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Technote

Alkacon OAMP Calendar Module

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1 Abstract

This document describes the installation, configuration and usage of the Alkacon OpenCms Add-On Module Package Calendar. With the calendar module, it is possible to create different calendar views containing time based events.

The provided elements can easily be integrated in existing template structures and configured to show own, user defined resource types in the calendar view, too.

2 General purpose of the Alkacon OAMP Calendar Module

The module extends a basic OpenCms installation with the capability to display different calendar based views on time based events. It provides the following features:

- Different JSP side elements to be included in an existing template showing a monthly overview or the most recent events.
- Daily, weekly, monthly and yearly overviews can be shown.
- Easy configuration of resource types that should be displayed in the calendar views.
- Shows local holidays like New Year's Day or Christmas.
- Additionally, it is possible to define serial dates appearing more than once in the calendar.

3 Installation

Note: To use the Alkacon OAMP Calendar module, you need at least OpenCms version 7.0.4. The module is not compatible with older OpenCms versions.

Note: The Alkacon OAMP Commons module that is shipped together with the Alkacon OAMP Calendar module is needed. It has to be installed before the Calendar module.

Step by step installation procedure:

1. Go to the OpenCms Administration view
2. Click "Module Management" and select either "Import Module from Server" if the module was placed in the **`WEB-INF/packages/modules/`** folder of your OpenCms installation, or select "Import Module with HTTP" to upload the module from your local file system
3. Select the Alkacon OAMP Calendar module zip file **`com.alkacon.opencms.calendar_1.0.x.zip`** to import
   Note: be sure that you have imported the module **`com.alkacon.opencms.commons_1.0.x.zip`** first.
4. Check if the jar file **`com.alkacon.opencms.calendar.jar`** has been deployed in the **`WEB-INF/lib/`** folder after installation
5. Edit the OpenCms configuration file **`WEB-INF/config/opencms-vfs.xml`** and add the following lines to the widget configuration section:

```
...
<widgets>
  ...
  <widget class="com.alkacon.opencms.calendar.CmsSerialDateWidget"
          alias="SerialDateWidget"/>
  <widget class="com.alkacon.opencms.calendar.CmsSerialDateSelectWidget"
          alias="SerialDateSelectWidget"/>
</widgets>
...
```

6. Restart your servlet container afterwards

4 Module integration

The module cannot be used out of the box; some manual configuration has to be done, especially if you want to integrate the calendar side elements in your own JSP template.

4.1 CSS Style Sheet

The elements and pages that are generated by the Calendar module need a CSS style sheet to be formatted correctly.

Shipped with the module is a CSS file that can be used instantly by integrating it in an existing JSP template. Alternatively, this file can be copied and the styles can be changed to adjust the appearance of the calendar output pages.

Note: In case that the CSS has to be modified, the file should be copied to another module to be sure that it is not accidentally overwritten if the Calendar module is updated in the future.

The CSS file is located in the OpenCms virtual file system (VFS) in a Calendar module folder: **`/system/modules/com.alkacon.opencms.calendar/resources/calendar.css`**.

4.2 Integration of side elements in your template

The module features two different side elements. One is a calendar month overview presenting all entries of the currently displayed month, with links to an overview page. The other is a list of the most current events that will take place in the near future.

Image 1: Example of calendar JSP elements integrated in a template

4.2.1 Integration of the month element

Image 2: Example of an integrated month element in detail

The month JSP element has the following absolute path in the OpenCms VFS: **`/system/modules/com.alkacon.opencms.calendar/elements/calendar-side-month.jsp`**.

The logic whether to display the element or not has to be added in your JSP that includes the element, e.g. it can be based on the presence of the **`calendar.uri`** property, see 5.3 for details.

4.2.2 Integration of the list element

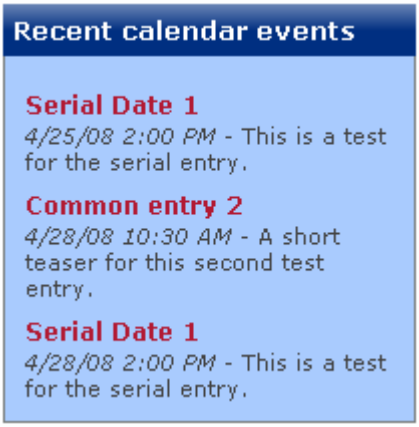

Image 3: Example of an integrated list element in detail

The list JSP element has the following absolute path in the OpenCms VFS: **`/system/modules/com.alkacon.opencms.calendar/elements/calendar-side-currententries.jsp`**.

