JoomlaDay™ USA

Make Joomla! CLI-ing!

Why I'm here

- Author of *Developing Extensions for Joomla! 5*
- I love CLI!!
- Some projects I have made with CLI:
  - Create email queues
  - Check renewal subscriptions
  - Update 26000 products in a HikaShop site

Carlos Cámara

The Grand Tour of Today's Adventures

1. Why CLI?
2. Working with the console in Joomla!
3. Writing our first console plugin in Joomla!
4. Adding options to our command

You may download the most recent version of this presentation at:

```
https://developingextensionsforjoomla5.com/jdayusa2025/
```

Why CLI?

s://workchronicles.substack.com/p/comic-automation

A bit of Joomla! Console

```
php cli/joomla.php --list
```

References

Chapter 9

A bit of Joomla! Console

```
Joomla! 5.3.0 (debug: Yes)

Usage:
  command [options] [arguments]

Options:
  -h, --help                     Display the help information
  -q, --quiet                    Flag indicating that all output should be silenced
  -V, --version                  Displays the application version
      --ansi                     Force ANSI output
      --no-ansi                  Disable ANSI output
  -n, --no-interaction           Flag to disable interacting with the user
      --live-site[=LIVE-SITE]    The URL to your site, e.g. https://www.example.com
  -v|vv|vvv, --verbose           Increase the verbosity of messages: 1 for normal output, 2 for more verbose output and 3 for debug

Available commands:
  help                              Show the help for a command
  list                              List the application's available commands
 cache
  cache:clean                       Clean cache entries
 config
  config:get                        Display the current value of a configuration option
  config:set                        Set a value for a configuration option
 core
  core:update                       Update Joomla
  core:update:channel               Manage the update channel for Joomla core updates
  core:update:check                 [core:check-updates] Check for Joomla updates
 database
  database:export                   Export the database
  database:import                   Import the database
 extension
  extension:discover                Discover extensions
  extension:discover:install        Install discovered extensions
  extension:discover:list           List discovered extensions
  extension:install                 Install an extension from a URL or from a path
  extension:list                    List installed extensions
  extension:remove                  Remove an extension
 finder
  finder:index                      Purge and rebuild the index
```

References

Chapter 9

Some usage tips

1. All the commands are run using the command:

```
php cli/joomla.php COMMAND
```

2. You can run the command with the option `--help` to see the available options
3. Common practice is to include the name of the related component to the command name

References

Chapter 9

Adding CLI commands to Joomla!

1. Core Commands are hard-coded into Joomla!
2. To add more commands we can develop a `console` plugin

All plugins are created equal

1. Console plugins have the same structure as other plugins.
2. Console plugins are located in the folder `plugins/console`.
3. For output, we need to be aware we are not dealing with HTML anymore.

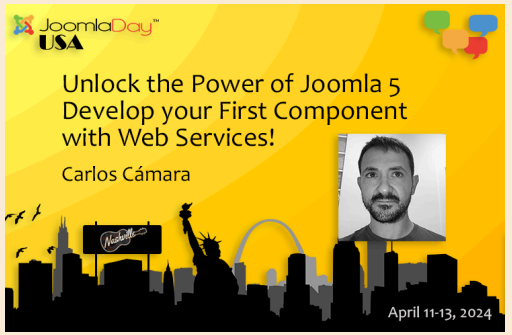
References

Chapter 9

Last year Workshop

1. Clear To-Do list component
2. We are going to create a plugin to check the deadlines for our tasks

References



2024 workshop

Let's start writing our plugin

In your Joomla! installation, create our folder structure:

Create the folder structure:

1. `plugins/console`
2. `plugins/console/services`
3. `plugins/console/src`
4. `plugins/console/src/Extension`
5. `plugins/console/src/CliCommand`

References

Chapter 9

plugins/console/ctl/ctl.xml

```
<extension type="plugin" folder="console" method="upgrade">
...
    <namespace path="src">AwCo\Plugin\Console\ClearTodoList</namespace>
    <files>
        <folder plugin="ctl">services</folder>
        <folder>src</folder>
    </files>
</extension>
```

https://developingextensionsforjoomla5.com/jdayusa2025/live/basic-plugin

References

Chapters 8 and 9

src/CliCommands/TaskDeadlineCommand.php

```php
<?php
namespace AwCo\Plugin\Console\Task\CliCommand;

class TaskDeadlineCommand extends AbstractCommand
{
  protected static $defaultName = 'ctl:deadline';

  protected function configure(): void
  {
    $this->setDescription('Check the deadlines for your tasks.');
    $this->setHelp('Execute ctl:deadline to check the deadlines for your tasks.');
  }

  protected function doExecute(InputInterface $input, OutputInterface $output): int{}

}
```

https://developingextensionsforjoomla5.com/jdayusa2025/live/basic-plugin

References

Chapters 8 and 9

src/Extension/TaskConsolePlugin.php

```php
<?php

namespace AwCo\Plugin\Console\Task\Extension;

use AwCo\Plugin\Console\Task\CliCommand\TaskDeadlineCommand;

class TaskConsolePlugin extends CMSPlugin implements SubscriberInterface
{
    protected $autoloadLanguage = true;

    public static function getSubscribedEvents(): array
    {
        return [
                ApplicationEvents::BEFORE_EXECUTE => 'registerCLICommands'
        ];
    }

    public function registerCLICommands(ApplicationEvent $event): void
    {
        $app = $event->getApplication();

        $app->addCommand(new TaskDeadlineCommand());
    }
}
```

