uMirror

(version beta 0.9.0)

Introduction
How it works
Installation
Create a Project
Define hierarchy and mappings
Implement a uMirror proxy
Start process
Schedule task
Import and export project
Samples (CNN news)

Introduction

uMirror keeps your Umbraco instance's published content in sync with any external datasource.

It has been designed and tested to work with large amounts of data and comes with an integrated task scheduler and manager.

uMirror is the perfect tool to migrate Umbraco content from an old version when upgrading and also for importing data from any data source.

How it works

uMirror mirrors any changes in an external data source to Umbraco's published content using an XML representation of the data source, which can either be predefined or generated at execution time.

uMirror is an Umbraco backoffice extension which allows a very easy mapping, step by step, between the content's structure from Umbraco and the external data source's XML representation.

uMirror works with any standard XML format, the XML file doesn't have to implement a specific schema. In fact, if the external data source has an XML representation it can be used directly. If the data source doesn't have an XML representation uMirror can call a proxy method to create it from the source.

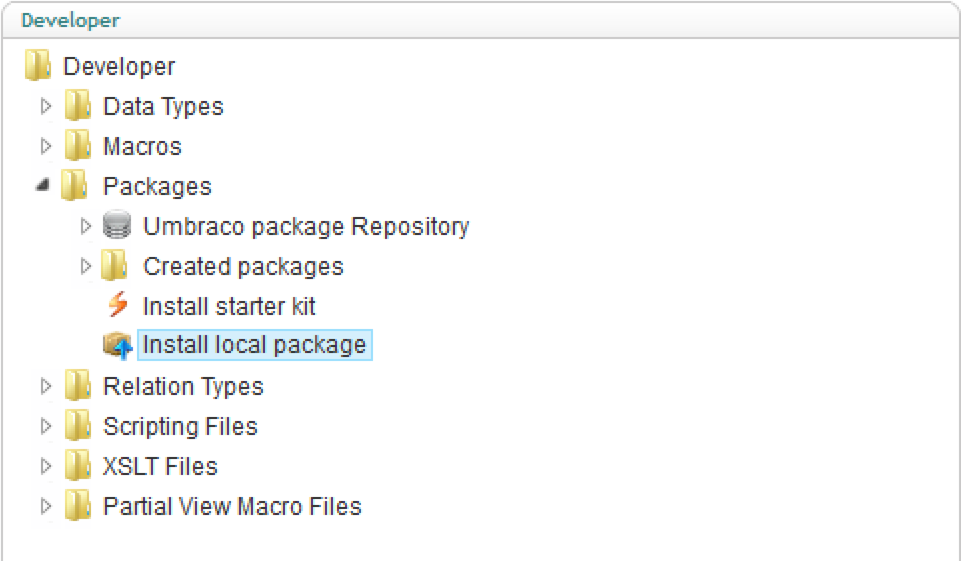
Installation

1. Download uMirror package for Umbraco

Download uMirror here: http://our.umbraco.com/…

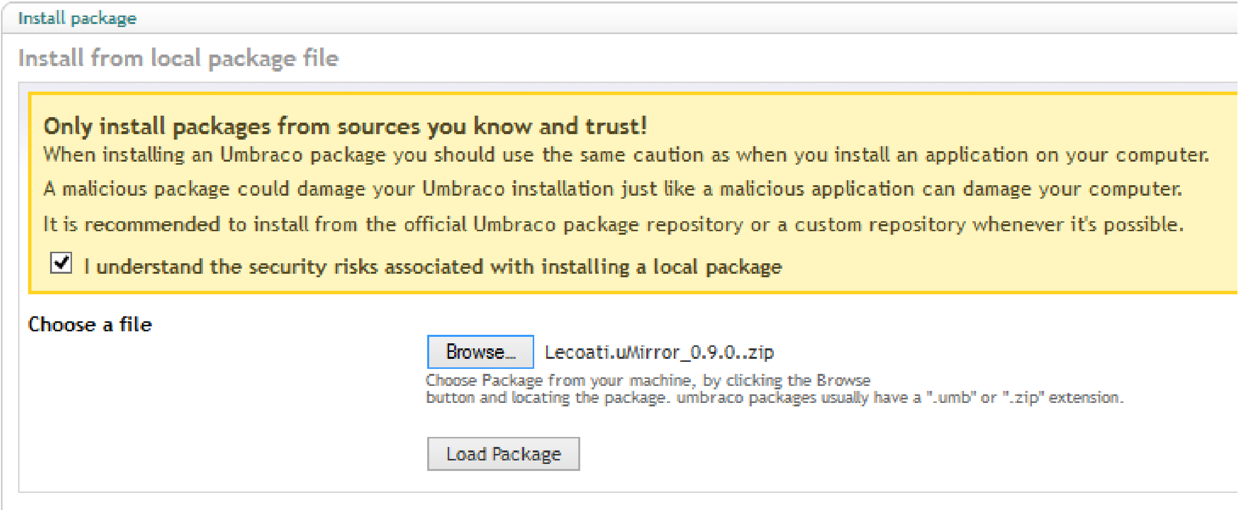
2. Browse to the developer section

In order to install uMirror you'll need access to the developer section of your Umbraco instance.



3. Browse to Packages → Install local package

Upload the uMirror package and click Load Package.



Install from local package file

Only install packages from sources you know and trust!

When installing an Umbraco package you should use the same caution as when you install an application on your computer.

A malicious package could damage your Umbraco installation just like a malicious application can damage your computer.

It is recommended to install from the official Umbraco package repository or a custom repository whenever it's possible.