As with the month element, the logic of how to display it has to be added in the JSP that includes the element.

The number of entries is set to 3 as default value. If you want to change this, pass a request parameter named **`count`** to the included element, with the desired number of entries as value.

Example:

```
<cms:include file="/system/modules/com.alkacon.opencms.calendar/elements/calendar-side-currententries.jsp ">
  <cms:param name="count" value="5" />
</cms:include>
```

This sets the number of entries to show to 5.

5 Module usage

Before the module can be used, an "Alkacon calendar view" file has to be created in your website structure. The property **`calendar.uri`** has to be set (best at a folder, e.g. the site folder), which is pointing to the view file with the absolute path.

After these steps, the calendar will show entries created from "Alkacon calendar entry" and "Alkacon serial date entry" resources found in the complete site structure.

If entries of other resources types should be generated or if the view should be configured differently, have a look at section 5.2.

5.1 Calendar resource types

The module is shipped with three resource types. One is for generating the different calendar overview lists and for advanced calendar configuration, two represent different forms of calendar entries.

All files can be created by using the "New" dialog wizard of OpenCms and by selecting the entry

"Alkacon OAMP calendar" on the first dialog page.

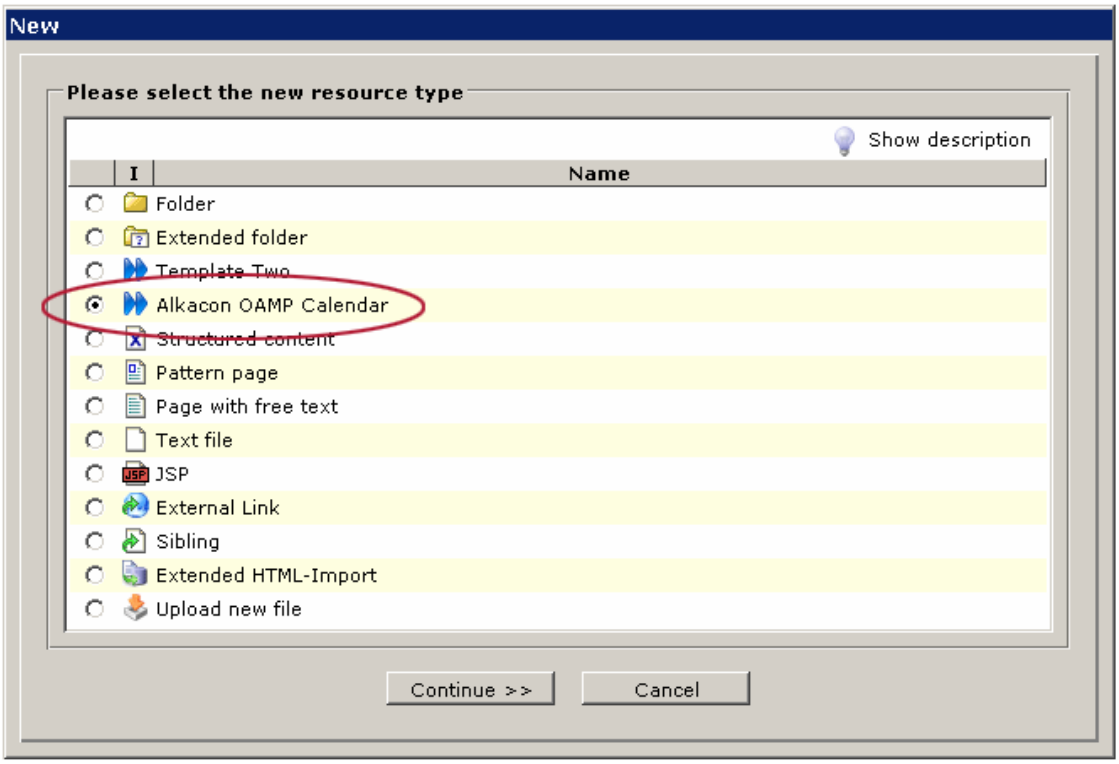

Image 4: New dialog wizard of OpenCms

5.1.1 Alkacon calendar view (alkacon-cal-view)

This resource type generates different calendar overview lists for a daily, weekly monthly or yearly overview.

It tries to include the template "head" and "foot" parts of the JSP template specified in the `template` property of the file or a parent folder.

