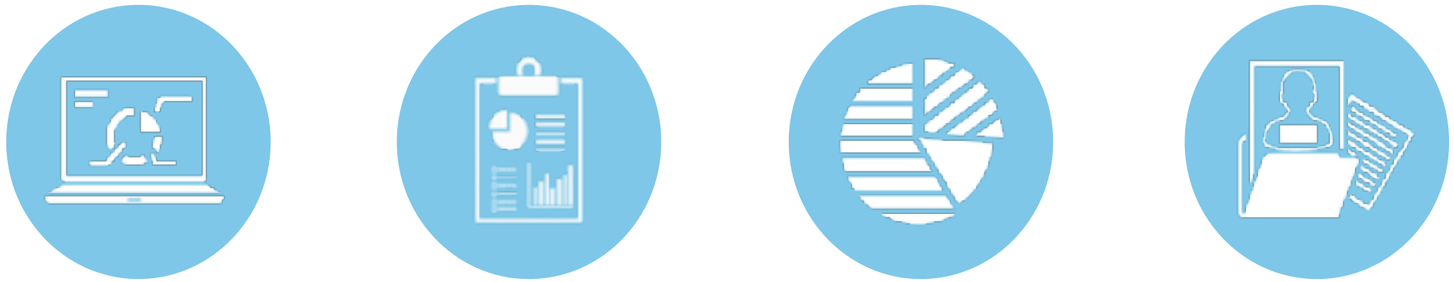
Angular 2

Lesson 8—Pipes



Learning Objectives

- What is pipe in Angular 2
- Understand how built-in pipes work in Angular 2
- Understand Angular 2 Custom pipes

Angular 2

Topic 1—What are Pipes?

What Are Pipes?

- With data binding of Angular 2, you can just bind an element property to a class property and display data easily.But, sometimes, the data is not in an appropriate format to display. Therefore, we use pipes.

- Before pipes are displayed, they transform bound properties.

- Pipe is a way to write display-value transformations that you can declare in your HTML, as you can alter the property value to make them more user-friendly or more locale-appropriate.

Uses of Pipes

Pipes don’t provide any additional features, however:

- Pipe is a good way to deal with functions and logics in templates.
- Pipes make your code more structured and clear.
- A pipe takes in data as input and transforms into a desired output.

How to Use Pipes

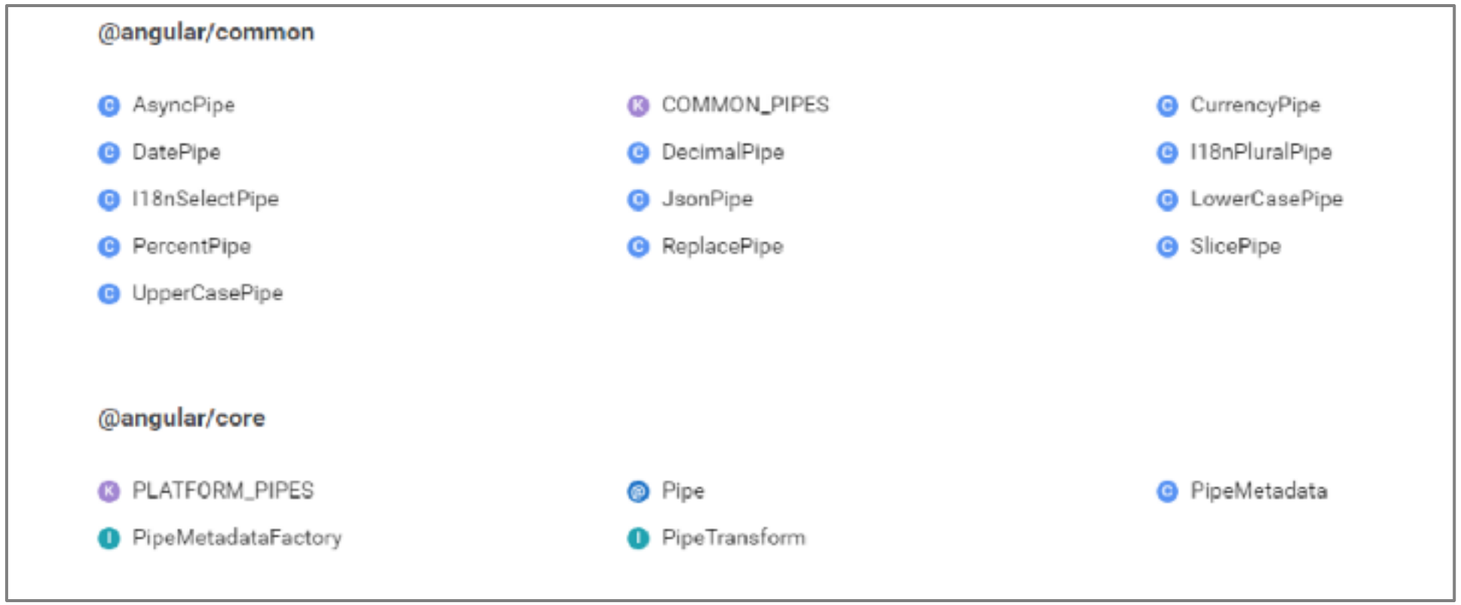
- Built-in pipes can be used for formatting values such as date, number, decimal, percent, currency, uppercase, lowercase and so on.

