Building Custom Applications using Joomla! & Fabrik

Presentation by Tessa Mero – Oct 20, 2015

Who Am I?

College Instructor

Open Source Contributor

Previous Systems Applications Dev

OVERVIEW

- **Why Use Joomla!**
- **What is Fabrik**
- **Creating Data Models**
- **Steps in Systems Development**
- **Create a Rudimentary Movie Rental Application**
- **Creating Fabrik Forms/Lists/Elements/Groups for Your Application**
- **Extending Your Application**
- **View Your Finished Product!**

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Customers Rented List

Add Group by

Search: Clear filters

Last Name

Email Address

Go

id	First Name	Last Name	Address	City	State	Zip	Phone #	Email Address	Admin Notes	Date Rented	Due Date	Movie
1	James	Butt	6649 N Blue Gum St	New Orleans	LA	70116	504-621-8927	jbutt@gmail.com	Watch out for his kid he always brings on Friday's who tries to steal a pack of gum.	2015-10-16	2015-10-19	Batman
										2015-10-16	2015-10-19	Batman Returns
										2015-10-12	2015-10-15	MazeRunner
2	Josephine	Darakjy	4 B Blue Ridge Blvd	Brighton	MI	48116	810-292-9388	josephine_darakjy@darakjy.org	This person always forgets their wallet. Be prepared.	2015-10-12	2015-10-15	MazeRunner
										2015-10-01	2015-10-04	MazeRunner II: The Scorch Trials
3	Art	Venere	8 W	Bridgeport	NJ	8014	856-636-8749	art@venere.org	Keep your			

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Why Use Joomla?

- **Easy to install and set up (assuming you don't use a crappy host)**
  - Set up a free subdomain and hosting account at cloudaccess.net
  - Set up a free subdomain/hosting at Joomla.com (with restrictions)
- **Lots of documentation especially for building your own extensions**
  - And several great options for using custom application building tools, such as Fabrik, Seblod, and SobiPro. (I'm a fan of Fabrik obviously) ☺
- **The community is amazing and very welcoming**
- **It's Open Source and Downloaded over 50 MILLION times!**
- **Over 7,455 extensions on the Joomla Extensions Directory (JED)**
- **Core Devs Working Hard on New Architecture of Joomla 4**

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What is Fabrik?

- **Installable Extension for Joomla called a Component**
- **A Custom Application Builder**
- **Over 126 plugins and counting available to extend**
- **Check out their website at http://fabrikar.com**
- **You can build anywhere from a very advanced user application to a real estate application. Simply, you can build anything!**
- **A lot of Joomla businesses use Fabrik for custom apps for a living!**
- **Integrate other Joomla Extensions easily to Fabrik**
  - Lots of existing integrations, and easily create your own (connect tables)

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Planning Ahead – Systems Development Process

- **Work with clients (or users) to determine their workflow to understand how to build the application**
- **Create diagrams, flowcharts, and any tools to have visual diagrams of the workflow of the business**
- **Run through it with every team or department until every group agrees.**
- **Avoid Scope Creep!!!!**
- **Build the Application!**

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Rudimentary System – Video Rental Application 1.0

- **Needs to have database that stores information for 3 things: DVDs, Customers, and Rentals**
- **Each DVD needs to have a QR code for scanning**
- **You can search customers by Email or Last Name**
- **Needs to have main page to be Customer list and what each has rented out**

Keeping it Simple!

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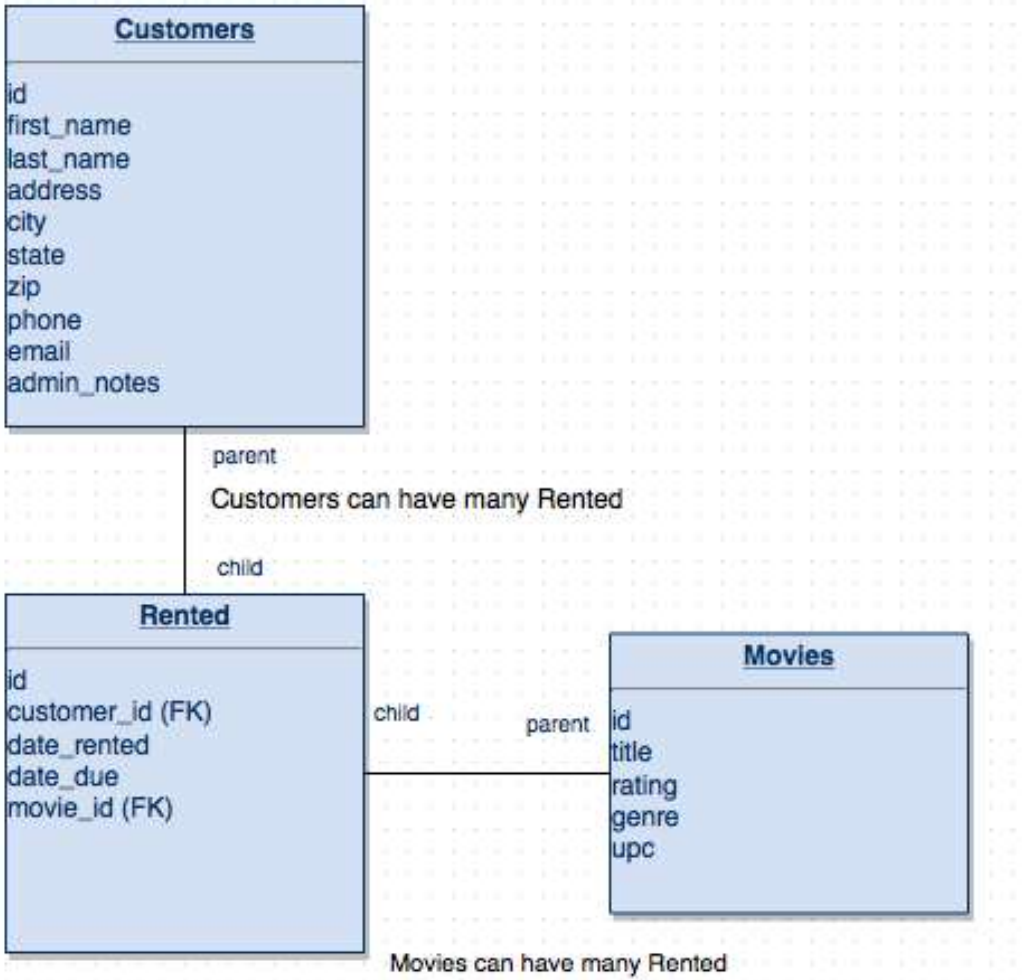
Create Your Database Design – Part 1 – Data Diagram



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Create Your Database Design – Part 2 - MetaData

- **Define each column type (metadata): Plan Ahead.**
  - Date? Integer Only? Any characters allowed? Character limit?
- **Plan Out Your Views**
  - How do you want your data displayed?