☑ I understand the security risks associated with installing a local package

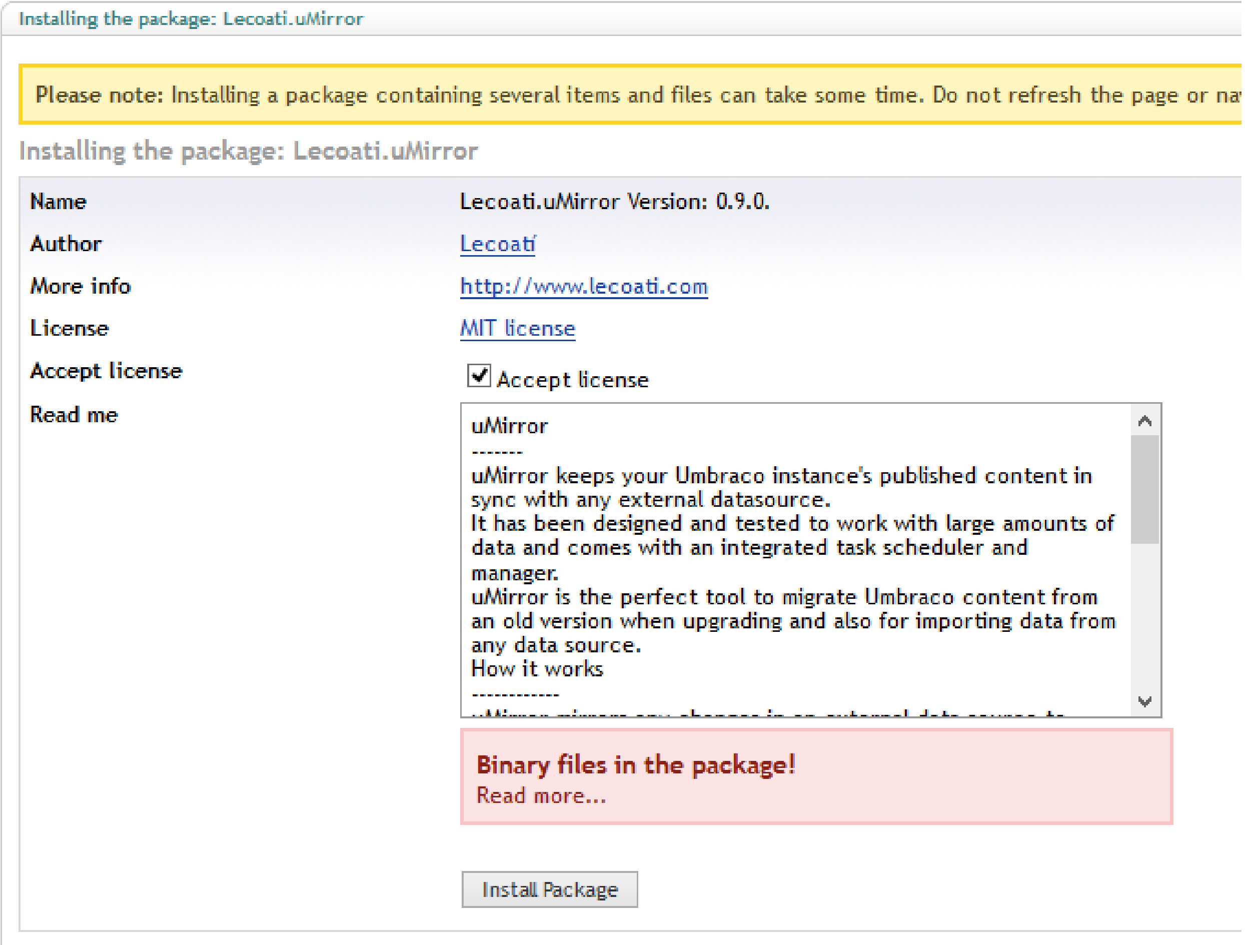
Choose a file

Lecoati.uMirror_0.9.0..zip

Choose Package from your machine, by clicking the Browse button and locating the package. umbraco packages usually have a ".umb" or ".zip" extension.

4. Accept licence and continue with installation

You'll need to check the accept licence checkbox before proceeding with the installation.



Installing the package: Lecoati.uMirror

Please note: Installing a package containing several items and files can take some time. Do not refresh the page or na

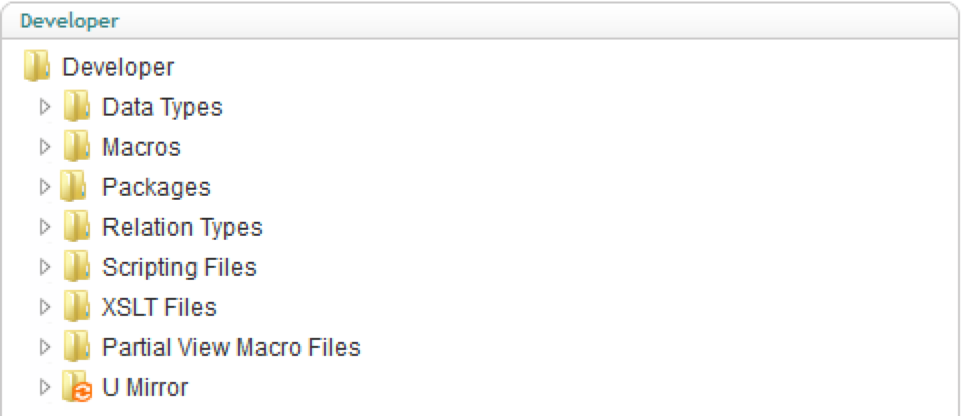
Installing the package: Lecoati.uMirror

Name	Lecoati.uMirror Version: 0.9.0.
Author	Lecoati
More info	http://www.lecoati.com
License	MIT license
Accept license	☑ Accept license
Read me	uMirror ------- uMirror keeps your Umbraco instance's published content in sync with any external datasource. It has been designed and tested to work with large amounts of data and comes with an integrated task scheduler and manager. uMirror is the perfect tool to migrate Umbraco content from an old version when upgrading and also for importing data from any data source. How it works ------------ uMirror mirrors any changes in an external data source to

Binary files in the package!
Read more...