- A few pipes can be used for working with objects.

  Example:

  JSONPipe displays the content of an object as JSON string.

  SlicePipe selects a specific subset of elements from a list.



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Topic 2—Built-in Pipes

Types of Built-in Pipes

- UpperCase
- LowerCase
- Decimal
- Currency
- Date
- JSON

Types of Built-in Pipes

- UpperCase
- LowerCase
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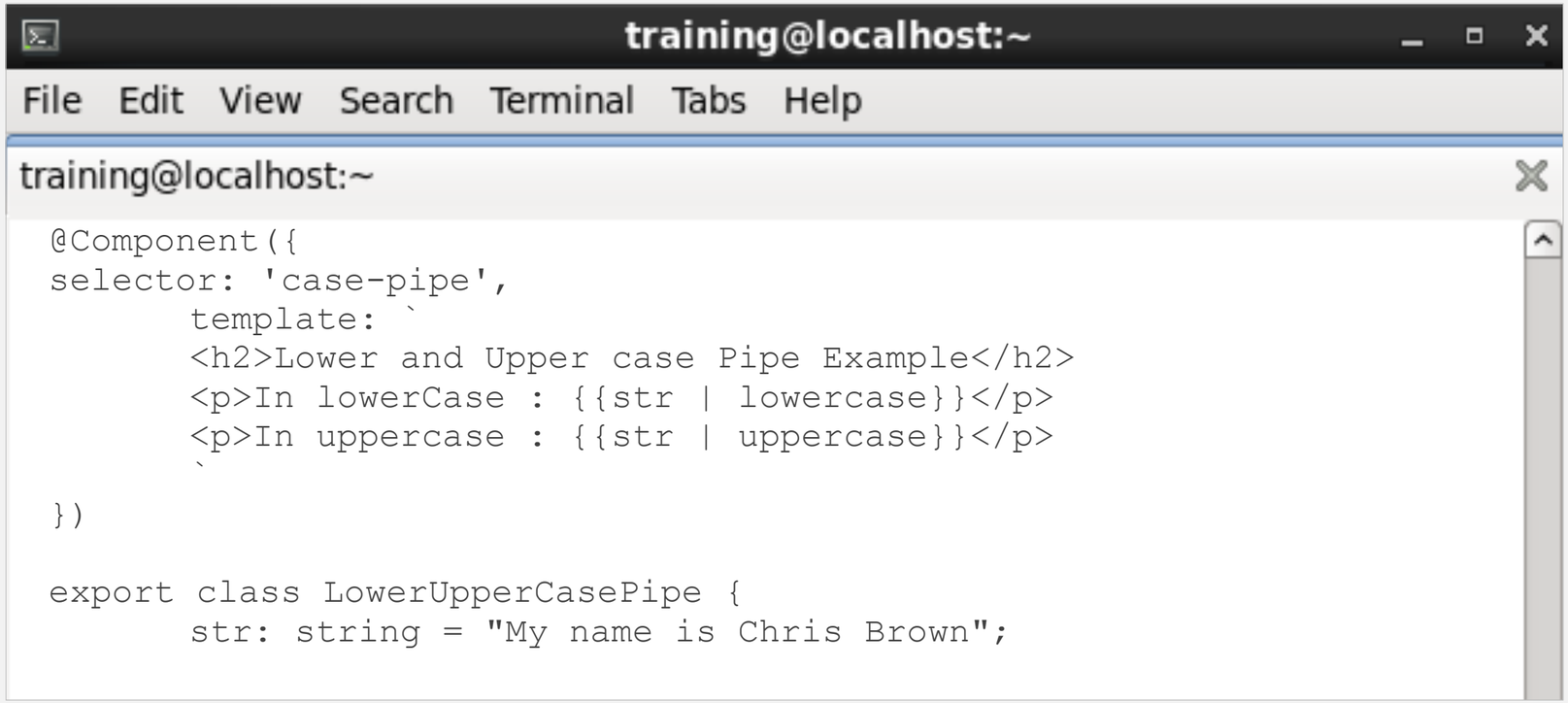
- UpperCase and LowerCase pipes help to change the case of the characters.
- Both these pipes do not accept any parameters.