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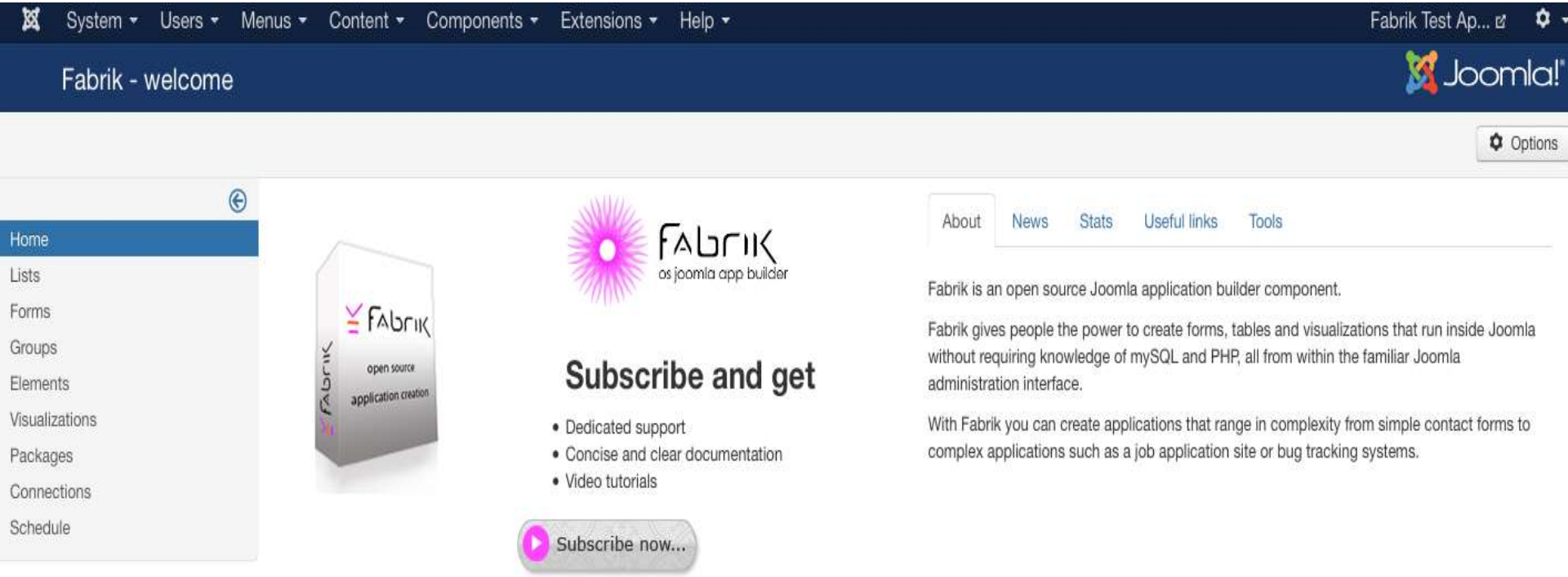
Overview of Fabrik in the Backend



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Time to Implement!

Create Your Fabrik Forms

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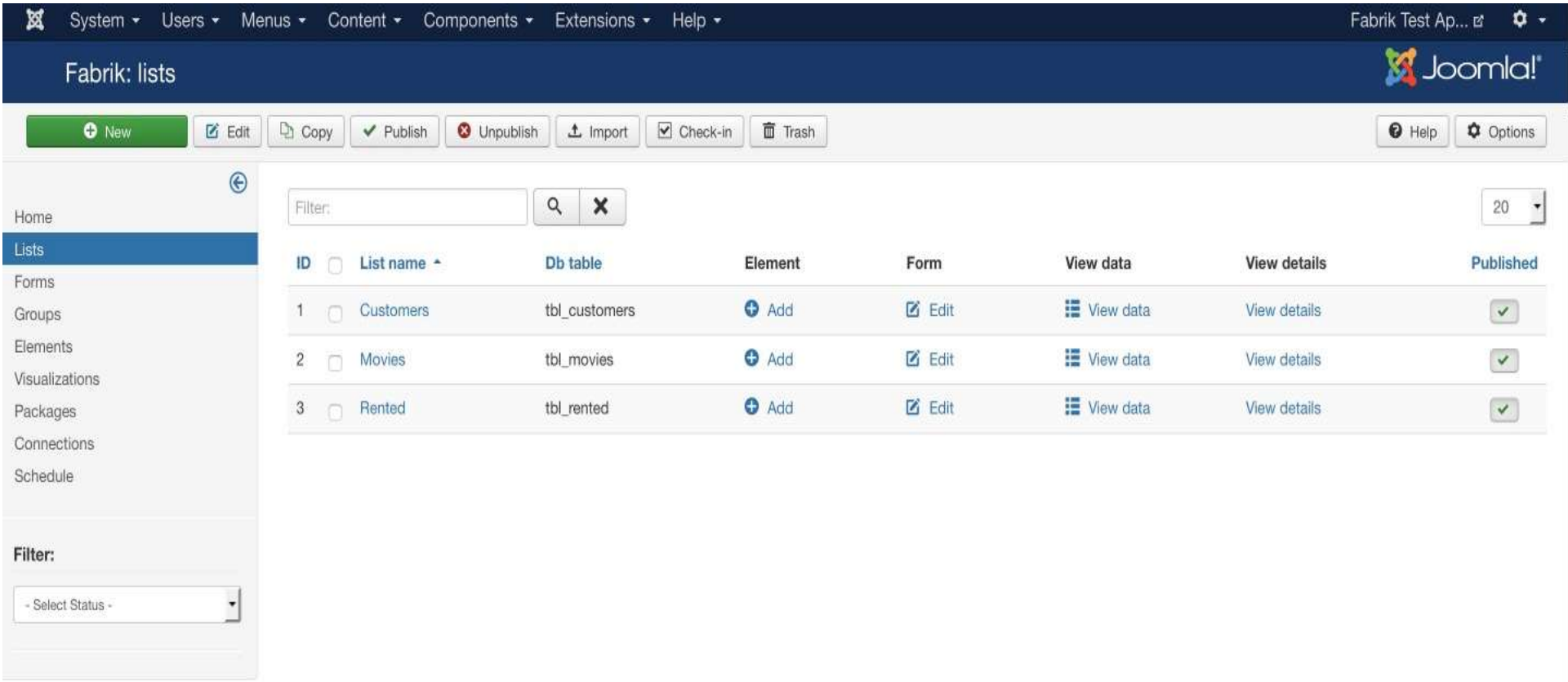
View Your Fabrik Lists



