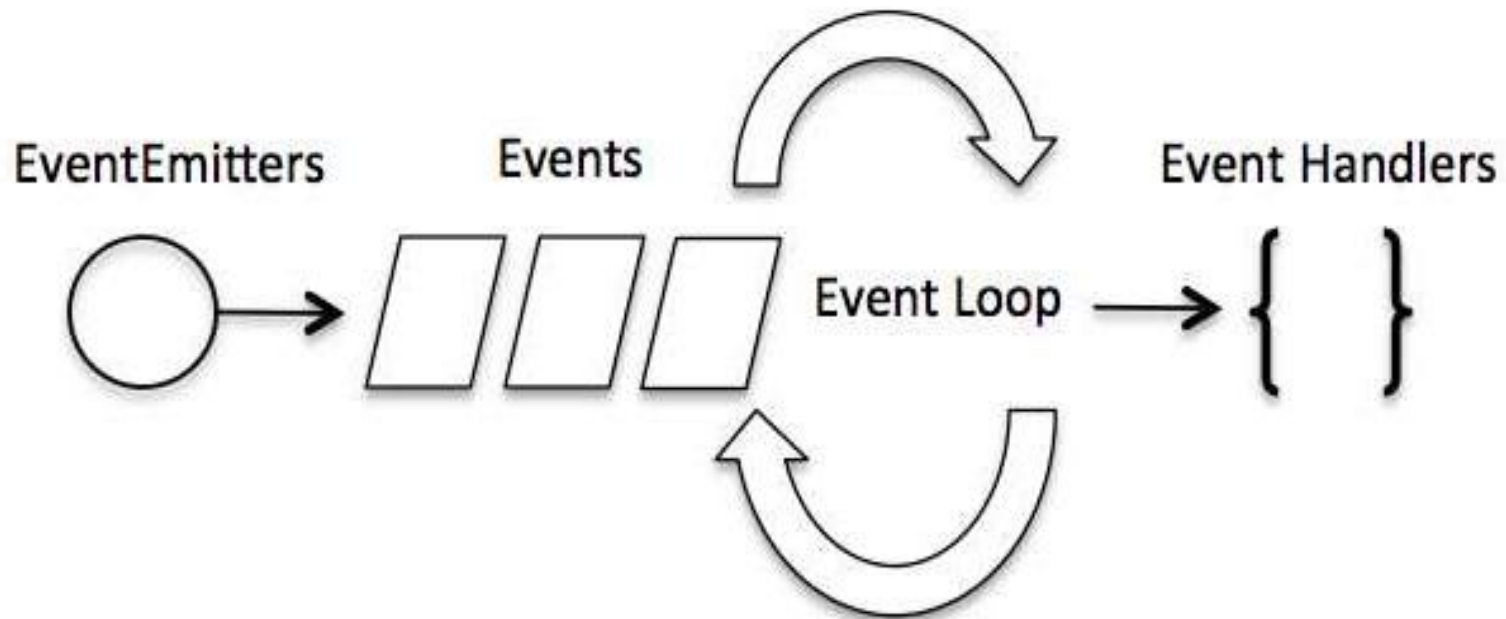# NODE.JS EVENTS

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NODE.JS EVENTS

- In Node JS applications, every operation generates an event.

- **Events module**: create, fire and listen own events

- **Syntax:** var events = require('events');

- Event components:
  - EventEmitter class
  - Java Script Callback functions

Node.js Event Driven Programming

EVENTEMITTER CLASS

EventEmitter class:

- Available in the events module
- Used to generate events

Create eventEmitter object:

- **Syntax:**

  var eventsEmitter = new events.EventEmitter();

EVENTEMITTER CLASS: LISTENING EVENTS

Listening events:

- Before emits any event, it must register functions (callbacks) to listen the events.

- There are 3 methods for listening events:
  - addListener(event, listener)
  - on(event, listener)
  - once(event, listener)

EventEmitter "on()" function:

- Used to bind an event with event handler function
- **Syntax:** eventsEmitter.on(EventName, Listener);

EVENTEMITTER CLASS: EMITTING EVENTS

Emitting events:

- Every event has named event in node.js.
- emit function is used to raise an event.

EventEmitter "emit()" function:

- Raise the specified events with the supplied arguments
- **Syntax:** eventsEmitter.emit(EventName, [arg1], [arg2], [...]);

EVENTEMITTER CLASS: EXAMPLE

Example: Create an event emitter instance and register a couple of callbacks

```
var events = require('events');
var eventsEmitter = new events.EventEmitter();

eventsEmitter.on('myevent', (msg) => console.log(msg));

eventsEmitter.emit('myevent','Event-1');
eventsEmitter.emit('myevent','Event-2');
```

EventEmitter class: Removing Listener

Removing Listener:

- It removes that listener from the listeners array that is subscribed to that event.

- There are 2 methods for removing events:
  - removeListener(event, listener)
  - removeAllListeners([event])

- removeListener() method will remove at most one instance of the listener which is in front of the queue.

EventEmitter class: Setting and Getting Max Listener

setMaxListeners(n):

- Set max listener of particular event.
- Maximum 10 listeners can be registered for any single event.
- if more than 10 listeners are added for a particular event then EventEmitters will print a warning.

getMaxListeners():

- Returns the current maximum listener value for the emitter which is either set by setMaxListeners(n) or defaults to defaultMaxListeners.

EVENTEMITTER CLASS: SETTING AND GETTING MAX LISTENER

defaultMaxListeners:

- Used to change the default value for all EventEmitter instances.

- **Syntax:**

    EventEmitter.defaultMaxListeners = value;

EVENTEMITTER CLASS: METHODS

eventNames():

- Get all the active event names.
- Return type is an array.
- **Syntax:** EventEmitter.eventNames()

eventEmitter.listeners():

- It returns an array of listeners for the specified event.
- **Syntax:** EventEmitter.listeners(event)

EVENTEMITTER CLASS: METHODS

listenerCount():
- It returns the number of listeners listening to the specified event.
- **Syntax:** EventEmitter.listenerCount(event)

prependOnceListener():
- It will add the one-time listener to the beginning of the array.
- **Syntax:** EventEmitter.prependOnceListener(event, listener)

prependListener():
- It will add the listener to the beginning of the array.
- **Syntax:** EventEmitter.prependListener(event, listener)

EVENTEMITTER CLASS: SPECIAL EVENTS

newListener:

- The newListener event is emitted before a listener is added to the internal array of listeners.
- Any EventEmitter instance will emit its own 'newListener' event.
- **Syntax:** EventEmitter.on('newListener', listener)

removeListener:

- The removeListener event is emitted after a listener is removed.
- It used to stop event listener functions from listening to events.
- **Syntax:** EventEmitter.on('removeListener', listener)

Any query??