It can also be used for advanced calendar configuration options.

Note: Be sure to set the `calendar.uri` property with the absolute path to a calendar view file as value, e.g. on your site folder.

More information about the fields of this resource type can be found in section 5.2.

5.1.2 Alkacon calendar entry (alkacon-cal-entry)

Resources of this type represent a single calendar entry. The following fields can be used:

- **Title**: The title of the calendar entry. This will be shown in overview lists and also on the detail page.
- **Teaser**: A short teaser text of an entry. This teaser text will only be shown in calendar overviews and in the list of most recent events.
- **Text**: A rich text field for a detailed description of the entry, this is only shown on the entry detail page.
- **Location**: The location, this is only shown on the entry detail page if it is not left empty.
- **Link**: Optional links for further information, also only used on the entry detail page.

- **Show time**: If checked, the entry date will be shown together with the time information. If not checked, only the date of the entry will be displayed.
- **Date**: The date when the entry takes place.
- **End date (optional)**: The optional end date of the entry.

5.1.3 Alkacon serial date entry (alkacon-cal-serial)

With this resource, it is possible to define reoccurring calendar entries. It has almost the same fields as a common calendar entry, but instead of the Date field, a serial date can be defined.

It is possible to define different serial patterns for daily, weekly, monthly or yearly occurrences. The duration of a series can also be defined in various ways.

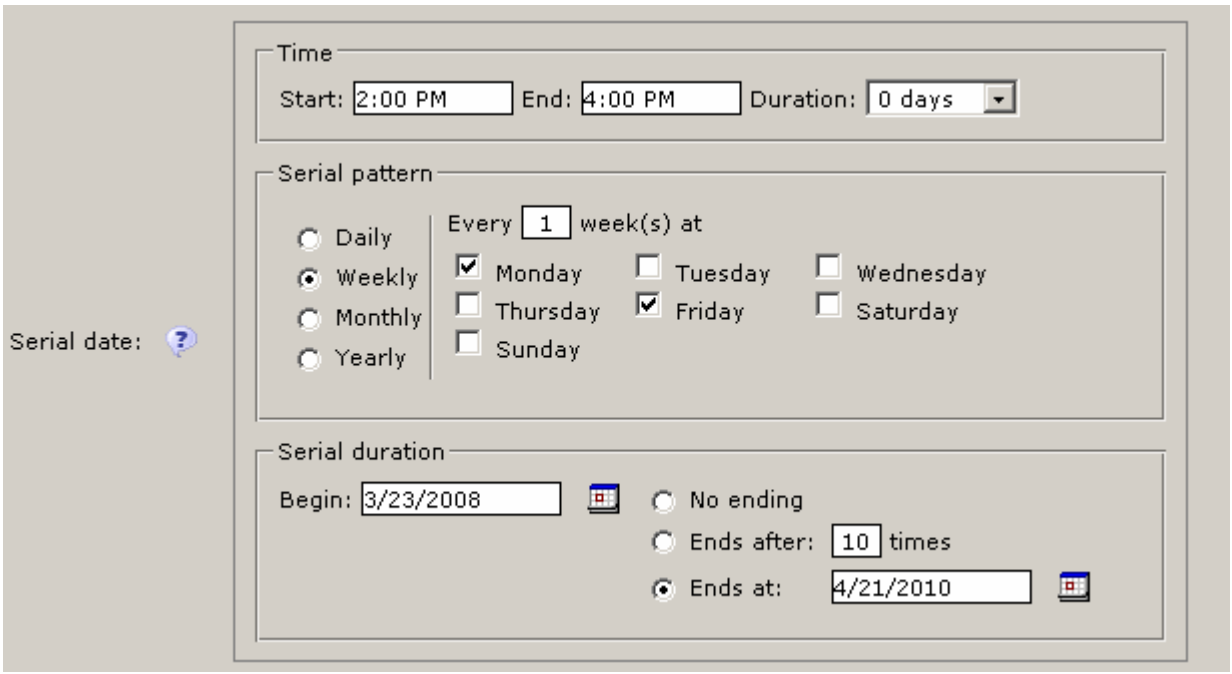

Image 5: Serial date widget that is used to define a serial date

5.1.3.1 Serial date changes

If the date series should display other values at a certain date or should be interrupted at a specific date, a change can be defined.

Therefore, activate an optional "Change" element when editing a serial date entry. One of the first 52 occurrences of the serial date can be changed.