Types of Built-in Pipes

UpperCase

LowerCase

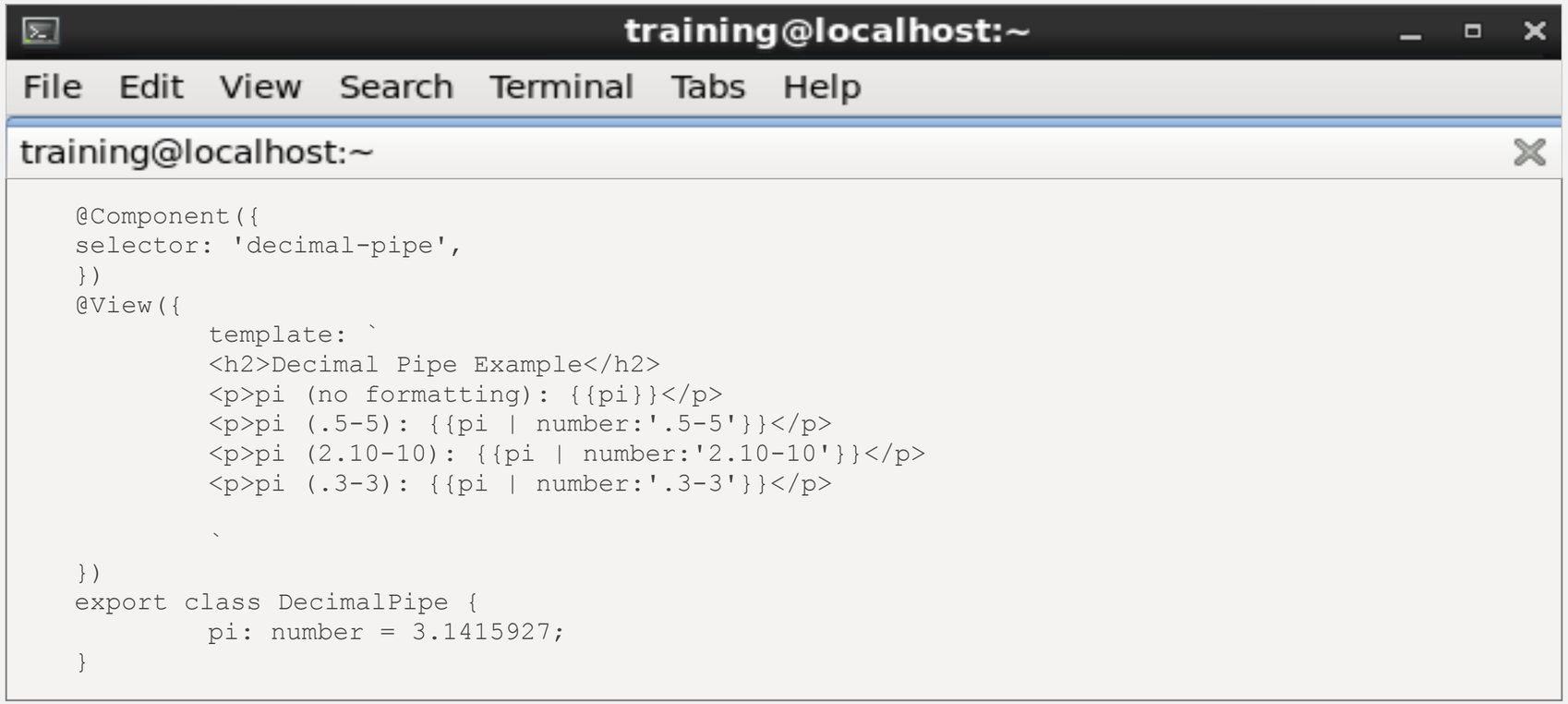
Decimal

Currency

Date

JSON

- Decimal pipes are used to create number.
- Decimal pipes provide the option to select a minimum and maximum number length after the decimal point and fix the number of places before the decimal point.




```
@Component({
selector: 'decimal-pipe',
})
@View({
        template: `
        <h2>Decimal Pipe Example</h2>
        <p>pi (no formatting): {{pi}}</p>
        <p>pi (.5-5): {{pi | number:'.5-5'}}</p>
        <p>pi (2.10-10): {{pi | number:'2.10-10'}}</p>
        <p>pi (.3-3): {{pi | number:'.3-3'}}</p>

        `
})
export class DecimalPipe {
        pi: number = 3.1415927;
}
```