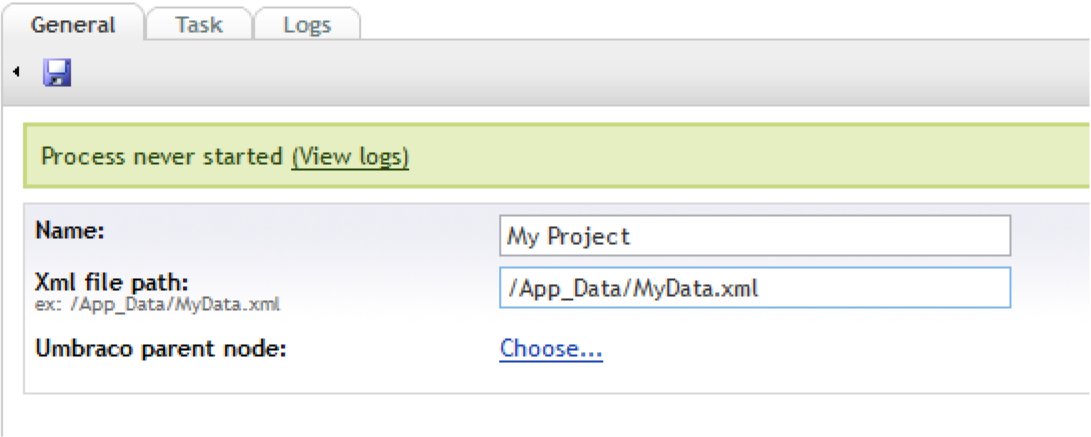
5. Start using uMirror

After uMirror has been installed, the uMirror folder will appear in the left sidebar.



Create a Project

1. In the Developer section, right click the uMirror folder and select “Create”.
2. In the dialog popup, enter the project name and click “Create”.
3. In the project detail page, enter the relative path of the XML file.
   If the data source doesn’t have an XML representation, please see section “Implement a uMirror proxy”.
4. Select the parent node where the data will be imported.



Process never started (View logs)

Name: My Project

Xml file path: /App_Data/MyData.xml
ex: /App_Data/MyData.xml

Umbraco parent node: Choose...

Define hierarchy and mappings

In the project, we will define the hierarchical structure of the mappings between the elements from the source and Umbraco’s content.

Each node of this hierarchy defines a map between an Umbraco document type and an element from the XML.

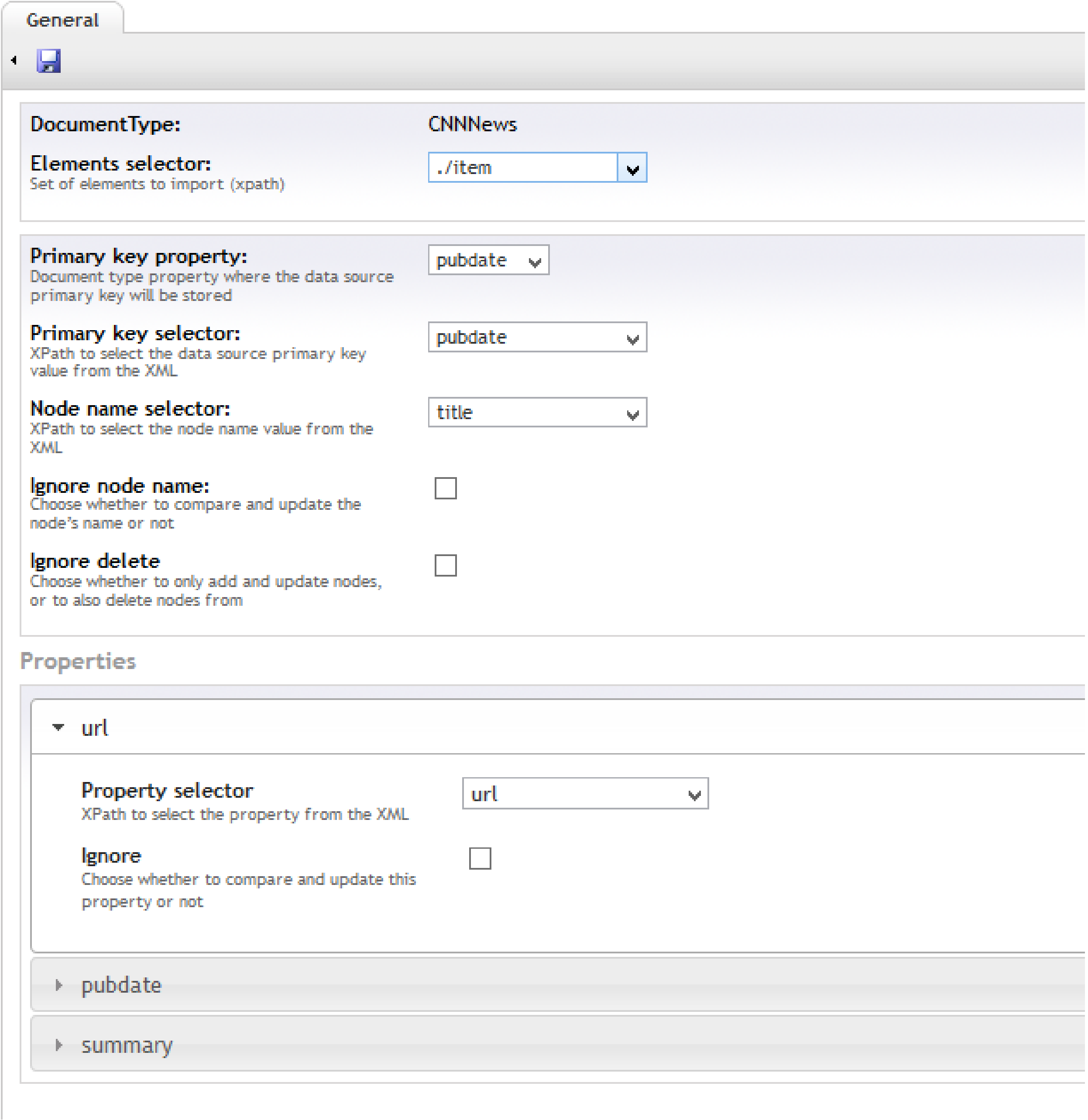
This structure is almost always the same as the Umbraco content structure.

