

Overview



Relationship between module formats and module loaders

Module formats

- Native vs. non-native
- Asynchronous Module Definition (AMD)
- CommonJS

Module loaders

- RequireJS
- SystemJS



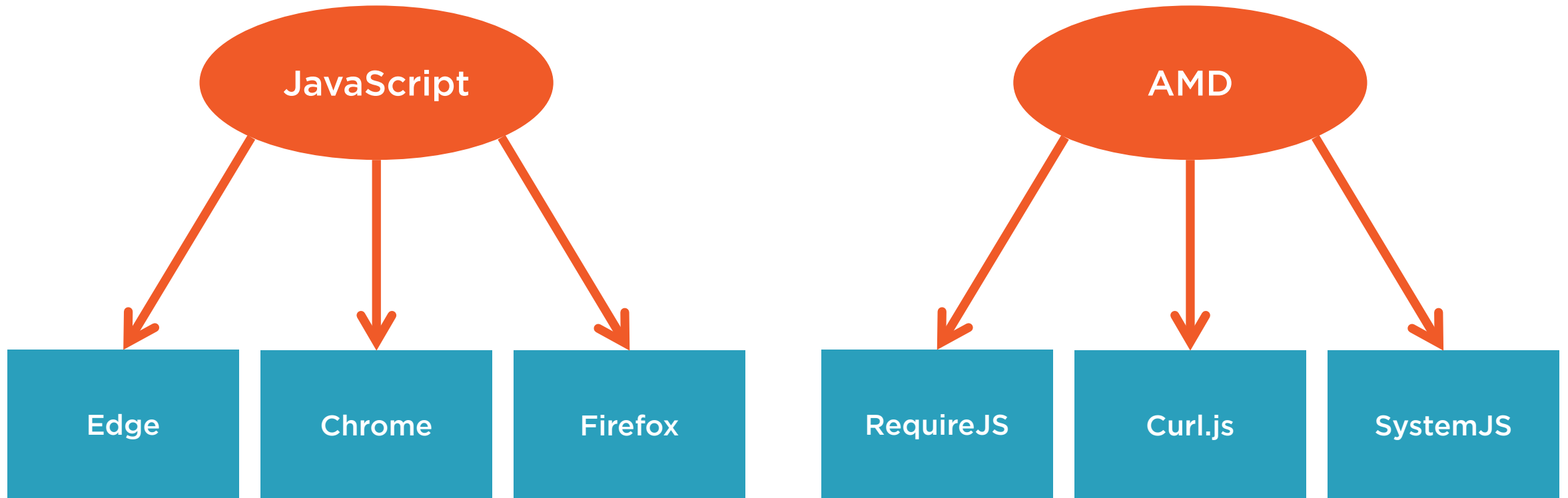
Formats Versus Loaders

Module Format → Syntax

Module Loader → Execution



Formats Versus Loaders



Module Formats

Asynchronous
Module Definition
(AMD)

CommonJS

Universal Module
Definition
(UMD)

System.register

ES2015



Module Loaders

RequireJS
(AMD)

SystemJS
(AMD, CommonJS, UMD,
System.register)



AMD Format

```
// game.js
```

```
define(['./player'], function(player) {
```



```
});
```



AMD Format

```
// game.js
```

```
define(['./player'], function(player) {  
    console.log('Starting game for ' + player.getName());
```



```
});
```



AMD Format

```
// game.js
```

```
define(['./player'], function(player) {  
    console.log('Starting game for ' + player.getName());  
    function calculateScore() {  
        // calculate the score here  
    }  
    return {  
        calculateScore: calculateScore  
    };  
});
```



CommonJS Format

// game.js

var player = require('./player.js');



CommonJS Format

```
// game.js
var player = require('./player.js');

function printGame() {
    // print the game here
}

function calculateScore() {
    // calculate the score here
}

exports.printGame = printGame;
```



CommonJS Format

```
// game.js
var player = require('./player.js');

function printGame() {
    // print the game here
}

function calculateScore() {
    // calculate the score here
}

exports.printGame = printGame;
exports.calculateScore = calculateScore;
```




Export Syntax


```
// module.exports === exports
```

```
exports.calculateScore = calculateScore;
```

```
module.exports.calculateScore = calculateScore;
```

```
exports = { }; 
```

```
exports = function() { }; 
```

```
module.exports = { }; 
```

```
module.exports = function() { }; 
```



Summary



Module formats versus module loaders

AMD modules with RequireJS

CommonJS modules with SystemJS

Related Courses

- *RequireJS: JavaScript Dependency Injection and Module Loading*
- *Modern, Modular JavaScript with SystemJS and jspm*