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View PHPMyAdmin

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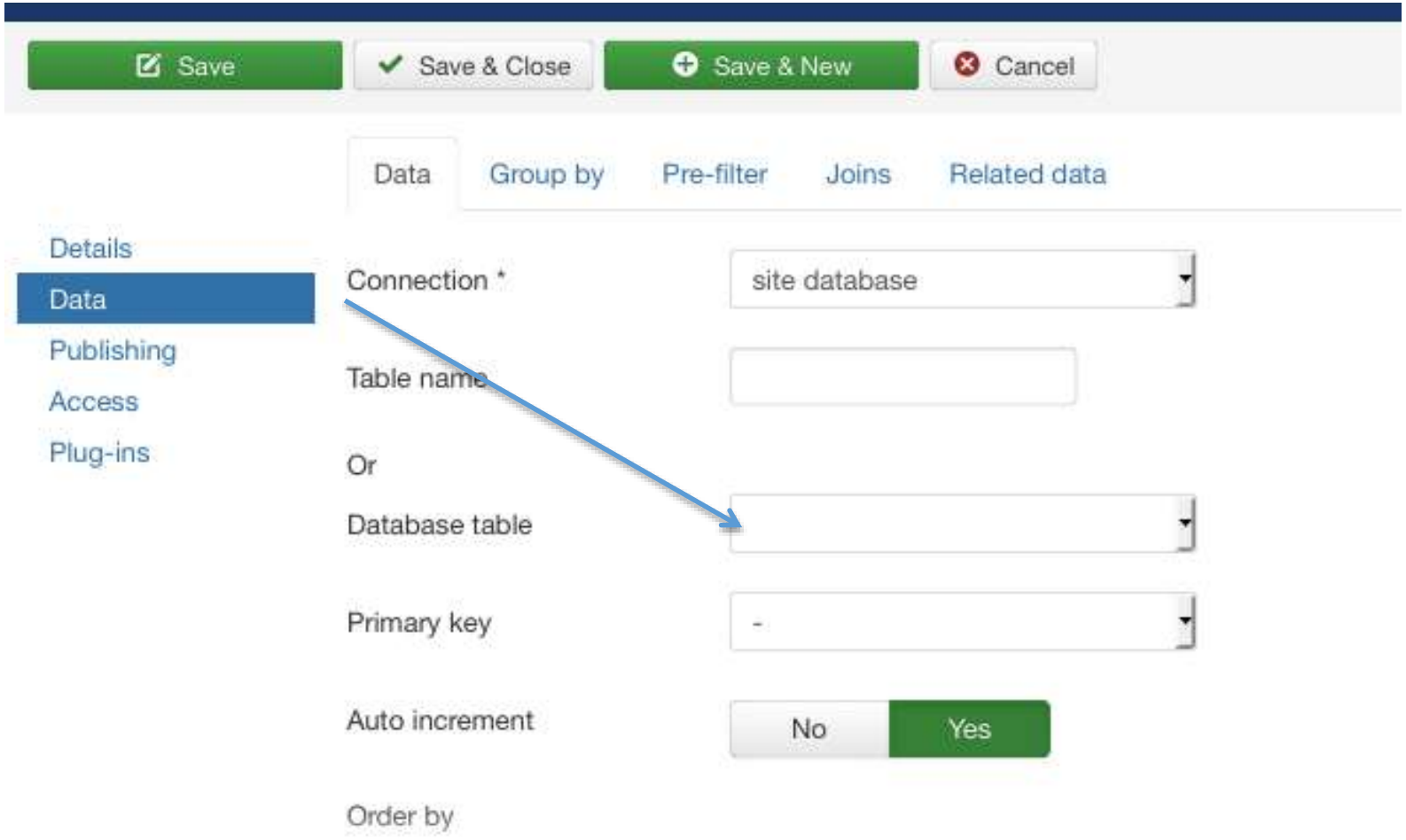
What if I have Existing Tables?