Create a node:

1. Right click the project or parent node and click Create.
2. Choose the document type of the node.
3. On the node details page:
   a. Enter the XPath to select the set of elements to import from the XML.
   b. Enter the document type property where the data source primary key will be stored.
   c. Enter the XPath to select the data source primary key value from the XML.
   d. Enter the XPath to select the node name value from the XML.
   e. Choose whether to compare and update the node’s name or not.

f. Choose whether to only add and update nodes, or to also delete nodes from Umbraco's content that no longer exist in the source.

4. For each of the document type properties:
    a. Enter the XPath to select the property from the XML.
    b. Choose whether to compare and update this property or not.



General

DocumentType:	CNNNews
Elements selector: Set of elements to import (xpath)	./item
Primary key property: Document type property where the data source primary key will be stored	pubdate
Primary key selector: XPath to select the data source primary key value from the XML	pubdate
Node name selector: XPath to select the node name value from the XML	title
Ignore node name: Choose whether to compare and update the node's name or not	□
Ignore delete Choose whether to only add and update nodes, or to also delete nodes from	□

Properties

url

Property selector XPath to select the property from the XML	url
Ignore Choose whether to compare and update this property or not	□

pubdate

summary

Implement a uMirror proxy

Before any import, uMirror can call a user-defined proxy method to create the XML file from the source.

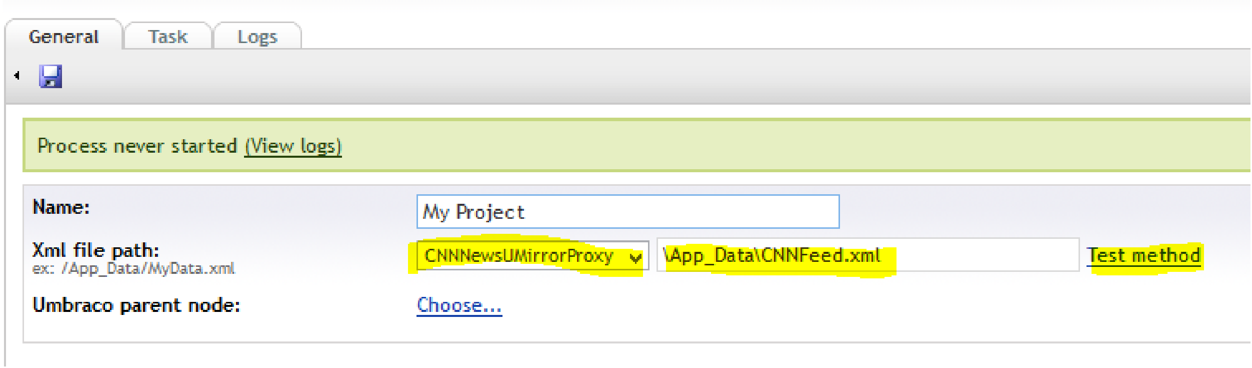
To implement this method, you just have to create a new class (App_Code or dll) which inherits from Lecoati.uMirror.Core.uMirrorExtension and create a method with the attribute [UMirrorProxy("xml file path")]

```
using Lecoati.uMirror.Core;

public class uMirrorExt : uMirrorExtension
{
   [UMirrorProxy(" { relative path of the XML file } ")]
   public static void MyCustomMethod()
   {
      // TODO: Create the XML proxy here
   }
}
```

Once the method is implemented it will appear in the project detail page in the property "XML file path".

uMirror allows you to do a test run of your XML generation method. The generated XML is placed in App_Data and its name is defined in your proxy method. An advantage of doing the test run is that uMirror uses the generated XML to suggest property names when defining the data source to Umbraco mappings.



Process never started (View logs)

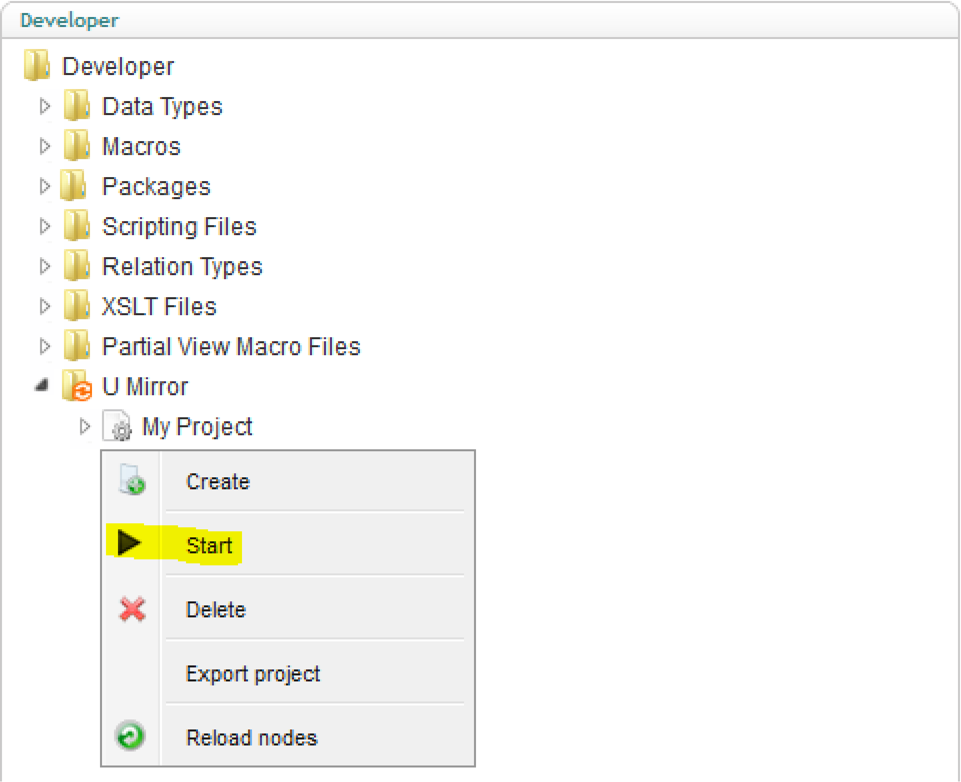
Name: My Project

Xml file path: CNNNewsUMirrorProxy \App_Data\CNNFeed.xml Test method
ex: /App_Data/MyData.xml

Umbraco parent node: Choose...