gextensionsforjoomla5.com/
basic-plugin

References

Chapters 8 and 9

services/provider.php

```php
<?php

...
use AwCo\Plugin\Console\Task\Extension\TaskConsolePlugin;

return new class implements ServiceProviderInterface
{
    public function register(Container $container)
    {
        $container->set(
            PluginInterface::class,
            function (Container $container) {
                $dispatcher = $container->get(DispatcherInterface::class);
                $plugin = new TaskConsolePlugin( $dispatcher,
                    (array) PluginHelper::getPlugin('console', 'task')
                );

                return $plugin;
            }
        );
    }
};
```

https://developingextensionsforjoomla5.com/
basic-plugin

References

Chapters 8 and 9

First install

1. We use the nice *Discover* function at Joomla! Backend
2. We enable the plugin in our backend
3. After that, we can run the command:

```
php cli/joomla.php ctl:deadline
```

References

Chapter 9

Adding functionality to our plugin

File: `src/CliCommand/TaskDeadlineCommand.php`

```
class SpmTaskDeadlineCommand extends AbstractCommand
{
  ...

  protected function doExecute(InputInterface $input, OutputInterface $output):  int
  {
      $outputStyle = new SymfonyStyle($input, $output);
      $outputStyle->title('Upcoming deadlines for your tasks');

      $deadlines = $this->getDeadlines();

      $this->showDeadlines($outputStyle, $deadlines);

      return Command::SUCCESS;
  }

}
```

References

Chapter 9

Adding functionality to our plugin

File: `src/CliCommand/TaskDeadlineCommand.php`

```
    protected function getDeadlines(): array
    {
      $days = 42;

      $db = Factory::getContainer()->get(DatabaseInterface::class);
      $query = $db->createQuery();
      $query->select('*')
          ->from('#__spm_tasks');

      $query->where('deadline BETWEEN NOW() AND DATE_ADD(NOW(), INTERVAL ' . $days . ' DAY)');
      $db->setQuery($query);
      $deadlines = $db->loadAssocList('id');

      return $deadlines;
    }

    protected function showDeadlines($outputStyle, $deadlines)
    {
        if (empty($deadlines)) {
            $outputStyle->note('There are no upcoming deadlines for your tasks.');
        } else {
          $outputStyle->table(['Id', 'Task', 'Status', 'Description', 'Deadline', 'Created by'], $deadlines);
        }
    }
```

References

Chapter 9

Adding options to our command

File: `src/CliCommand/TaskDeadlineCommand.php`

```
class SpmTaskDeadlineCommand extends AbstractCommand
{
  protected function configure(): void
  {
      ...

      $this->addOptions();
  }

  protected function addOptions()
  {
      $description = 'Days in the future to check for deadlines.';
      $this->addOption('days', 'd', InputOption::VALUE_OPTIONAL, $description, 7);

      return;
  }
}
```

References

Chapter 9

Passing the options to our command

```
...
  class SpmTaskDeadlineCommand extends AbstractCommand
  {
    ...

    protected function doExecute(InputInterface $input, OutputInterface $output):  int
    {
        $outputStyle = new SymfonyStyle($input, $output);
        $outputStyle->title('Upcoming deadlines for your tasks');

        $options = $this->getOptions($input);

        $deadlines = $this->getDeadlines($options);

        $this->showDeadlines($outputStyle, $deadlines);

        return Command::SUCCESS;
    }

    protected function getOptions($input): array
    {
        $options = [];

        $options = $input->getOptions();

        return $options;
    }
```

References

Chapter 9

Passing the options to our command

```
...
  class SpmTaskDeadlineCommand extends AbstractCommand
  {
    ...

    protected function getDeadlines($options) : array
    {
        $deadlines = [];
        $days = (int)$options['days'];
        if ($days <= 0) {
            $days = 7;
        }
        $db = $this->getDatabase();
        $query = $db->getQuery(true);
        $query->select('id, project, title AS task')
            ->from('#__awco_tasks');
        $query->where('deadline BETWEEN NOW() AND DATE_ADD(NOW(), INTERVAL ' . $days . ' DAY)');
        $query->setQuery($query);
        $deadlines = $db->loadAssocList('id');
        return $deadlines;
    }
  }
```

References

Chapter 9

Ideas for commands

Basic checks for our plugin

- Domain expiration
- SSL expiration
- Disk Usage
- Article published this week

References

Chapter 1

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/1BlVa8j
  - https://web.archive.org/web/20230518080457/https://blog.astrid-guenther.de/en/der-weg-zu-joomla4-erweiterungen/
- Joomla! Documentation
  - https://manual.joomla.org

Thank you!

Get all the code and more articles about Joomla! extension development at:

DevelopingExtensionsForJoomla5.com