Types of Built-in Pipes

UpperCase

LowerCase

Decimal

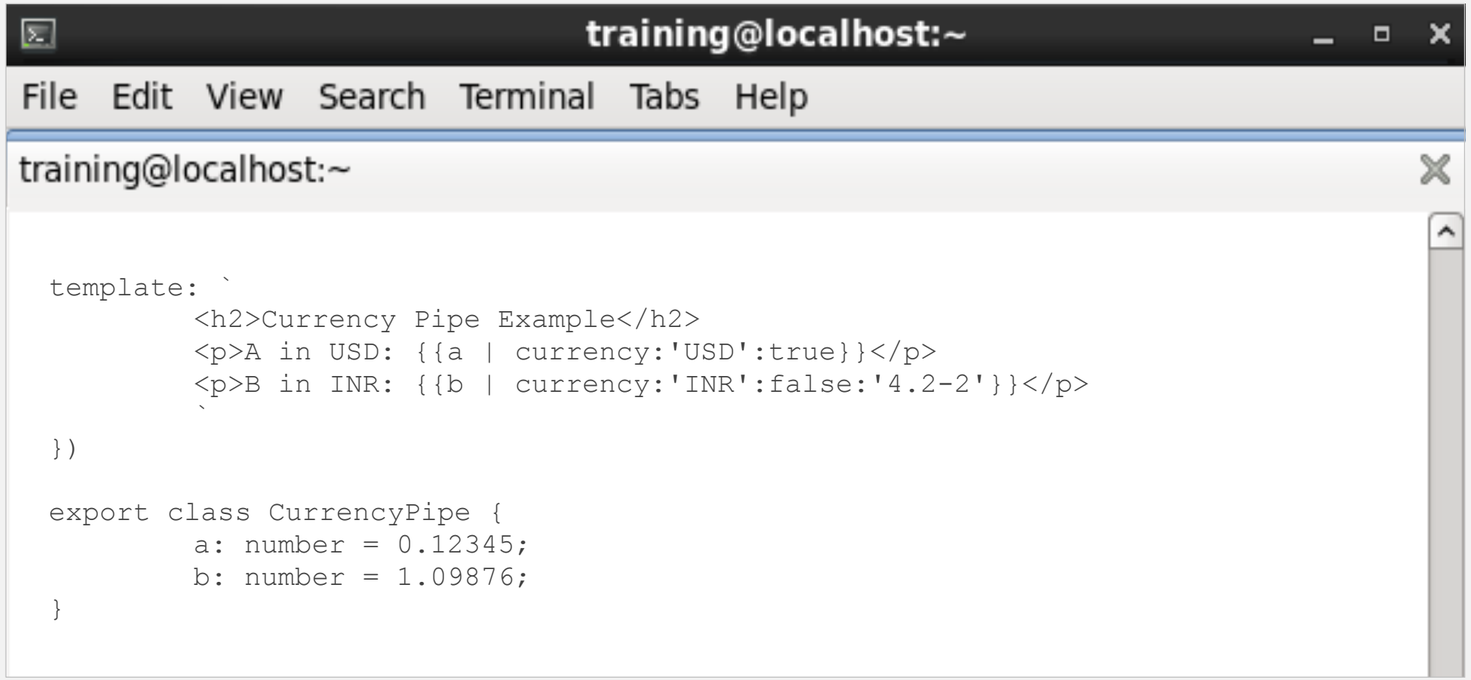
Currency

Date

JSON

- Currency pipe helps you format and make use of symbols.