Start process

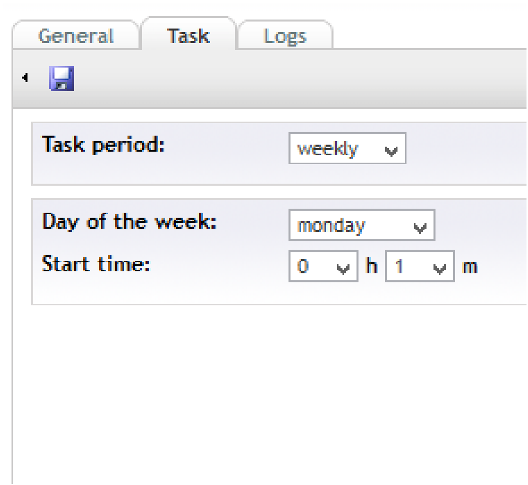
Right click the project folder and click “Start”, which will open a new window allowing you to start the process.



Schedule task

In the project detail page click on the “Task” tab and configure how often you want to schedule the process.

Take into account that the schedule task uses the native TaskScheduler system from Umbraco, your application has to be alive for the scheduler to work.



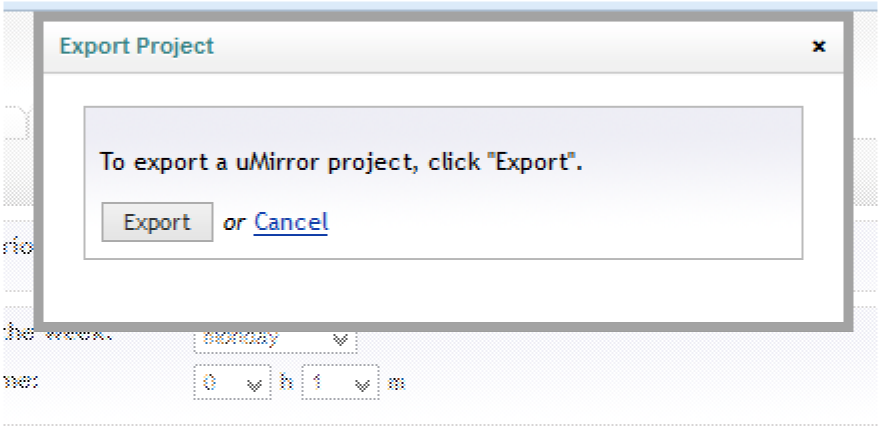
Task period: weekly

Day of the week: monday

Start time: 0 h 1 m

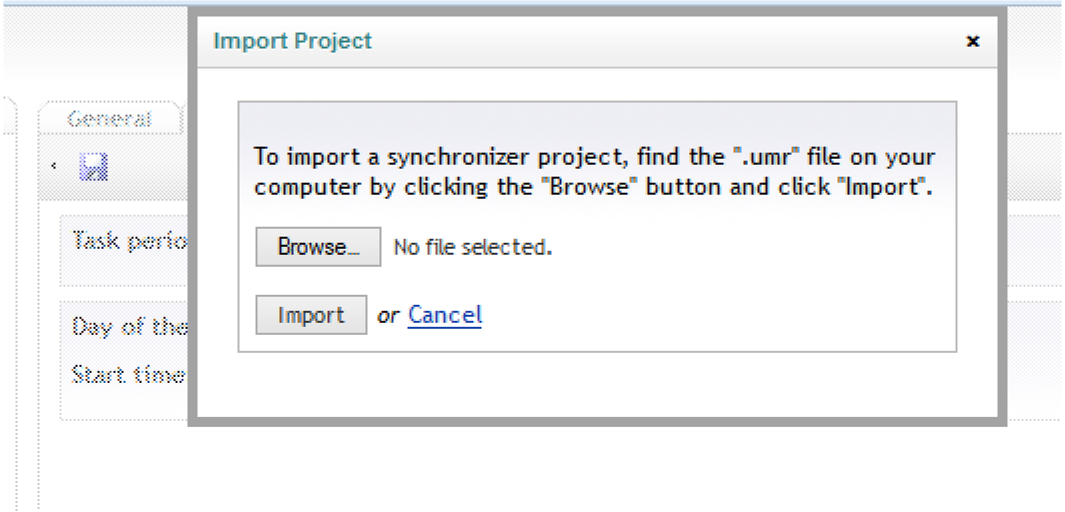
Import and export project

Export:
Right click the project folder you want to export and click “Export”.
The file created has a “.umr” extension.


Export Project

To export a uMirror project, click "Export".

Import :
Right click the uMirror folder and click “Import”, browse to a “.umr” file and click “Import”.



Import Project

To import a synchronizer project, find the ".umr" file on your computer by clicking the "Browse" button and click "Import".

Samples (CNN news)

In this short sample we will import news from CNN's feed (http://rss.cnn.com/rss/edition.rss) and keep it synchronized, organized in folders by year and month.

1. Implement the proxy method

Create a new class file in the App_Code folder called “CNNNewsUMirrorExtension.cs” with the following code.

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Web;
using Lecoati.uMirror.Core;
using System.Xml;
using System.ServiceModel.Syndication;
using System.Xml.Linq;

public class CNNNewsUMirrorExtension : uMirrorExtension
{

    const string FilePath = "\\App_Data\\CNNFeed.xml";

    [UMirrorProxy(FilePath)]
    public static void CNNNewsUMirrorProxy()
    {

        // Load CNN feed
        string url = "http://rss.cnn.com/rss/edition.rss";
        XmlReader reader = XmlReader.Create(url);
        SyndicationFeed feed = SyndicationFeed.Load(reader);
        reader.Close();