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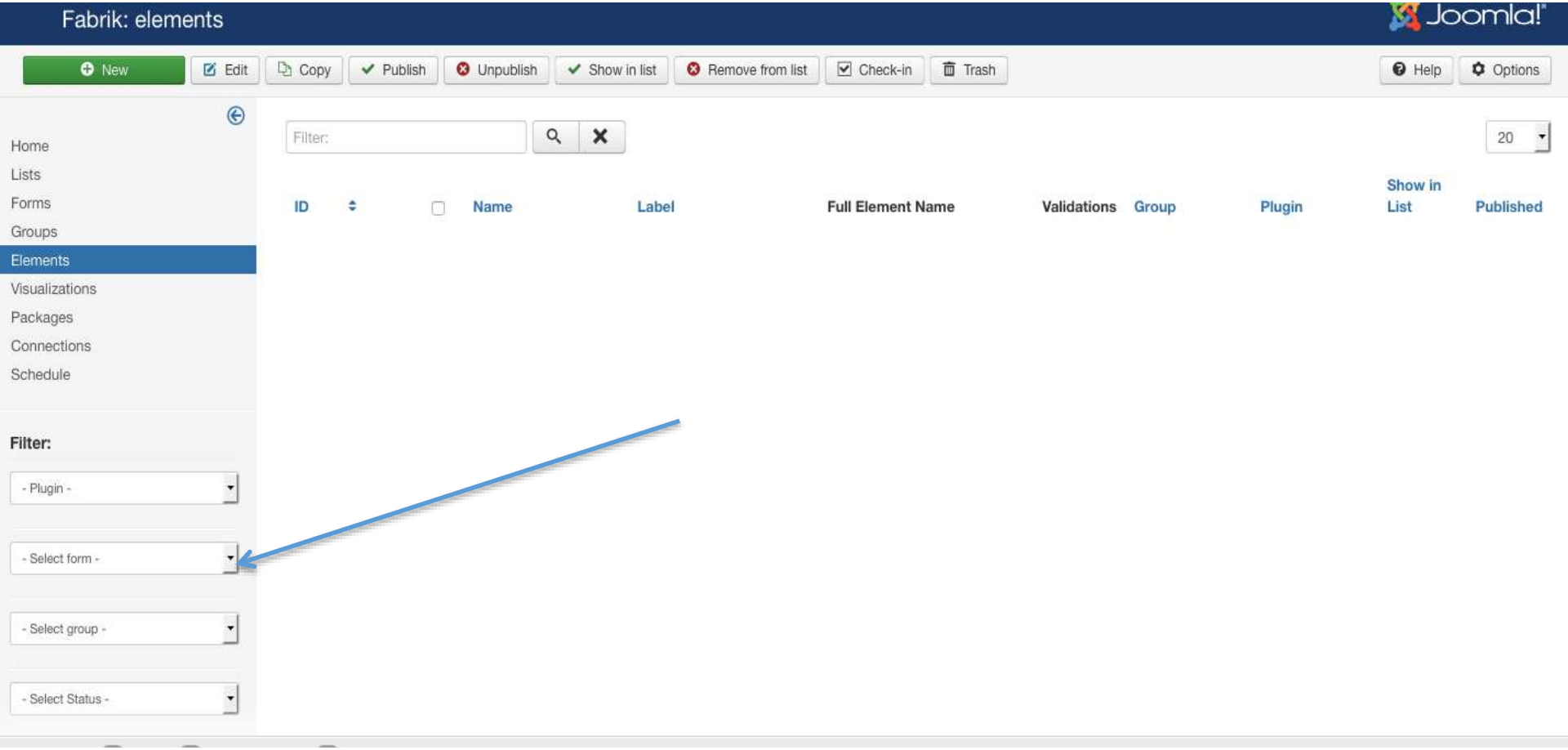
View Your Fabrik Elements (Fields) – Part 1



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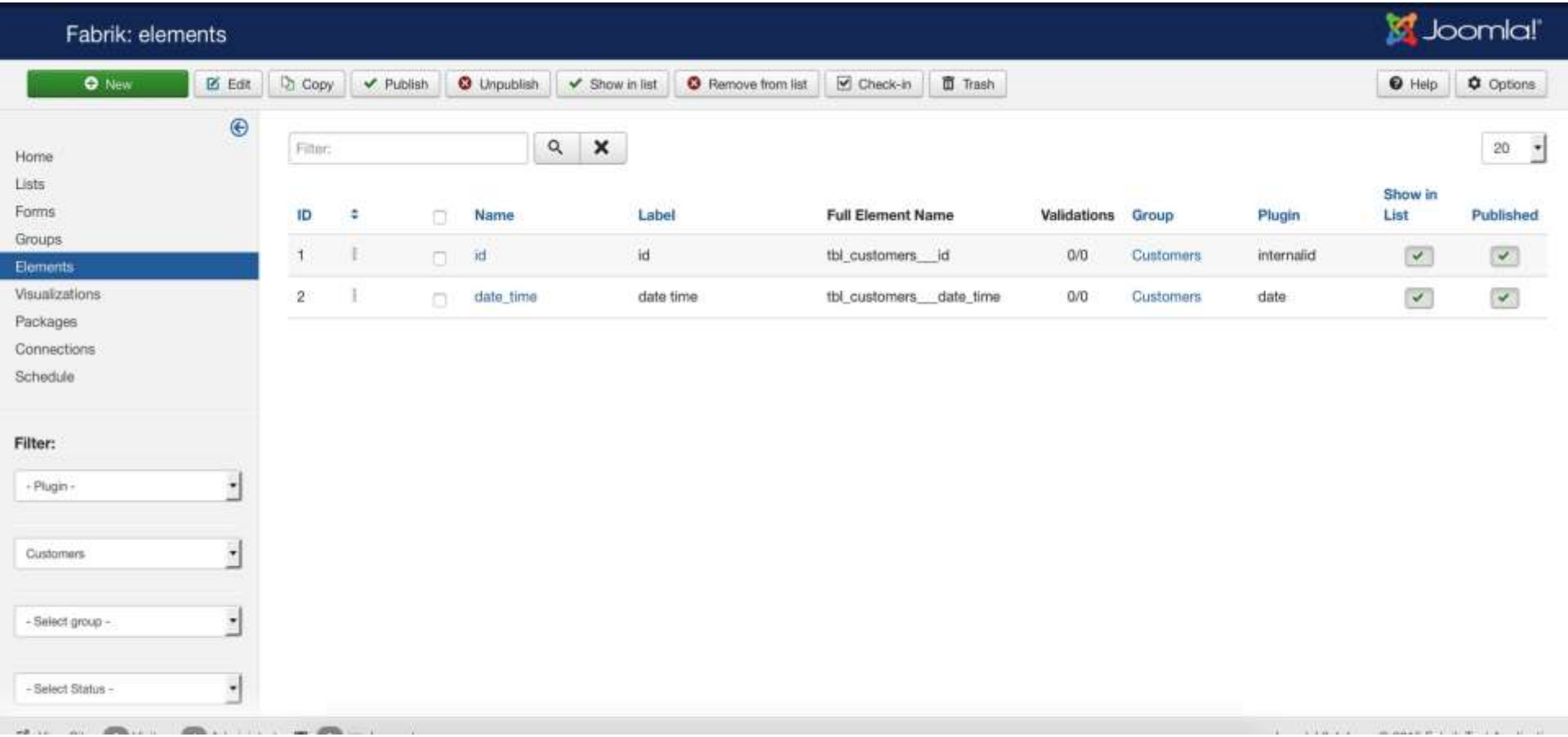
View Your Fabrik Elements (Fields) – Part 2



