Why I'm here

- Author of *Developing Extensions for Joomla! 5*

- Productivity geek

- Recently elected as Operations DC

- JRun addicted

- 3 kids, 2 dogs, 1 cat and a loving wife

Carlos Cámara

Part 1: Developing a ToDo list app

1. Planning the component

2. Creating the tables in the database

3. Understanding folder structure

4. Describing our component to Joomla

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Part 2: Developing our WebService

1. Web Services Basics

2. Routing our Web Service

3. Having fun!!

Planning the component

Purpose: **Simple To-Do list application for Joomla! Backend**

Component Name: **Clean To-Do List**

Shorter alias: **ctl**

Company: **AwCo** (Awesome Company Limited)

Other stuff: **Licence**, distribution, roadmap...

References

Chapter 1

Task Entity

- Title

- Description

- State

- Deadline

- Creation date

References

Chapter 1

Task Entity possible fields

- *Owner?*

- *Author?*

- *Follow-ups?*

References

Chapter 1

Create the table in the database

Let's start with some code:

```sql
CREATE TABLE IF NOT EXISTS `#__awco_ctl_tasks` (
    `id` INT(11) NOT NULL AUTO_INCREMENT,
    `title` VARCHAR(255) NULL,
    `state` TINYINT(1) NOT NULL DEFAULT 0,
    `description` TEXT NOT NULL DEFAULT "",
    `deadline` DATETIME NULL,
    `created` DATETIME NULL,
    `created_by` INT(11) NULL,
    PRIMARY KEY (`id`)
) DEFAULT COLLATE=utf8mb4_unicode_ci
```

References

Chapter 1

Adding some fake data

Ask your favourite AI friend:

> Hi nice AI, I'm a web developer and I need some fake data for the Awesome To-Do list extension I'm building in Joomla. Could you please provide the SQL code around 30 rows that makes sense on a table created with this command and be sure that when there is no deadline date, you use NULL instead of an empty value:
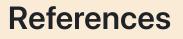>
> CREATE TABLE IF NOT EXISTS `#__clt_tasks` (
>
> ...

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Understanding folder structure

`https://developingextensionsforjoomla5.com/jdayusa2024/live/1-bootstraping`

- administrator/components/com_ctl/
  - services
  - tmpl
  - src
    - Extension
    - Controller
    - Model
    - View
    - Table

References

Chapter 2

Telling Joomla about our extension

```xml
<extension type="component" method="upgrade">
...
    <namespace path="src">AwCo\Component\Ctl</namespace>
    <administration>
        <files folder="admin">
            <folder>services</folder>
            <folder>src</folder>
            <folder>tmpl</folder>
        </files>
        <menu link="option=COM_CTL" img="class:default">
            Clear To-Do List
        </menu>
    </administration>
</extension>
```

References

Chapters 2 and 14

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First install

- We use the nice *Discover* function at Joomla! Backend

References

Chapter 2

Registering our component

- File *services/provider.php*

- Dependency Injection Container pattern

- We inject the MVCFactory service

References

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Chapter 2

Boot file for our component

- At *src/Extension/CtlComponent.php*

- Joomla Will look for this file first

- It implements the *boot()* method

References

Chapter 2

Adding the main controller

- At *src/Controller/DisplayController.php*
- We define the default view in this code

References

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Chapter 2

Showing our default view

- In Joomla's MVC we trust!!
- When we just retrieve data: View + Model
- When we perform actions: View + Model + Controller

References

Chapter 2

Filling our view with data

`https://developingextensionsforjoomla5.com/jdayusa2024/live/2-listview`

- Joomla View file structure is the same, we just retrieve and pass different types of data

- We use the view proxy methods to retrieve the data from the model

References

Chapter 2

Adding the edit view

`https://developingextensionsforjoomla5.com/jdayusa2024/live/3-editview`

- We use the same View for *edit* and *add* actions
- For individual items we do not use a query, but the Table class
- We use JForms to easily create the form

References

Chapters 2 and 4

Nice-to-haves

- Toolbar for the list view

- ACL

- Frontend part

- Component configuration

- Calendar field

- Create a companion module (Check Shirat's presentation on the topic)

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on the shoulder of giants

- Joomla Extension Development by Nicholas Dionysopoulos

  - https://www.dionysopoulos.me/book.html

- Joomla 4 – Developing Extensions: Step by step to an working Joomla extension

  - https://a.co/d/1BIVa8j

  - https://web.archive.org/web/20230518080457/https://blog.astrid-guenther.de/en/der-weg-zu-joomla4-erweiterungen/

- Joomla! Documentation

  - https://manual.joomla.org

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Thank you!