  For example, SO 4217 currency code such as “EUR” for the euro and “USD” for the US dollar.
- It takes *symbolDisplay* with a default value of false as the second parameter.
- The third parameter for the pipe is*digitInfo*that works as a *DecimalPipe.*



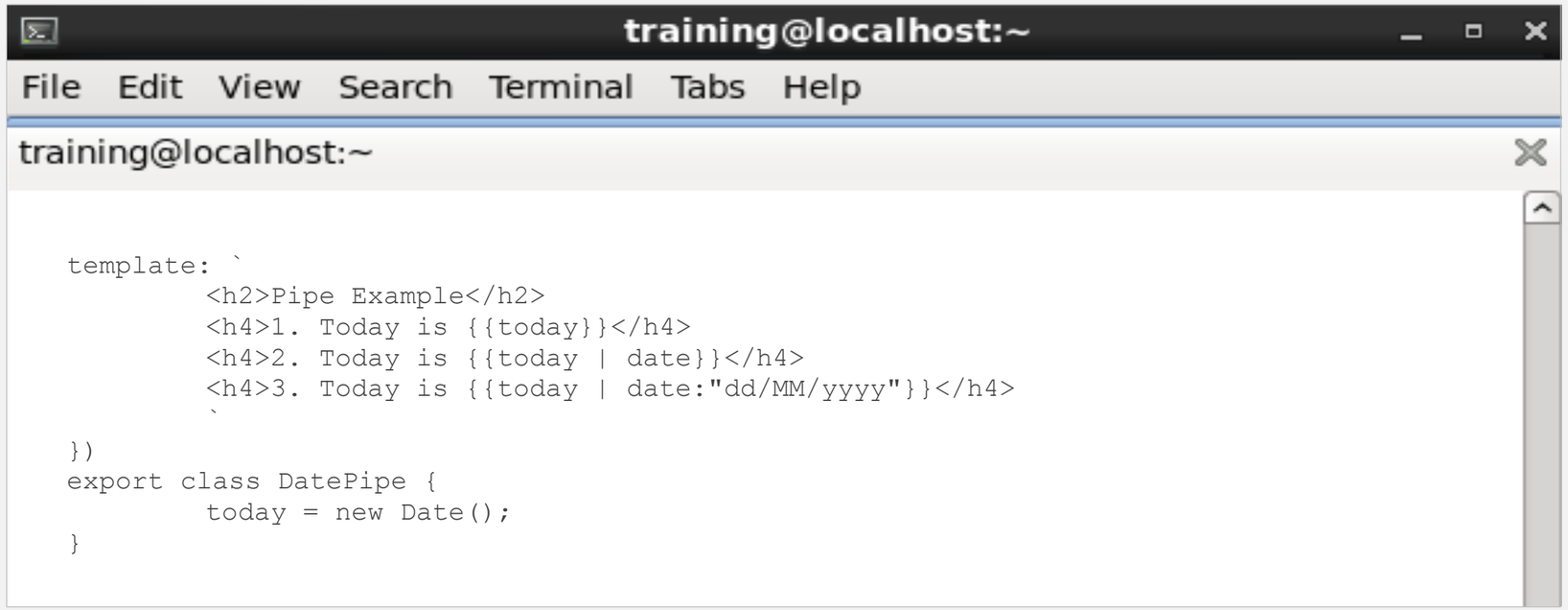
Types of Built-in Pipes

- UpperCase
- LowerCase
- Decimal
- Currency
- Date
- JSON

- With Date pipes you can display date in a specific format.
- You can access the various predefined date formats.

For example: “medium,” “fullDate,” and more.

- You can also create a custom format.For example use “yy” for year, “m” for month, “dd” for date, “hh” for hour, “mm” for minute, “ss” for second etc.