        // Order the feed item by year and month in an XDocument
        XElement CNNNews = new XElement("CNNNews");
        XDocument myXDocument = new XDocument(CNNNews);
        foreach(var year in feed.Items
            .Select(r => r.PublishDate.ToString("yyyy")).Distinct().OrderBy(r => r))
        {
            XElement xEleYear = new XElement("Year", new XAttribute("value", year));
            CNNNews.Add(xEleYear);
            foreach(var month in feed.Items.Where( r =>  r.PublishDate.ToString("yyyy") == year )
                .Select(r => r.PublishDate.ToString("MM")).Distinct().OrderBy(r => r))
            {
                XElement xEleMonth = new XElement("Month", new XAttribute("value", month));
                xEleYear.Add(xEleMonth);
                foreach(var item in feed.Items
                    .Where( r =>  r.PublishDate.ToString("yyyyMM") == year + month ))
                {
                    XElement xEleItem = new XElement("item",
                        new XElement("title", item.Title.Text),
                        new XElement("source", item.Links[0].Uri.ToString()),
                        new XElement("url", item.Links[0].Uri.ToString()),
                        new XElement("pubdate", item.PublishDate.ToString("r")),
                        new XElement("summary",item.Summary.Text));
                    xEleMonth.Add(xEleItem);
                }
            }
        }

        // Save the Xml
        myXDocument.Save(HttpContext.Current.Server.MapPath(FilePath));