If you activate only the "Change" selector and do not activate any additional elements like "Text" or "Teaser", the selected date will be removed from the date series. As soon as you activate another field, the value entered will be used for the selected date instead of the global value.

5.2 Configuration options of the calendar

All view configuration options of the calendar can be done by editing the used "Alkacon calendar view" file.

The following fields can be used:

- **Title**: The title of the page, this is only used to set the `Title` property on the file, it is not displayed on the displayed overview lists.
- **Text (optional)**: A rich text field that will be shown above all calendar overview lists, if activated.
- **Default view**: The default overview list that is triggered when a day is clicked in the calendar month side element. This can be the daily, weekly, monthly or yearly overview, with the daily overview as default value.
- **Individual entries**: If checked, it is possible to define which entry types should be shown in the calendar in the entry configuration fields. If not checked, the calendar will show only entries from the resource types shipped with the Alkacon OAMP Calendar module.
- **Entry configuration**: Here resource types can be specified that should be shown as entries in the calendar. If additional resource types should be selectable, the XSD `/system/modules/com.alkacon.opencms.calendar/schemas/calendarviewresconf.xsd` has to be adjusted to display the additional types in the select box. The folder where to collect the resources has to be specified, too.
  Note: Resources that should be shown as calendar entries require that some properties are set on them. Please refer to the next section for details.

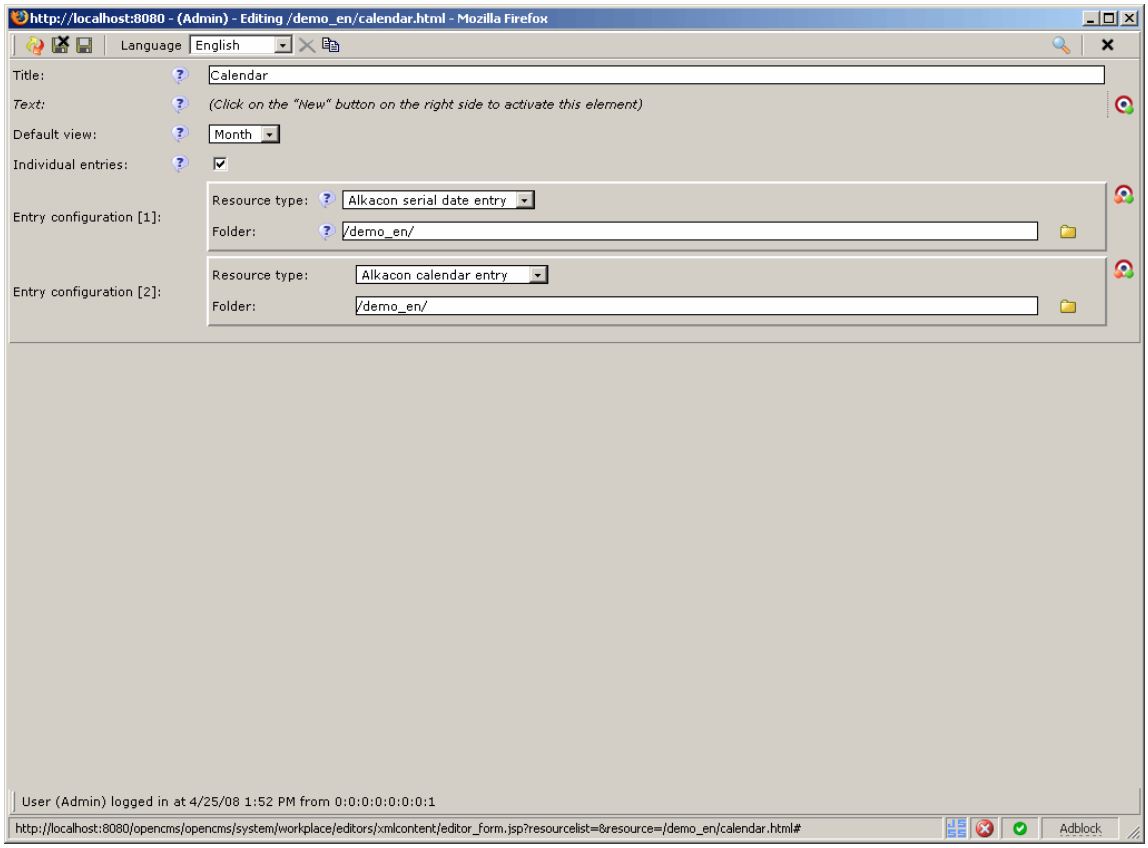

Image 6: Editing a calendar view

5.3 Properties

The calendar introduces some new properties and also uses standard properties to create calendar entries. This section explains the property usage in detail.