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Create Your Fabrik Elements

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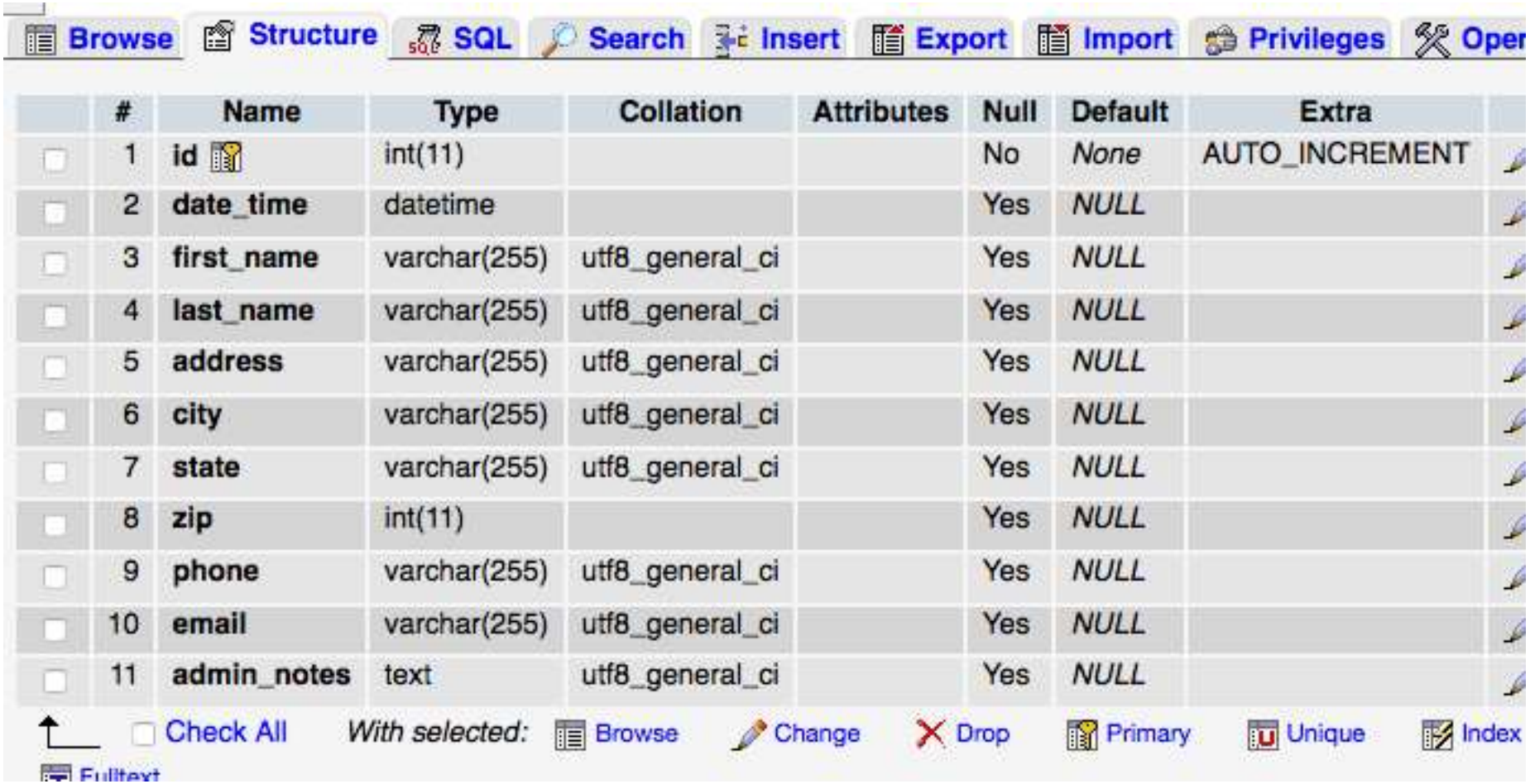
PHPMyAdmin View



	#	Name	Type	Collation	Attributes	Null	Default	Extra
☐	1	id	int(11)			No	*None*	AUTO_INCREMENT
☐	2	date_time	datetime			Yes	*NULL*	
☐	3	first_name	varchar(255)	utf8_general_ci		Yes	*NULL*	
☐	4	last_name	varchar(255)	utf8_general_ci		Yes	*NULL*	
☐	5	address	varchar(255)	utf8_general_ci		Yes	*NULL*	
☐	6	city	varchar(255)	utf8_general_ci		Yes	*NULL*	
☐	7	state	varchar(255)	utf8_general_ci		Yes	*NULL*	
☐	8	zip	int(11)			Yes	*NULL*	
☐	9	phone	varchar(255)	utf8_general_ci		Yes	*NULL*	
☐	10	email	varchar(255)	utf8_general_ci		Yes	*NULL*	
☐	11	admin_notes	text	utf8_general_ci		Yes	*NULL*	

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Create Elements for Movies table

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Create Elements for Rented Table

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What is a Database Join?

- **We will be working with the "LEFT JOIN" keyword**
  - Returns all rows from left table (the table you are joining to) with any matching rows from the right table (the other table). If there are no matching data, it will show as NULL/Blank.
- **Other Join Types**
  - Inner – Joins only matching records
  - Right – Opposite of Left Join! (return all rows from right table with matching from left table. Null in the left side when there is no match)

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Create Menus – View Your 3 Tables

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Create a Database Join in Your List

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What did the DatabaseJoin do?

