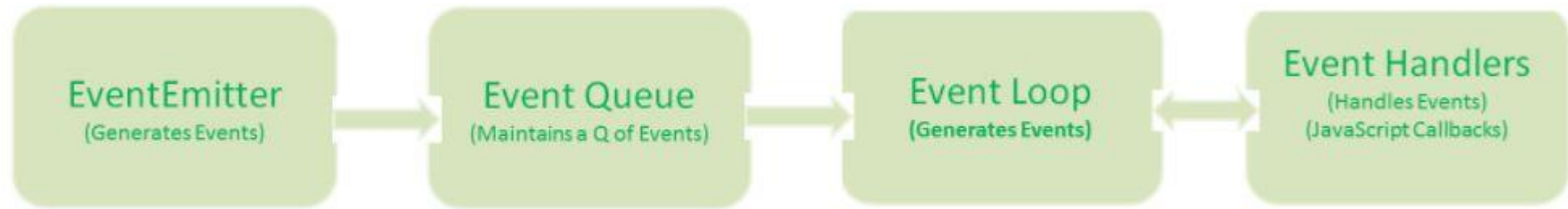
- `addListener(event, listener)`
- `on(event, listener)`
- `once(event, listener)`
- `removeListener(event, listener)`
- `removeAllListeners([event])`
- `setMaxListeners(n)`
- `listeners(event)`
- `emit(event, [arg1], [arg2], [...])`



No	Method	Description
1	<code>addListener(event, listener)</code>	Add a listener the end of the listeners array for the specified event. This method doesn't check whether this listener has ever been added or not.
2	<code>on(event, listener)</code>	Exactly, this method is 100% identical to the <code>addListener</code> method.
3	<code>once(event, listener)</code>	Add a listener to the listeners array of the specified event. But this listener is only called one time when an event happens. After that it is removed from the array.
4	<code>removeListener(event, listener)</code>	Remove a listener from the listeners array of the specified event. If a listener has been added to this array many times. To remove this listener fully, you need to call this method many times.
5	<code>removeAllListeners([event])</code>	Remove all listeners, or remove all listeners of an event designated.
6	<code>setMaxListeners(n)</code>	By default, <code>EventEmitters</code> will print a warning if more than 10 listeners are added for a particular event. This is a useful default which helps finding memory leaks. Obviously not all <code>Emitters</code> should be limited to 10. You can set a different number, or set to zero for unlimited.
7	<code>listeners(event)</code>	Return a listeners array to the specified event.
8	<code>emit(event, [arg1], [arg2], [...])</code>	Executes each listener in the array in turn, with parameters. Return true if the array has at least one listener. On the contrary, return false.



# EventEmitter Responsibility



**Node JS Event Driven Programming**





# Syntax

```
// get the reference of EventEmitter class of events module
```

```
var events = require('events');
```

```
//create an object of EventEmitter class by using above reference
```

```
var em = new events.EventEmitter();
```

```
//Subscribe for FirstEvent
```

```
em.on('FirstEvent', function (data) {
```

```
    console.log('First subscriber Message is : ' + data);
```

```
});
```

```
// Raising FirstEvent
```

```
em.emit('FirstEvent', 'This is my first Node.js event emitter example.');
```



JS demo.js X

JS demo.js > ...

```
1 // get the reference of EventEmitter class of events module
2 var events = require('events');
3
4 //create an object of EventEmitter class by using above reference
5 var em = new events.EventEmitter();
6
7 //Subscribe for FirstEvent
8 em.on('FirstEvent', function (data) {
9     console.log('First subscriber Message is : ' + data);
10 });
11
12 // Raising FirstEvent
13 em.emit('FirstEvent', 'This is my first Node.js event emitter example.');
```

PROBLEMS OUTPUT TERMINAL DEBUG CONSOLE

Microsoft Windows [Version 10.0.22000.194]  
(c) Microsoft Corporation. All rights reserved.

D:\lecture\nodejsbatch>node demo.js  
First subscriber Message is : This is my first Node.js event emitter example.

D:\lecture\nodejsbatch>



# Description

- first import the 'events' module and then create an object of EventEmitter class. We then specify event handler function using on() function.
- The on() method requires name of the event to handle and callback function which is called when an event is raised.
- The emit() function raises the specified event. First parameter is name of the event as a string and then arguments.
- An event can be emitted with zero or more arguments. You can specify any name for a custom event in the emit() function.



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