**What is a Pipe?**

👉 **Simple words**:

* A pipe is a **tool in Angular** that helps us **change how data looks** in the HTML.
* We write it with a **| symbol**.
* Example:

{{ 'hello' | uppercase }} → HELLO

{{ 'HELLO' | lowercase }} → hello

{{ today | date }} → 12-Sep-2025

Think of a pipe like a filter in Instagram. The photo is the same, but the filter changes how it looks. Pipe does the same for data

 When we make our **own pipe**, Angular asks:  
*“How should I change the data?”*

 To answer this, we write a **small function called transform**.

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

@Pipe({

name: 'shortText'

})

export class ShortTextPipe implements PipeTransform {

transform(value: string, limit: number): string {

if (!value) return '';

if (value.length > limit) {

return value.substring(0, limit) + '...';

}

return value;

}

}

* PipeTransform = Just a rule that says:  
  “If you make a pipe, you must have a function called transform.”
* transform() = The place where we **write the logic** to change the data.  
  “PipeTransform is not scary — it just forces us to write a method transform() inside our custom pipe. And that method is where the magic happens.”

So in **short** for your class:

* **Pipe** → a tool to change how data looks.
* **PipeTransform** → says “you must write a transform() function when you create a new pipe.”

 **Built-in Pipes** → Angular already gave us tools (uppercase, lowercase, date).

 **Custom Pipe** → We make our own tool (like cutting text).

 **PipeTransform** → Just a rule saying: *“Custom pipe must have a transform function”*.

 **transform()** → where we write our logic.

**Life Cycle Hooks**

What is ngOnChanges?

ngOnChanges runs **whenever a parent sends a new value to the child component**.

What is OnInit?

OnInit is a special hook that Angular runs **only once**, when the component is created and ready.

## What is ngDoCheck?

* ngDoCheck is a lifecycle hook that Angular calls **every time it checks for changes** in a component.

## What is AfterContentInit?

* This hook runs **once** after Angular has inserted the **content projected from the parent** into the child component.
* In Angular, “content projection” means using <ng-content> in the child.

## What is AfterViewChecked?

* This hook runs **every time Angular finishes checking and updating the component’s view (template + child views)**.