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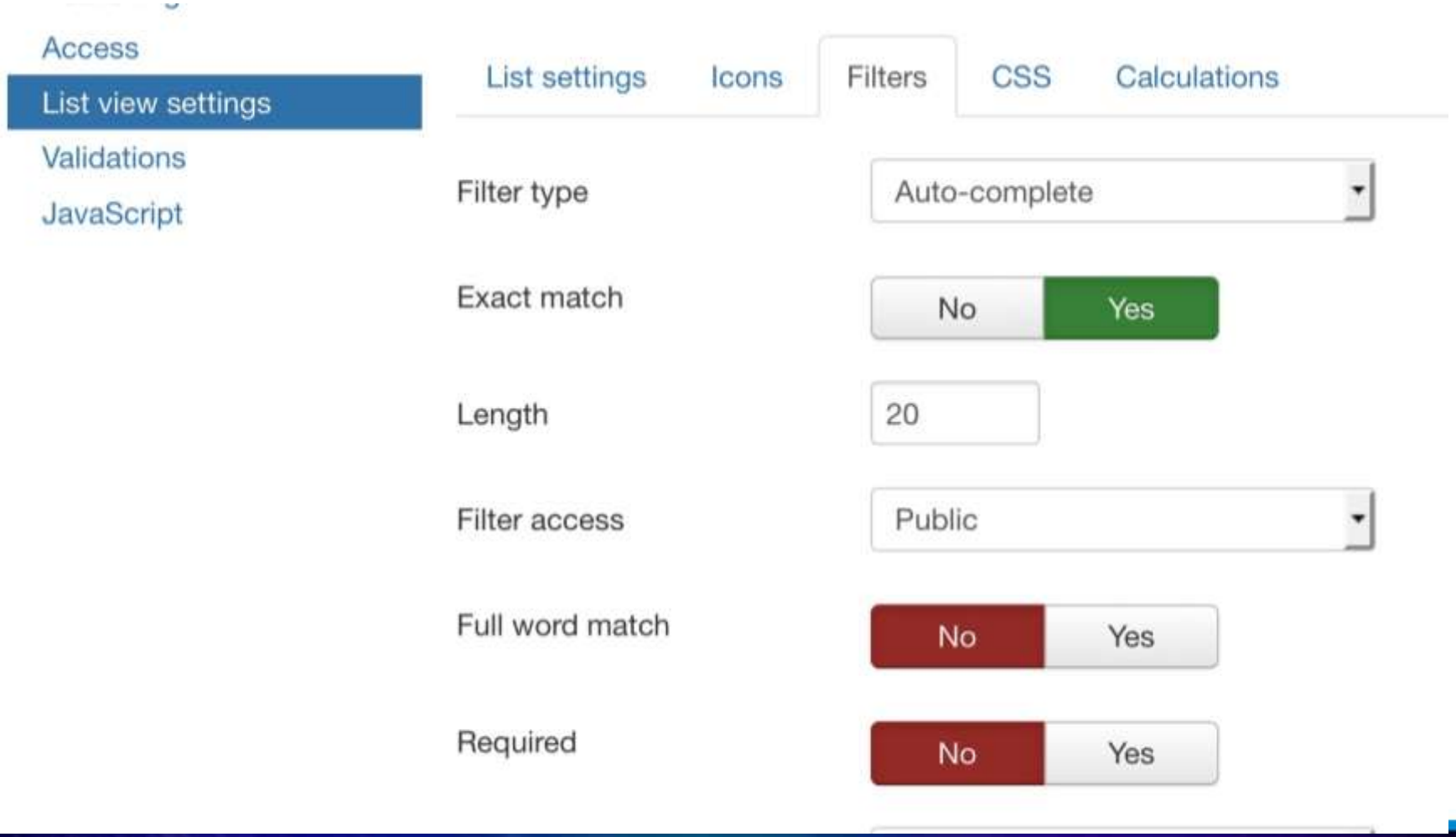
Looking Further - Extending Your Application

Adding Filters - Edit Element (Name and Email)



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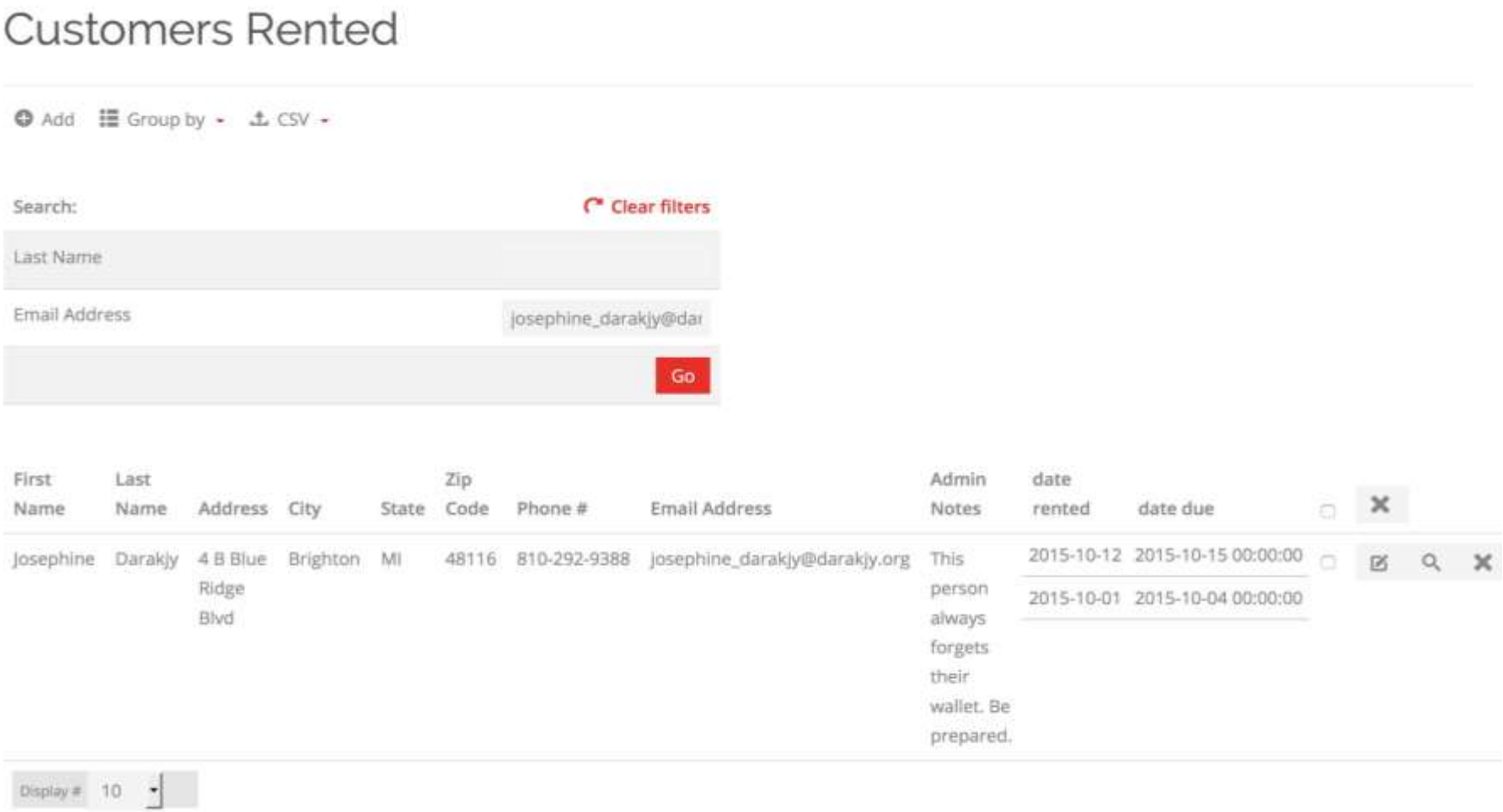
List View – Filters Enabled



