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# Testing an ESProducer

Complete: ◻️

## Introduction

To test to see if an ESProducer does anything, one needs to `get` the data supplied by that ESProducer from the Record to which it was placed. Such a `get` is best done from an EDAnalyzer since an analyzer can be placed on a *path* and therefore will be run once events are processed.

This is a very standard activity so we have some testing modules pre-made that can help you do the work.

## EventSetupRecordDataGetter

This module can be configured to `get` any data from any EventSetup Record.

Parameters used by module

| name | type | description |
|------|------|-------------|
| verbose | untracked bool | when true it prints a statement for each successful `get`. Default is false. |
| toGet | VPSet | holds records and data to `get` |

Parameters expected in *toGet* parameter

| name | type | description |
|------|------|-------------|
| record | string | name of the record holding the data |
| data | vstring | names of the data to get from the record. If a label must also be used to `get` the data then the data name and the label are both in the string but separated by a '/' with the data name coming first. |

## EmptySource (formerly named EmptyInputService)

This module creates empty events. This is useful when you want to trigger the EventSetupRecordDataGetter and not actually do anything with the Event. (In CMSSW_0_1_0 and previous releases, this module was called EmptyInputService)

Parameters used by module

| name | type | description |
|------|------|-------------|
| maxEvents | untracked int32 | maximum number of events to generate. Defaults to infinity (-1). |
| firstRun | untracked uint32 | first run number to generate. Defaults to 1. ( *added pre8* ) |
| numberEventsInRun | untracked uint32 | number of events to generate per run. Defaults to maxEvents. ( *added pre8* ) |
| firstTime | untracked uint32 | first time value to use (in ns). Defaults to 1 ns. ( *added pre8* ) |
| timeBetweenEvents | untracked uint32 | number of ns between Events. Defaults to 5000000 ns (200 Hz). ( *added pre8* ) |

# EmptyESSource

This module creates empty EventSetup Records using the IOVs provided. This module is only useful for testing if the ESProducer being tested does not get any data from the Record (or that data for the Record is being 'faked up' by another ESProducer).

Parameters used by module

| name | type | description |
|---|---|---|
| recordName | string | name of the Record which should be created |
| firstValid | vuint32 | a list of the run numbers (or time) for the start of each IOV transition. Set to '1' if you want valid for all time |
| iovIsRunNotTime | bool | 'true' means 'firstValid' has run numbers, 'false' means it is time |

# Review Status

| Reviewer/Editor and Date (copy from screen) | Comments |
|---|---|
| ChrisDJones - 29 Jul 2005 | page created |
| ChrisDJones - 04 Oct 2006 | page content last edited |
| JennyWilliams - 07 Feb 2007 | editing to include in SWGuide |

Responsible: ChrisDJones
Last reviewed by: Reviewer

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This topic: CMSPublic > SWGuideHowToTestAnESProducer
Topic revision: r7 - 2007-07-30 - ChrisDJones