    }
}
```

In this method, we load CNN’s feed and classify its items by year and month into an XML which will then be imported into Umbraco content.

2. Document Types

First of all, we have to create two new document types:

CNNNews:

- Url (textstring)
- Pubdate (textstring)
- Summary (textbox multiple)

CNNDateFolder

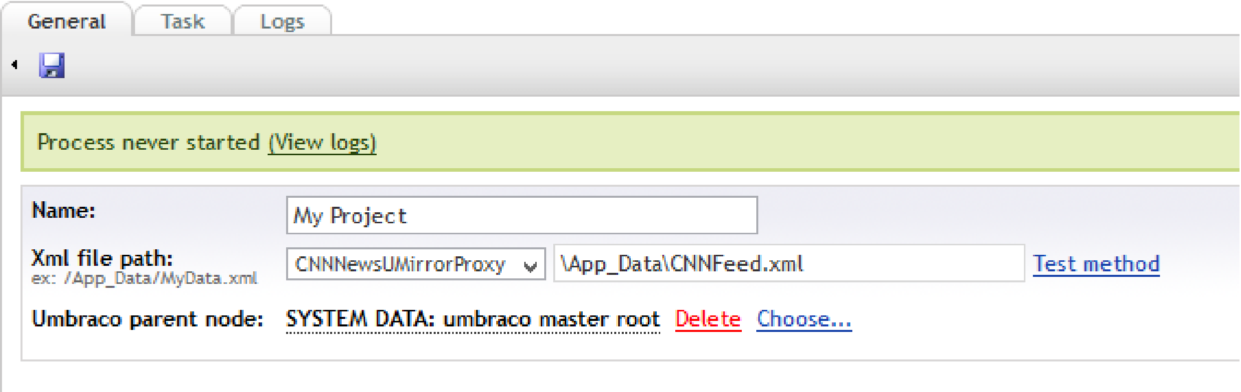
- Date (textstring)

3. New project

In the Developer section right click on uMirror and create a new project called “CNN news”.

In the “XML file path” property choose the method we just created. The output path for the generated XML file will appear next to the selected method.
Select where in the document tree you want add the CNN News.

Save the project and click on “Test method” to be sure the proxy is working fine (you can have a look at the file created in the App_Data folder).



Process never started (View logs)

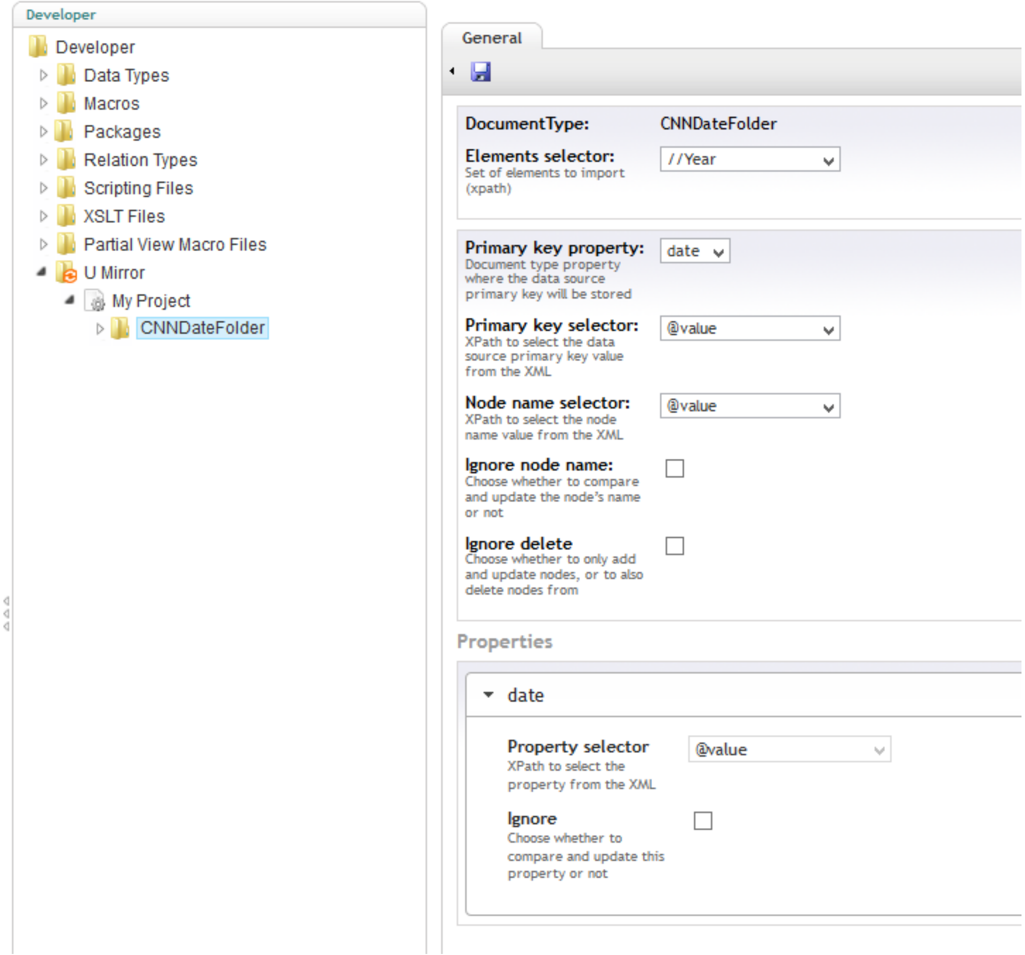
Name: My Project

Xml file path: CNNNewsUMirrorProxy \App_Data\CNNFeed.xml Test method
ex: /App_Data/MyData.xml

Umbraco parent node: SYSTEM DATA: umbraco master root Delete Choose...

4. Mapping the document type

In the project “CNN news”, create a new node for the document type “CNNDateFolder” with the following configuration:



DocumentType: CNNDateFolder

Elements selector: //Year
Set of elements to import (xpath)

Primary key property: date
Document type property where the data source primary key will be stored

Primary key selector: @value
XPath to select the data source primary key value from the XML

Node name selector: @value
XPath to select the node name value from the XML

Ignore node name: □
Choose whether to compare and update the node's name or not

Ignore delete □
Choose whether to only add and update nodes, or to also delete nodes from

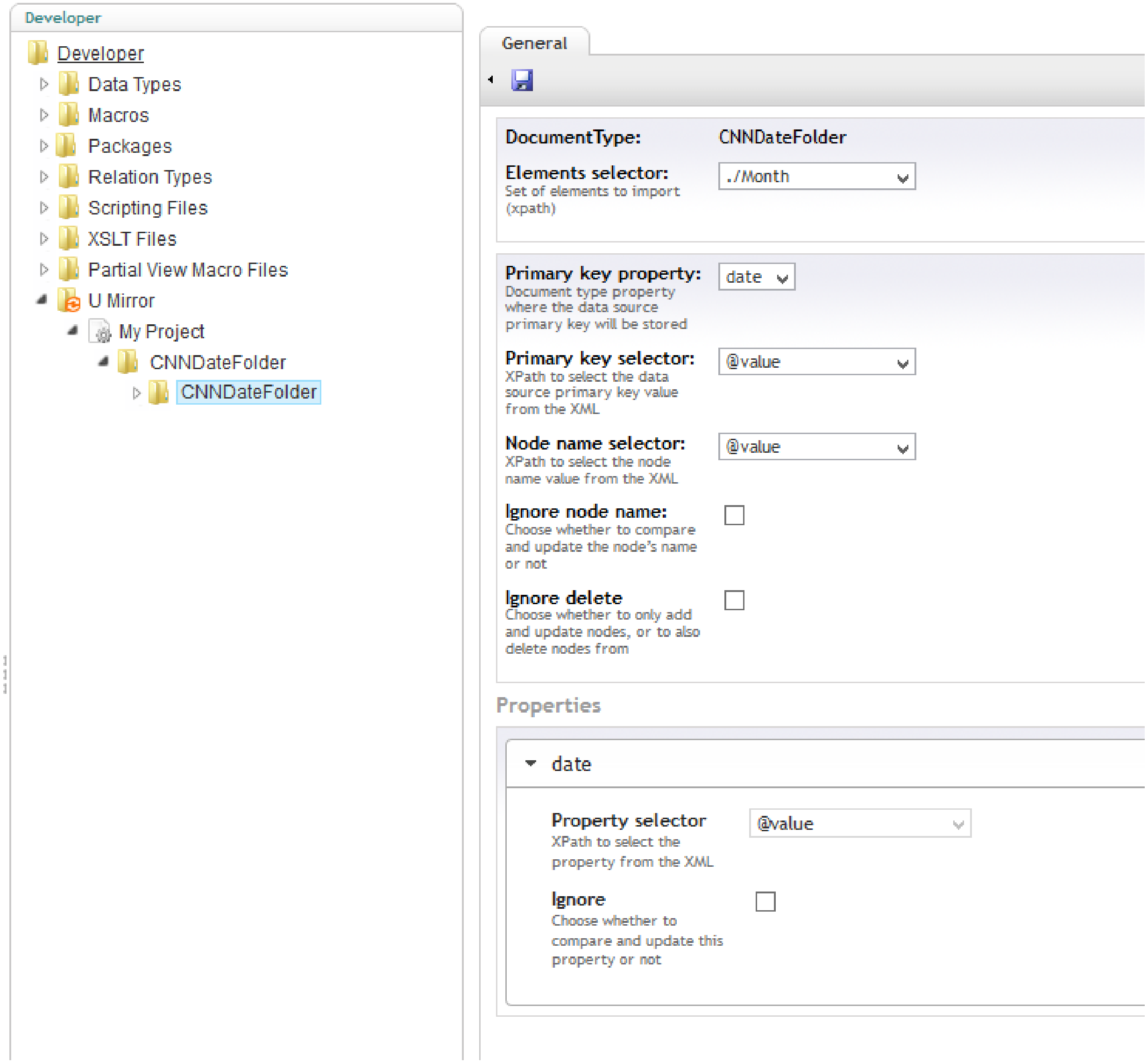
Properties

date

Property selector @value
XPath to select the property from the XML

Ignore □
Choose whether to compare and update this property or not

In the “CNNDateFolder” create another node for the document type “CNNDateFolder” with the following configuration:



DocumentType: CNNDateFolder

Elements selector: ./Month
Set of elements to import (xpath)