5.3.1 Properties used by the calendar

The following properties are used by the calendar:

- **Title**: This property is used as title for calendar entries shown in overview lists.
- **Description**: This property stores the teaser text for calendar entries that is shown in the overviews.
- **calendar.dateserialchange**: Eventual serial date changes are stored (automatically) in the value of this property.
- **calendar.enddate**: The optional end date of an entry that is used for generating the overviews as long value. For serial date entries, this property can also be used to store the class name of a class implementing the `com.alkacon.opencms.calendar.I_CmsCalendarSerialDateContent` interface.
- **calendar.showtime**: Can be `true` or `false` and indicates if the time information should be shown for the entry.
- **calendar.startdate**: The start date of the entry is stored in this value, as long value for common entries and key/value pairs for serial entries.
- **calendar.uri**: The absolute path to the calendar overview page that should be used for calendar configuration and as link target for links when clicking on entries in the calendar month side element. You can set this property e.g. at the site folder.

5.3.2 Properties required to display resources as calendar entries

Resources that should be displayed as calendar entries must have at least the `Title` and the `calendar.startdate` properties set. The optional teaser text for overview lists is stored in the `Description` property.

The `calendar.showtime` property is also optional and determines if the time information for an entry is shown in the calendar views or not.

5.4 Configuration of holidays

The calendar can display local holidays based on the currently used Locale of the page. These holidays can be configured in a resource bundle named holidays that is placed in the OpenCms VFS folder `/system/modules/com.alkacon.opencms.calendar/classes/com/alkacon/opencms/calendar/`.

The bundle files contain the date format that is used for a holiday definition in the key ""calendar.holidays.datepattern" and the holidays that should be displayed in the calendar views. The holiday definitions have the format:

```
{DATE} = {NAME_OF_HOLIDAY};{TYPE_OF_HOLIDAY}
```

The type of a holiday is either 1 (meaning "maybe a holiday") or 2 (meaning "a holiday").

Excerpt of an English holiday configuration file:

```
# Date pattern for holidays that are defined
calendar.holidays.datepattern=MM/dd/yyyy


# Holidays for 2008
1/1/2008=New Year's Day;2
2/14/2008=Valentine's Day;1
3/21/2008=Good Friday;2
3/23/2008=Easter Sunday;2
...
```

Be sure to publish the files after changing them. Restart the servlet container afterwards that the changes take effect.

6 Using the module API

All classes used to generate the front end views, to calculate the entries to show and to manage serial date entries are part of the package **`com.alkacon.opencms.calendar`**.

It contains the following classes:

- **A_CmsCalendarSerialDateOptions**: implements the basic methods of serial date options needed for serial date changes.
- **CmsCalendar**: creates a calendar data structure usable to display different calendar views on the frontend. A calendar contains a list of CmsCalendarEntry objects and a method to filter entries using an initialized I_CmsCalendarView object.
- **CmsCalendarDisplay**: extends CmsCalendar. Provides help methods to display calendar entries for the frontend. This includes methods to get calendar entries for a given date range as well as common settings usable on the frontend to render holiday days and output tables.
- **CmsCalendarEntry**: represents a single calendar entry and provides information about the entry data and entry date.
- **CmsCalendarEntryData**: stores information about the data of a single calendar entry. This is the entry title, description, type, the detail URI in the OpenCms VFS and the weekday status.
- **CmsCalendarEntryDate**:stores the date information of a single calendar entry. This is basically the start and end date of the entry with some helper methods to determine duration and time information more easily.
- **CmsCalendarEntryDateSerial**: stores the serial date information of a single calendar entry.
- **CmsCalendarMonthBean**: provides help methods to display monthly views of calendar entries. This includes methods to build the complete HTML output for a single month and CSS style settings that are used by the build methods.
- **CmsCalendarSerialDateChange**: represents a changed entry in a date series at a certain date.
- **CmsCalendarSerialDateDailyOptions**: options for a daily serial calendar entry. Provides the necessary information about a daily serial calendar entry.