Types of Built-in Pipes

UpperCase

LowerCase

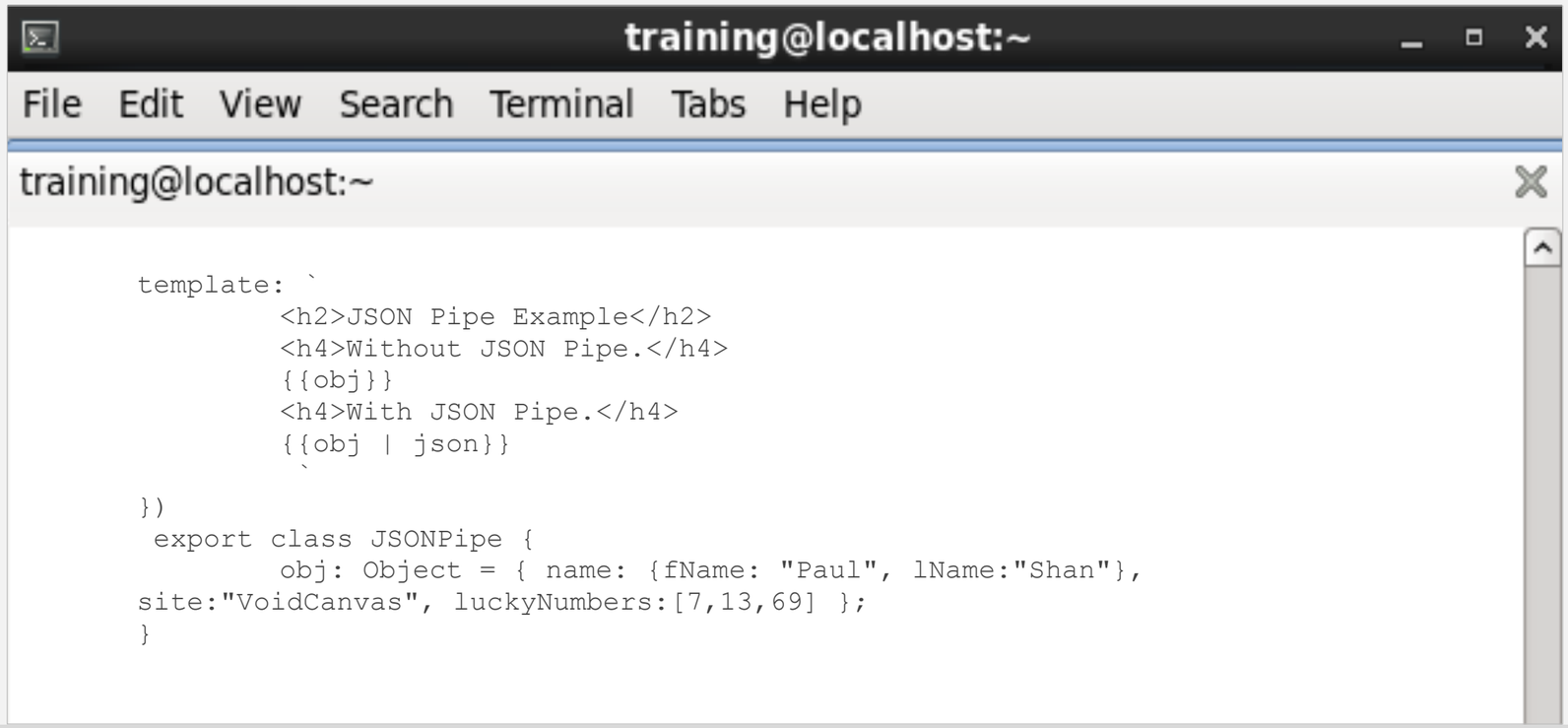
Decimal

Currency

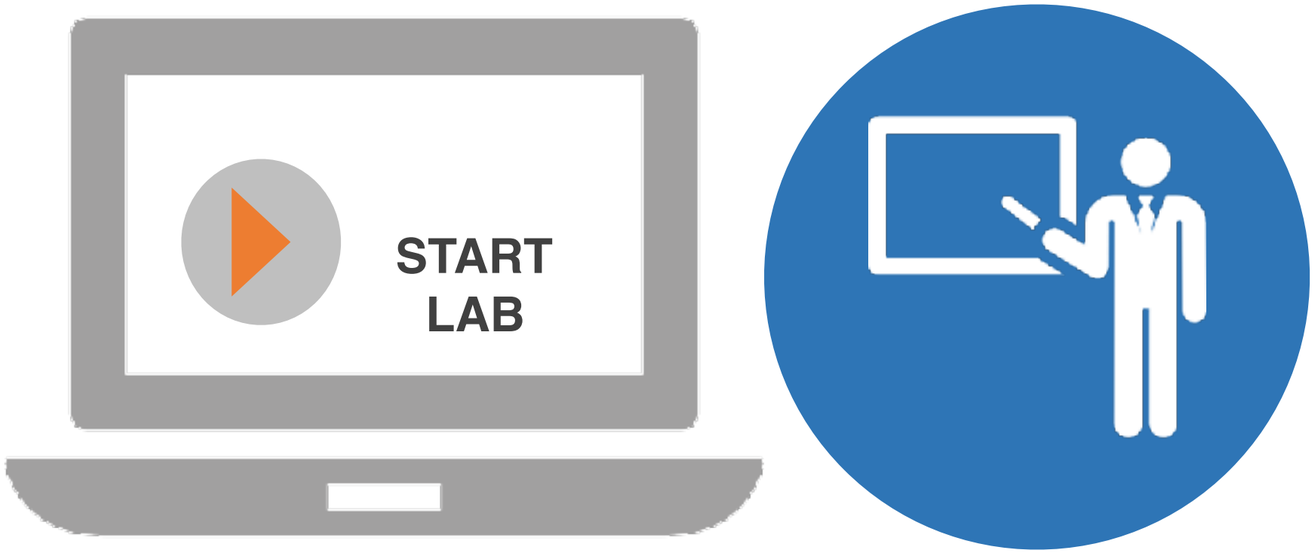
Date

JSON

- You use double curly braces to print a value, but these cannot print the complete object.
- You can use *JSONPipe t*o print the JSON object.