Primary key property: date
Document type property where the data source primary key will be stored

Primary key selector: @value
XPath to select the data source primary key value from the XML

Node name selector: @value
XPath to select the node name value from the XML

Ignore node name: □
Choose whether to compare and update the node's name or not

Ignore delete □
Choose whether to only add and update nodes, or to also delete nodes from

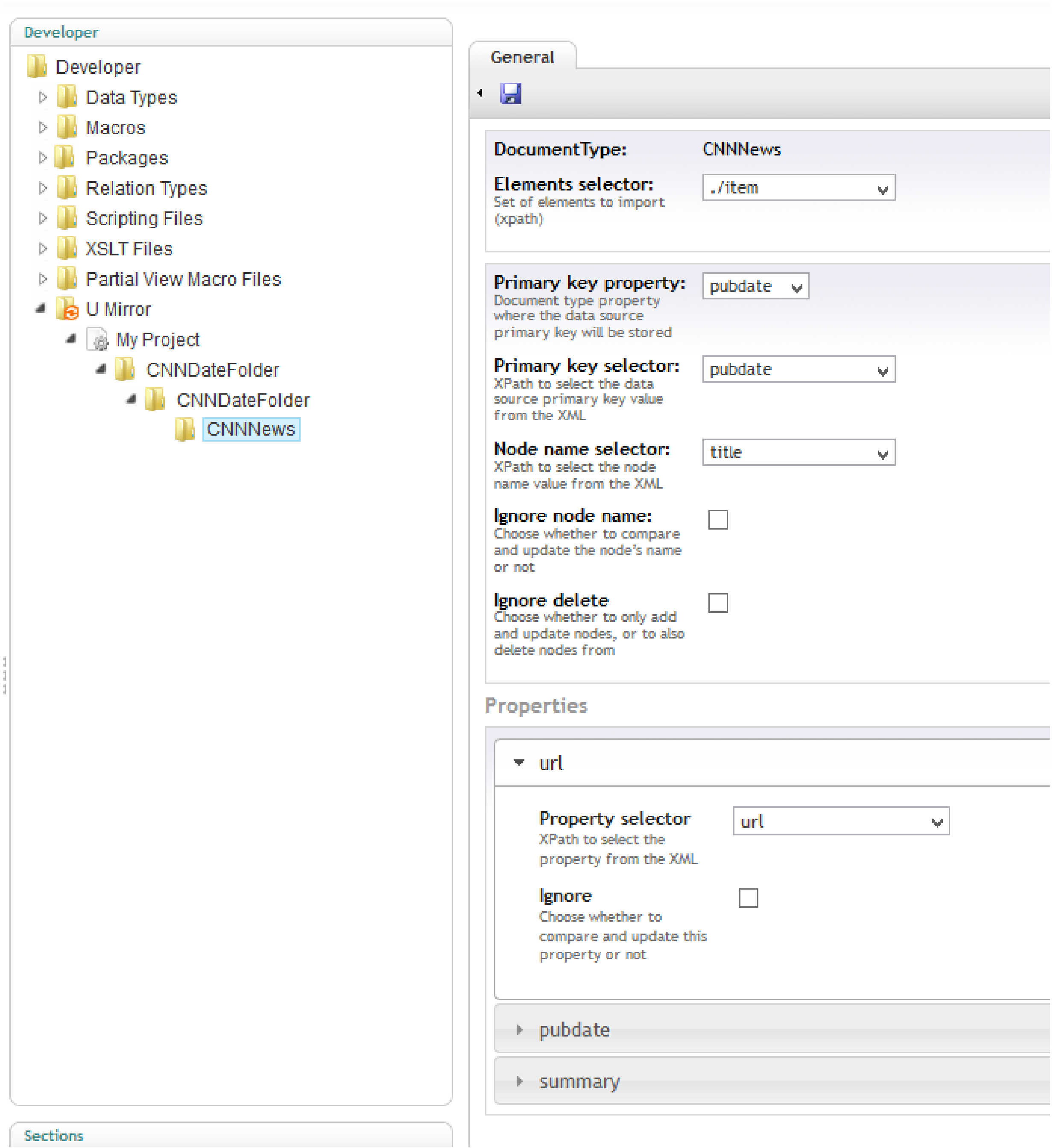
Properties

date

Property selector @value
XPath to select the property from the XML

Ignore □
Choose whether to compare and update this property or not

In the last “CNNDateFolder” create a node for the document type “CNNNews” with the following configuration (don’t forget to map all properties):



DocumentType: CNNNews

Elements selector: ./item
Set of elements to import (xpath)

Primary key property: pubdate
Document type property where the data source primary key will be stored

Primary key selector: pubdate
XPath to select the data source primary key value from the XML

Node name selector: title
XPath to select the node name value from the XML

Ignore node name: □
Choose whether to compare and update the node’s name or not

Ignore delete □
Choose whether to only add and update nodes, or to also delete nodes from

Properties

url

Property selector url
XPath to select the property from the XML

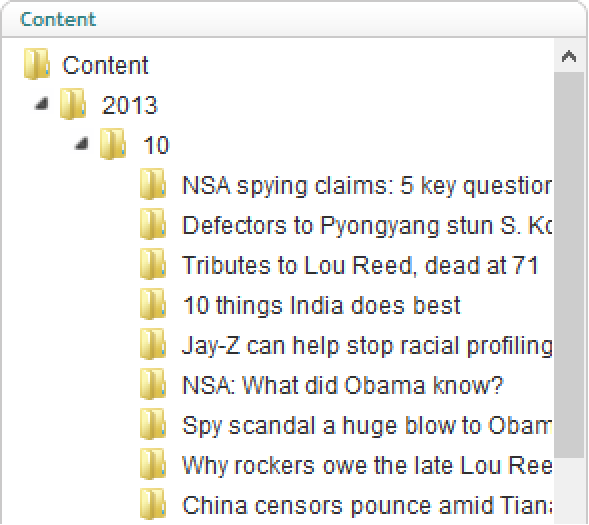
Ignore □
Choose whether to compare and update this property or not

pubdate

summary

3. Run process

Right click the project and click “Start”. Once the process finishes you will have all the news from the CNN feed in the Umbraco content tree.



Content

- Content
  - 2013
    - 10
      - NSA spying claims: 5 key questior
      - Defectors to Pyongyang stun S. Kc
      - Tributes to Lou Reed, dead at 71
      - 10 things India does best
      - Jay-Z can help stop racial profiling
      - NSA: What did Obama know?
      - Spy scandal a huge blow to Obarr
      - Why rockers owe the late Lou Ree
      - China censors pounce amid Tian:

Now you can run the process again whenever you want or you can schedule a task to always have the latest news!