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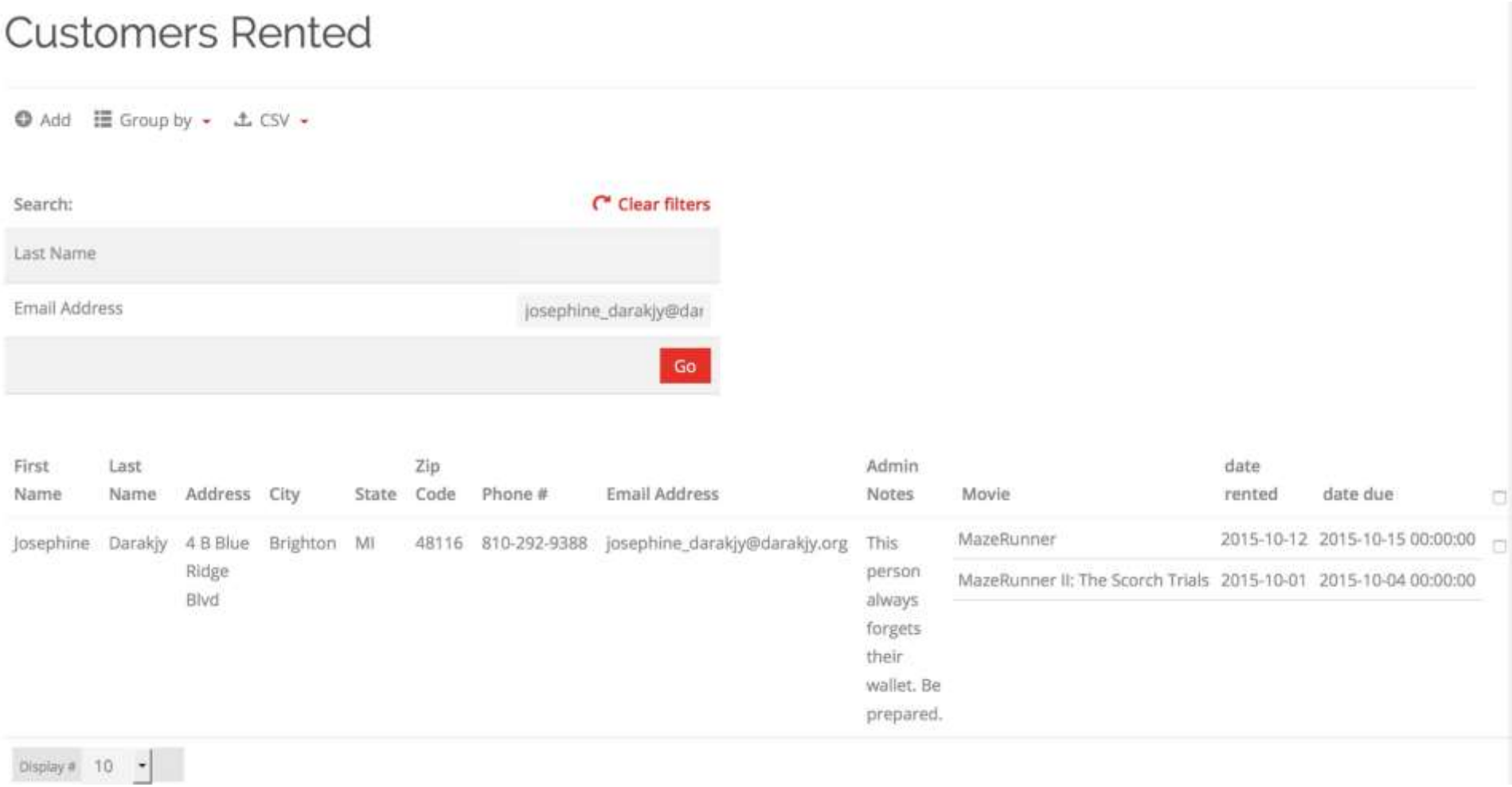
List View – Edit movie_id field



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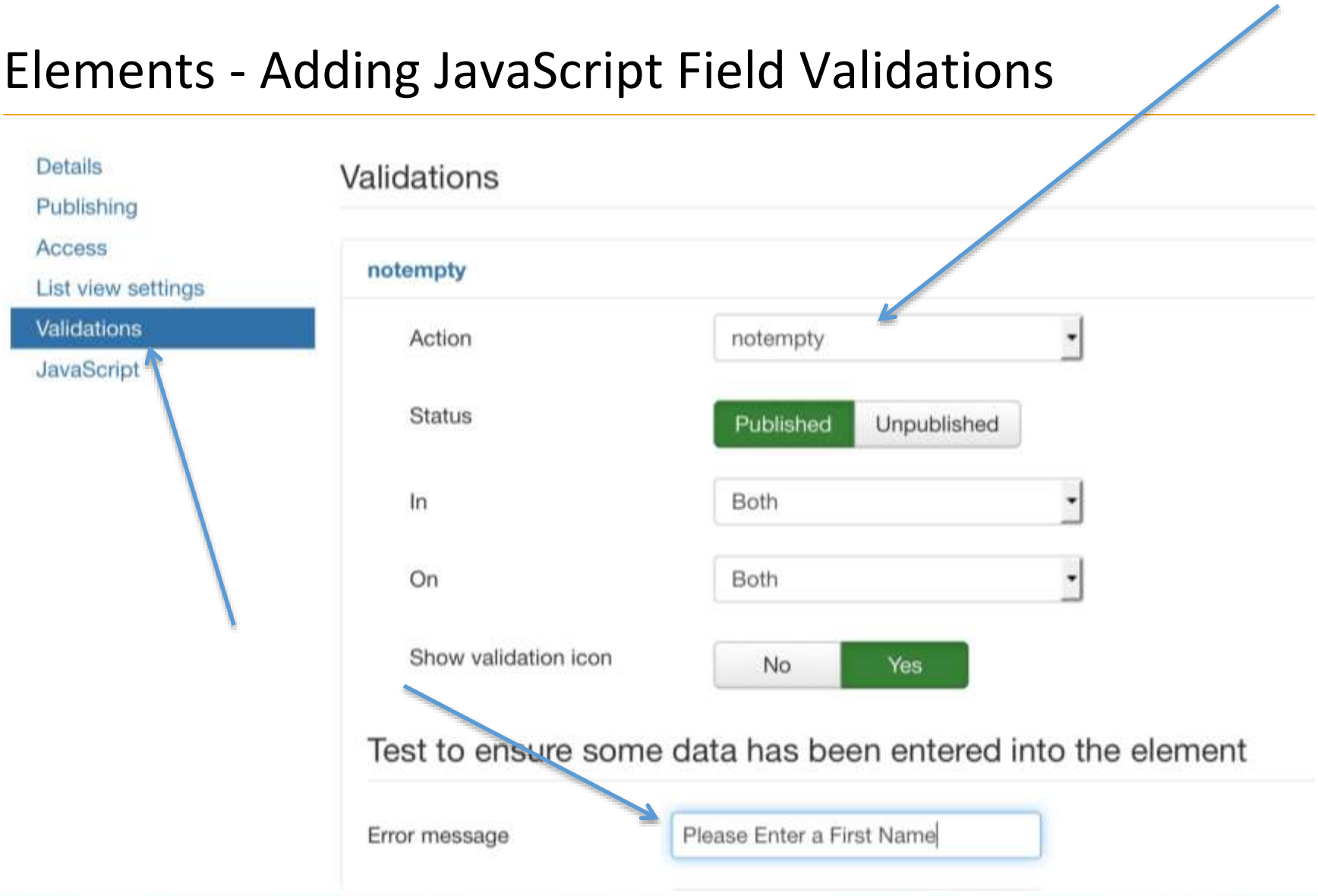
Elements - Adding JavaScript Field Validations



