

# Angular Concepts and Setups - 2024-12-29

## ### Topics Covered in This Chat

### #### 1. Git Clone with Branch Checkout

- Command: ``git clone --branch 1-components --single-branch https://github.com/angular-university/angular-course.git``

### #### 2. Creating a New Component

- Command: ``ng generate component course-card``
- Shortcuts and parameters like ``--skip-tests``, ``--inline-template``, ``--style scss``, etc.

### #### 3. Declaring Member Variables in a Component

- Syntax examples for properties with modifiers (``public``, ``private``), ``readonly``, and optional variables.

### #### 4. ``@Input`` Decorator

- Syntax: ``@Input({ required: true }) propertyName: type;``
- Usage: Passing data from parent to child.
- Pros: Unidirectional data flow, encapsulation.
- Cons: Limited to parent-child communication.

### #### 5. Interpolation

- Syntax: ``{{ expression }}``
- Use cases: Display dynamic data, inline calculations, and conditional rendering.
- Debugging mistakes like accessing undefined properties and type inconsistencies.

#### #### 6. Custom Events with `@Output` and EventEmitter

- Usage: Parent-child communication using custom events.
- Syntax: `@Output() customEvent = new EventEmitter<string>();`
- Handling event bubbling in native vs custom events.

#### #### 7. Automatically Opening Microsoft Edge on `npm start`

- Using shell commands in `package.json`:

```
``json
  "start": "ng serve --proxy-config ./proxy.json & sleep 5 && open -a 'Microsoft Edge'
http://localhost:4200"
...

```

#### #### 8. Debugging Native and Custom Events

- Tools: Chrome/Edge DevTools, VS Code Debugger with Edge Extension.
- Examples: Setting breakpoints, stopping propagation, inspecting variables.

#### #### 9. `@for` Loop in Angular

- Syntax for iteration with `@for`:

```
``html
@for (let item of items; track item.id)
  <div>{{ item }}</div>
@end
...

```

- Variables: `\$index`, `\$even`, `\$odd`, `\$first`, `\$last`, `\$count`.
- Handling empty iterables with `@empty`.
- Comparison with `\*ngFor`.

### Notes:

This document summarizes the key concepts, setups, and debugging tips discussed in the session.