- **CmsCalendarSerialDateFactory**: factory class that provides methods to create serial date instances from a property value Map.
- **CmsCalendarSerialDateMonthlyOptions**: options for a monthly serial calendar entry. Provides the necessary information about a monthly serial calendar entry.
- **CmsCalendarSerialDateWeeklyOptions**: options for a weekly serial calendar entry. Provides the necessary information about a weekly serial calendar entry.
- **CmsCalendarSerialDateYearlyOptions**: options for a yearly serial calendar entry. Provides the necessary information about a yearly serial calendar entry.
- **CmsCalendarStyle**: provides formatting CSS class names to generate the calendar frontend output. This class contains getters and setters to provide CSS class names that should be used to build the calendar side element.
- **CmsCalendarViewSimple**: filters calendar entries to get a sorted list of entries for a simple calendar view like daily, weekly or monthly views.
  Provides a comparator to filter entries for a given date range, returning 0 if the entry is inside the range, and another comparator to sort the found entries by their start date ascending.
- **CmsSerialDateContentBean**: provides methods to generate the detail page of the serial date, depending on the passed request parameter value for the start date. Implements the interface I_CmsCalendarSerialDateContent for the provided serial date resource type.
- **CmsSerialDateSelectWidget**: provides a widget for a serial date select box. This can be used to define changes in the serial date for specific dates.
  The widget can be configured to read the serial date information from a property, the maximum number of available select box options can be configured as well:
  `<layout element="Change" widget="SerialDateSelectWidget" configuration="property:calendar.startdate|count:25" />`.
- **CmsSerialDateWidget**: provides a serial date widget, for use on a widget dialog.
- **CmsSerialDateXmlContentHandler**: Special XML content handler that validates serial date series changes and writes changed occurences to a configurable property value.
- **I_CmsCalendarEntryData**: provides information about the data of a single calendar entry.
- **I_CmsCalendarSerialDateContent**: this can be used to get serial date entries from XML content resources. The serial date entries have to provide the class name of the implementing class in the property `calendar.enddate` value.
- **I_CmsCalendarSerialDateOptions**: the calendar serial date options provide a method to filter entries according to the given view dates. Additionally, the serial type (e.g. weekly or monthly series) has to be provided.
- **I_CmsCalendarView**: A calendar view is used to get user defined views on the entries of a calendar. It contains a list of view dates using the CmsCalendarEntryDate object to determine the start and end date of a view.
  Additionally, a comparator to check if an entry is in the view range has to be defined, as well as a sort method to sort the result list of matching calendar entries for the view.
- **Messages**: convenience class to access the localized messages of the calendar package.

6.1 Configuring another resource type to be used by the calendar

Follow these steps to show another resource type as calendar entry:

- Be sure that the resources of the new type have the required properties set, see section 5.3.2 for details.
- Extend the XSD of the calendar view file to be able to select the resource type, have a look at section 5.2 for details.
- Configure your calendar view file to use individual entries, see also section 5.2.

6.1.1 Configuring another resource type to be used as serial date entry

The creation of a new resource type to be used as serial entry is a bit more difficult.

- Be sure that the element names storing the serial date information and the element nodes for the changes are the same as in the provided serial date content:
  Serial date element: **`Serialdate`** (with widget SerialDateWidget)
  Changes must be stored as nested element of an element **`Change`**, with the sub element **`Change`** (with widget SerialDateSelectWidget) to store the index of the change.
- The XSD of the content must use the serial date XML content handler:
  `<handler class="com.alkacon.opencms.calendar.CmsSerialDateXmlContentHandler" />`
- You have to implement the interface **I_CmsCalendarSerialDateContent** in the case that you have different elements to set the calendar entry data (Title, Teaser, etc.) to ensure that the changes are displayed correctly in the calendar. Have a look at the example implementation **CmsSerialDateContentBean** and use this as a starting point, because it also provides helper methods to show the detail page of a serial entry.
- Every resource of the type must provide the name of the implementing class in the **`calendar.enddate`** property value. This can be automatically added on resource creation by defining the property to set in the resource type definition:

```
<type class="org.opencms.file.types.CmsResourceTypeXmlContent" name="..." id="...">
  <properties>
    <property>
      <name>calendar.enddate</name>
      <value type="shared"><![CDATA[your.package.name.ImplementingClassName]]></value>
    </property>
    <property>
      <name>template-elements</name>
      <value type="shared"><![CDATA[/system/modules/.../pages/detail-....jsp]]></value>
    </property>
       ...
</type>
```