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Working with Groups (optional)

- **Groups are a collection of elements**
- **Can be used to create tabbed form data**
- **Considered similar to <fieldset> html element**
- **Every Element needs to be assigned to a group**
- **You can Set Groups to be Repeated Data if it's a one to many relationship**
  - Setting a group of elements on a table to "repeated data" will create a new database table by default
  - Setting a database join to "repeated data" will remain the same, but allow you to add many items for each parent data

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Repeated Data – Rented Movies

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Working With Access Levels

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Template Overrides and Custom Coding

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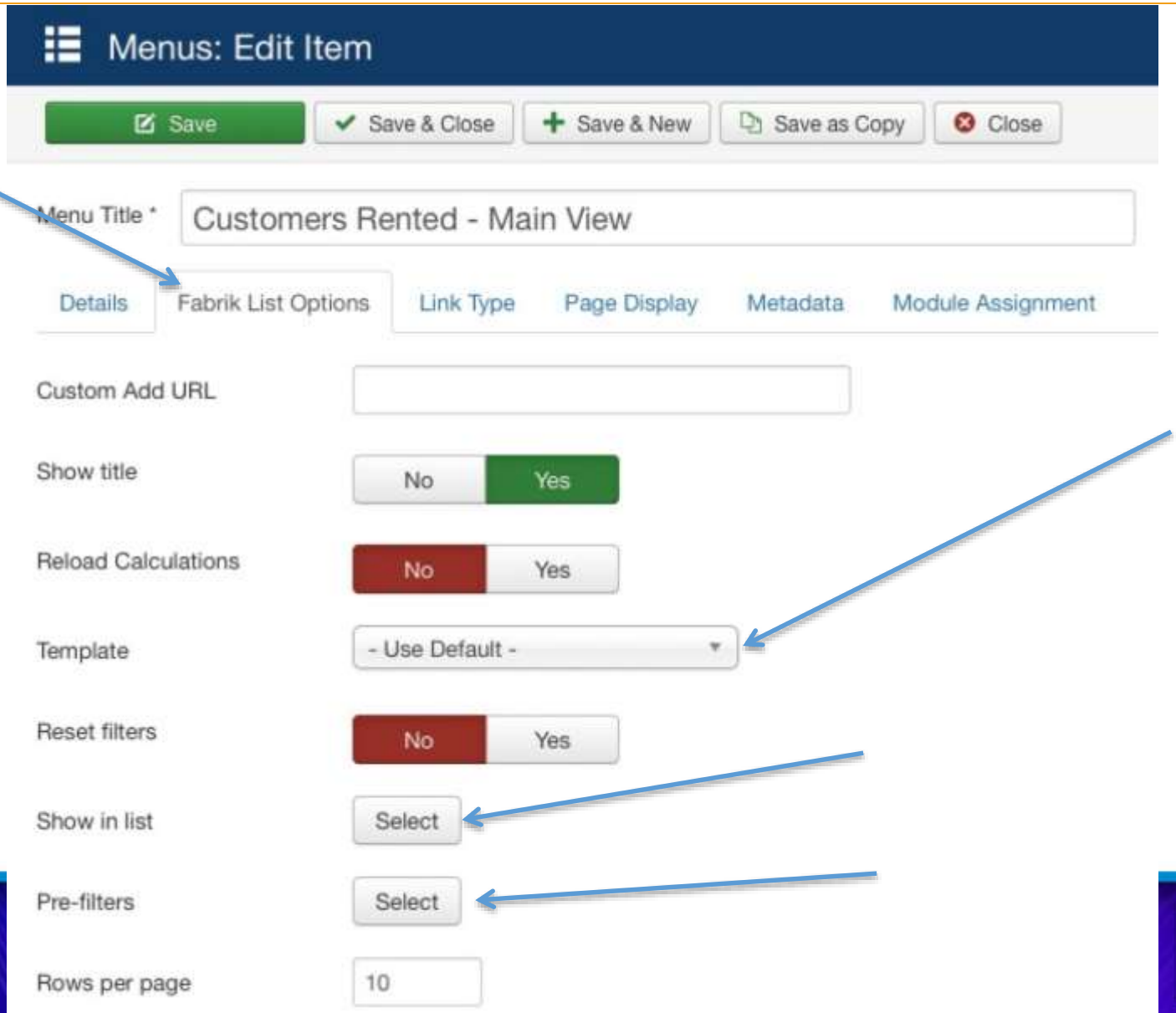
Menu Overrides - Custom Views



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Thank You!!! Questions?

- **Twitter: @TessaMero Follow me!!! :-D**
- **Website: http://tessamero.com**
- **Email: tessa.mero@joomla.org**

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