



Making a CLI using Node.js

CLIs

Command Line Interface

Store data, retrieve data, display data

In the terminal, running on Node.js

1. Libraries
2. User Input
3. Structure and names



Libraries

Someone else's code

There's a library for everything

Documentation!

Sometimes known as: modules, packages, gems, libs, dependencies...



Libraries - NPM

Node Package Manager

npm

Install packages

node_modules folder



Libraries - Node.js

```
require("package-name");
```

Step1: `npm install --save kleur`

Step2: `const kleur = require("kleur");`

require reads your node_modules folder and finds the package



Libraries - Node.js

```
const kleur = require("kleur");
```

```
kleur.red("HELLO THIS IS RED TEXT");
```

```
kleur.blue().bold().underline('blue and bold  
and underlined???');
```

Libraries - Node.js

Documentation is difficult to read

Reading documentation is a valuable skill

<https://github.com/lukeed/kleur>

<https://lodash.com/docs/>



Libraries - Node.js

To the code editor

Install and use kleur and lodash



Libraries - Node.js

Any questions?



User input

Node's in-built functions aren't friendly

readline-sync makes it more friendly

Users make mistakes!

A lot!

Handle their mistakes



This is your user



User input

```
const readlineSync =  
require('readline-sync');
```

```
const name = readlineSync.question('May I  
have your name? ');
```

```
console.log('Hi ' + name + '!');
```



User input

```
const age = readlineSync.question('May I have  
your age? ');
```

```
if (age > 18) {  
  serveBeer();  
}
```

User input

```
const age = readlineSync.question('May I have  
your age? ');
```

```
// age === "twenty one";
```

```
if (age > 18) {  
    serveBeer();  
}
```



User input

```
const age = readlineSync.question('May I have  
your age? ');
```

```
const ageAsInt = parseInt(age);
```

```
if (Number.isInteger(ageAsInt) && ageAsInt > 18)  
{  
    serveBeer();  
} else {  
    console.log("Please enter a valid age!");  
}
```



User input

To the code editor



Structure and Names

Names are **VERY** important

Readability is more important than efficiency

Functions should be small

Variable names should be descriptive



Structure and Names

```
function doAThing(i, j, k) {  
    const ggg = i * j;  
    const gggg = ggg * k + 1;  
  
    const mn = ggg / 3;  
  
    console.log("TADAAAAAAA");  
    console.log("THE MAGIC NUMBER IS");  
    console.log(mn);  
    console.log("+++++-----+++++-----+++++");  
}
```

Structure and Names

```
function magicNumber(numA, numB, numC) {  
  const first = numA * numB;  
  const second = ggg * numC + 1;  
  
  const magicNumber = second / 3;  
  
  console.log("TADAAAAAAA");  
  console.log("THE MAGIC NUMBER IS");  
  console.log(magicNumber);  
  console.log("+++++-----+++++-----+++++");  
}
```

Structure and Names

```
function generateMagicNumber(numA, numB, numC) {  
    const first = numA * numB;  
    const second = first * numC + 1;  
  
    return second / 3;  
}
```

```
function displayMagicNumber(magicNumber) {  
    console.log("TADAAAAAA");  
    console.log("THE MAGIC NUMBER IS");  
    console.log(magicNumber);  
    console.log("+++++-----+++++-----+++++");  
}
```



Structure and Names

```
const magicNumber = generateMagicNumber(32, 6, 35);  
  
displayMagicNumber(magicNumber);
```



Structure and Names

Can you guess what this code does?

What is thing? What is e? What does display do?

```
thing.forEach(e => {  
    display(e);  
});
```

Structure and Names

thing.forEach means it's an array

Pluralise the name!

```
const things = [];  
  
things.forEach(e => {  
    display(e);  
});
```



Structure and Names

e is each element in the array

What is it? Who knows?

Singular! things > thing

```
const things = [];  
  
things.forEach(thing => {  
    display(thing);  
});
```



Structure and Names

Thing? Things???

Descriptive!

```
const stationsNames = ["Kings Cross", "Euston", "Paddington"];

stationsNames.forEach(stationName => {
  display(stationName);
});
```

Structure and Names

Without seeing the array, you probably know what this code does

```
stationsNames.forEach(stationName => {  
    display(statstationNameion);  
});
```

Structure and Names

But what does `display()` do?

```
function display(stationName) {  
    console.log(stationName[0]);  
}
```



Structure and Names

More descriptive!

```
function displayFirstLetter(stationName) {  
    console.log(stationName[0]);  
}
```

Structure and Names

Now you know **exactly** what this code does

```
stationsNames.forEach(stationName => {  
    displayFirstLetter(stationName);  
});
```



Structure and Names

To the code editor to improve our names and structure



Readability

The most important factor when writing code

Coding is lots of reading

Reading documentation

Other people's code

Make your code readable



Any questions?