Lab—Demo



Chaining Pipes

You can chain pipes in useful combinations.

Example:

To print the birthday in uppercase, the birthday is chained to both the UpperCasePipe and DatePipe
Output: JAN 15, 1985.

```
The chained person’s birthday is
{{ birthday | date | uppercase}}
```

```
The chained person’s birthday is
{{birthday | date:'fullDate' | uppercase}}
```

Angular 2

Topic 3—Custom Pipes

Custom Pipes

How to create and use a custom pipe:

To create a custom pipe, you give it a name and a transform function and that provides you the desired output.

To create a pipe you need to:

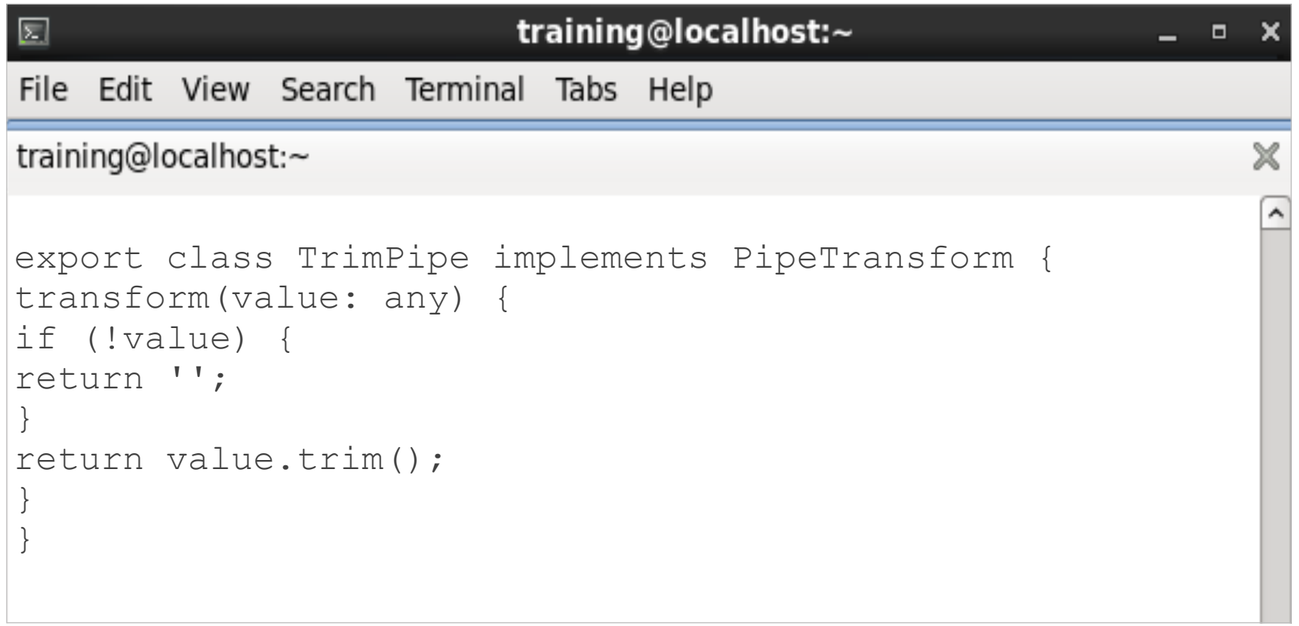
- Create a new .ts file named trim.pipe.ts in demo/pipes folder.
- Import the module Pipe and PipeTransform from '@angular/core'. It tells Angular 2 that this is the pipe which is imported from the core Angular 2 library, by applying the @Pipe decorator.

```
import {Pipe, PipeTransform} from '@angular/core';
```

