Write a workflow event type

The PHP side of a workflow event type - the class extending eZWorkflowEventType, registerEventType(), setTriggerTypes(), execute() and its statuses, the process parameters, settings per event, deferring to cron, and...

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This page is for PHP developers who add a step that administrators can put into workflows: notify an outside system when content is published, check a field before publishing, wait for an approval. A workflow runs when a trigger fires (for example `content/publish/before` or `after`); each of its events is an instance of an event type, which is a class extending `eZWorkflowEventType`. The complete example with templates is on Writing a workflow event type.

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Registration

```
extension/acmereport/eventtypes/event/acmenotify/acmenotifytype.php
extension/acmereport/settings/workflow.ini.append.php
```

INI

```
<?php /* #?ini charset="utf-8"?
[EventSettings]
ExtensionDirectories[]=acmereport
AvailableEventTypes[]=event_acmenotify
*/ ?>
```

`AvailableEventTypes[]` entries are the group (`event`) and the type string joined by `_`, like the kernel's `event_ezapprove` in `settings/workflow.ini`.

The class

PHP

```php
<?php
class acmeNotifyType extends eZWorkflowEventType
{
    const WORKFLOW_TYPE_STRING = 'acmenotify';

    public function __construct()
    {
        parent::__construct( self::WORKFLOW_TYPE_STRING, ezpI18n::tr( 'extension/acmereport', 'No
tify the archive' ) );
        $this->setTriggerTypes( array( 'content' => array( 'publish' => array( 'after' ) ) ) );
    }

    function execute( $process, $event )
    {
        $parameters = $process->attribute( 'parameter_list' );
        $object = eZContentObject::fetch( (int)$parameters['object_id'] );
        if ( !$object )
            return eZWorkflowType::STATUS_WORKFLOW_CANCELLED;

        acmeReportQueue::add( $object->attribute( 'id' ), (int)$parameters['version'] );
        return eZWorkflowType::STATUS_ACCEPTED;
    }
}

eZWorkflowEventType::registerEventType( acmeNotifyType::WORKFLOW_TYPE_STRING, 'acmeNotifyType' );
```

`setTriggerTypes()` limits the triggers the event can be used with, so administrators cannot attach it where it makes no sense. The kernel's `eZWaitUntilDateType` (`kernel/classes/workflowtypes/event/ezwaituntildate/`) is a complete example.

What execute() receives

Argument	Is
`$process`	the `eZWorkflowProcess`; `$process->attribute( 'parameter_list' )` holds the operation's parameters
`$event`	the `eZWorkflowEvent`, the configured instance: its settings are in its `data_int1`, `data_text1` ... attributes

For the content publish operation the parameters include `object_id` and `version`. Cast them: they are values, not objects.

The statuses

`eZWorkflowType` (`kernel/classes/ezworkflowtype.php`) defines the answers of `execute()`:

Status	Effect
`STATUS_ACCEPTED`	the step is done; the next event runs
`STATUS_REJECTED`	the operation is refused
`STATUS_DEFERRED_TO_CRON`, `STATUS_DEFERRED_TO_CRON_REPEAT`	wait; the workflow cronjob runs the step again

Status	Effect
`STATUS_FETCH_TEMPLATE`, `STATUS_FETCH_TEMPLATE_REPEAT`	show the user a template (a choice, a form)
`STATUS_REDIRECT`, `STATUS_REDIRECT_REPEAT`	send the user elsewhere, for example to a payment provider
`STATUS_WORKFLOW_CANCELLED`	stop the workflow
`STATUS_RUN_SUB_EVENT`, `STATUS_WORKFLOW_RESET`, `STATUS_WORKFLOW_DONE`	special flows of the multiplexer and resets

Settings per event

What an administrator sets for the event in the workflow editor is read by overriding `fetchHTTPInput()` and `validateHTTPInput()` and stored in the event's columns. Ship the templates `workflow/eventtype/edit/event_acmenotify.tpl` and `workflow/eventtype/view/event_acmenotify.tpl` in your design, like the kernel's `event_ezapprove.tpl`.

Deferring to cron

An event that waits (for an approval, a date, an outside answer) returns `STATUS_DEFERRED_TO_CRON_REPEAT`; the `workflow` cronjob script runs `execute()` again later, and **Setup > Workflow processes** shows the waiting processes. The editor sees the publish as pending until the event accepts.

Rules

- **Fast.** `execute()` runs inside the editor's publish request. Queue slow work (outside calls, mail, image processing) instead of doing it there (Background work).
- **No exceptions out of `execute()`.** Catch what can fail, log it, and return a status.
- **Idempotent.** A deferred event runs more than once; make the second run harmless.
- **Logic outside the class.** Put the decision in a service you can test without a workflow.

Event type or event listener?

Need	Use
administrators decide where it runs, in which workflow, in which order	a workflow event type
a step can refuse or pause an operation	a workflow event type
your code reacts to something the kernel does, always	an event listener (Events, listeners and filters)

Related pages

- Workflows, triggers and events
- eZWorkflowType API

- Workflow event pattern
- Free documentation: this page is free to copy, translate and improve under the GNU FDL 1.3.

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