

# uSync

*Umbraco to Disk to Database Syncing tool (1.0 release candidate 1)*

## Introduction

uSync is an Umbraco disk syncing tool – it is designed to aid Umbraco development with more than one developer, make source control easier and in some situations it can be used as a deployment tool.

uSync writes out to disk and reads in from disk the elements of an Umbraco installation that are normally stored in the database, that is for example the document types, macros, and datatypes. By writing these files out to disk uSync makes all of the non-content elements of Umbraco live in the same place so you can move them between installations, mess about with them outside of Umbraco, or just put them into source control.

### How uSync Works

In the main uSync uses the in-built functions Umbraco already has for creating and reading packages – that is writing and reading the database objects in xml format.

uSync attaches to the Application Start function of your Umbraco install, and when it is first run it will create a uSync folder (/uSync) by default and copy all the database bits into xml.

uSync currently writes the following Umbraco objects:

- DocumentTypes
- DataTypes
- Macros
- Templates
- Stylesheets
- MediaTypes

Everything uSync writes it can also read.

uSync doesn't do

1. Content (because it's a development tool)
2. Relations (mainly because they have no in build ToXML functions)

## Installation

Install the package. It contains two files

1. jumps.umbraco.usync.dll – this is uSync
2. /config/uSyncSettings.config – this is the uSync config file

## uSync Modes

uSync has three+one modes, it can run in any combination of all three. They are

1. Read : in read mode uSync will read the settings from disk whenever the Umbraco installation starts (i.e web.config changes, app pool recycles, IIS restarts)
2. Write: in write mode uSync will write all the settings to disk at start up
3. Attach: when running in attach uSync will attach to all the OnSave and OnDelete events and write settings to the disk when they are saved in Umbraco.
4. Archive: archive isn't really a mode, but with archive on, everytime one of the other modes causes a file to be altered on the disk (write or attach) uSync will create a copy in the archive folder (/uSync.Archive by default) great for quick history, or accidental deletes.

## Configuration

uSync is configured via /config/uSyncSettings.config this has all the settings in it.

The main settings are on the usync node:

```
<usync read="true" write="false" attach="true" folder="~/uSync/"
archive="~/uSync.Archive" versions="true" preserve="true">

</usync>
```

These settings relate to the modes and disk locations uSync will use. The only configuration of node is **preserve (see below)**

## Preserve PreValues

PreValues are given a unique id by Umbraco when they are created, but these id's are dependent on the order. If create a set of prevalues on one installation of Umbraco, and then create them again on a second installation chances are the ids of the prevalues will be different.

uSync can't keep track these id's between Umbraco installations. So when copying between Umbraco installations uSync tries to keep it as close as it can with preserve preValue mode.

If you rename a PreValue then uSync cannot tell if that if a PreValue has been deleted and a new one created or one has been renamed. This is the issue preserve tries to help with

### Preserve = false

uSync will treat this situation as a delete and create – it will delete the old prevalue with the old name and create a new one.

If your Umbraco installation has content or any other settings using the prevalues they will break.

### Preserve = true (default)

uSync will create a new prevalue for the new name, but not delete the old one. That way if you want to rename the value you can go in and do it. Any syncs after you have manually renamed will work.

### Minimizing the impact of preserve

It's not all bad, the PreValue issue only matters on DataTypes that allow a list of preValues to be created – so the uSync config file contains a list of these DataType IDs and these are the only DataTypes where preserve has an effect. Altering values on non-list datatypes works

## Known Issues

There are less rough edges now, but the following issues are known at launch

### DataType Save

Pre Umbraco 4.11.5 and 6.0.1 the Save Events for DataTypes were not fired correctly by Umbraco. To overcome this uSync on an install lower than 4.11.5 or 6.0.1 will save the DataTypes to disk every time the application starts. This can be overridden by setting `attach=false`

*On 4.11.5 / 6.0.1 this works fine*

### Relations

uSync doesn't do relations, they have no ToXML / Import functions, and I haven't gotten round to writing them yet