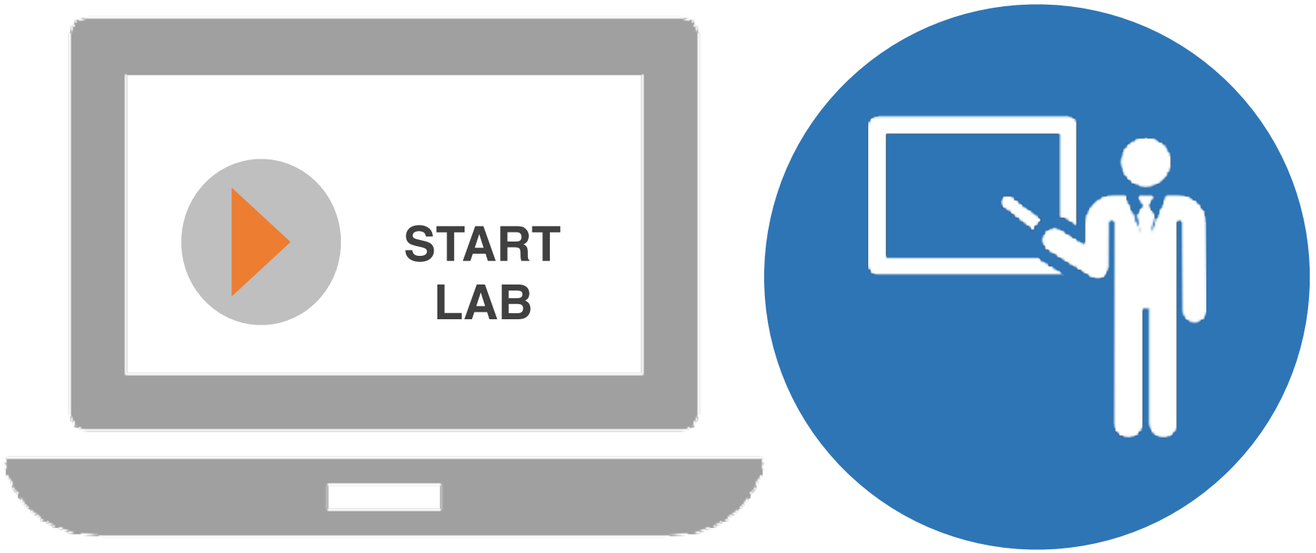
Custom Pipes

Creating the pipe class implements the PipeTransform interface's transform method.

The transform method takes an input value and optional parameters and returns the transformed value.



Lab—Demo



Categories of Pipes

Stateless Pipes

- Stateless pipes are pure functions that flow input data through without remembering anything or causing detectable side effects.
- Most pipes are stateless.
- CurrencyPipe and LengthPipe are examples of stateless pipes.

Stateful Pipes

- Stateful pipes are those which can manage the state of the data they transform.
- A pipe that creates an HTTP request, stores the response, and displays the output is a stateful pipe. Stateful Pipes should be used cautiously.
- Angular provides AsyncPipe, which is stateful.

Key Takeaways

- A pipe is used to transform displayed values within a template.
- Built-in pipes can be used for formatting values such as date, number, decimal, percent, currency, uppercase, lowercase.
- Creating a custom pipe is as simple as giving it a name, and a transform function that gives you the intended output.

Quiz

QUIZ

1

Which one is NOT a built-in pipe in Angular 2?

a. Currency

b. Date

c. Lowercase

d. Local

QUIZ

1

Which one is NOT a built-in pipe in Angular 2?

a. Currency

b. Date

c. Lowercase

d. Local

The correct answer is **d.**

Local is not a built-in pipe in Angular 2.

QUIZ

2

How can you enable currency pipe symbol?

a. {{user.salary | currency :’AUD’ :true}}

b. {{user.salary | currency :true :’AUD}}

c. {{user.salary | ’AUD’:currency :true}}

d. {{user.salary | LOCALE :’AUD’ :true}}

QUIZ

2

How can you enable currency pipe symbol?

a. {{user.salary | currency :'AUD' :true}}

b. {{user.salary | currency :true :'AUD}}

c. {{user.salary | 'AUD':currency :true}}

d. {{user.salary | LOCALE :'AUD' :true}}

The correct answer is **a.**

{{user.salary | currency :'AUD' :true}} is used to enable currency pipe symbol.

QUIZ

3

Which pipe is used to convert object to human readable format?

a. JSON

b. toJSON

c. toString

d. toJSONString

QUIZ

3

Which pipe is used to convert object to human readable format?

a. JSON

b. toJSON

c. toString

d. toJSONString

The correct answer is **a.**

JSON is used to convert object to human readable format.