

Cache dependencies allow the application to automatically clear cached data when related objects are modified.

The system uses **dummy cache keys** to create dependencies between cached data and other objects. Dummy keys are cache items without any data that represent objects or groups of objects. When an object is modified, the system "touches" the corresponding dummy keys, which causes the cache to delete all items that depend on the given dummy keys.

Sample scenario

A page with the `/Products` alias path contains a Repeater web part with [content caching](#) enabled. The repeater displays a list of products (pages) placed under the Products page. When a visitor requests the Products page, the repeater loads the list of products from the database, and stores the data in the content cache. The cached data has a dependency on the `node|corporatesite|products|childnodes` dummy key, which the system automatically creates. If a child page of the Products page is modified, the dummy key is touched, and the cache deletes the dependent data.

The following table shows which dummy cache keys are touched when objects are modified:

Object type	Touched dummy keys	Sample dummy key values
Pages (content tree nodes)	<code>node <site name> <alias path> <culture></code> <code>node <site name> <alias path></code> <code>nodeid <node id></code> <code>nodeid <linked node id></code> <code>documentid <document id></code> <code>documentid <document id> attachments</code> <code>nodes <site name> <page type code name> all</code> <code>nodeguid <site name> <node guid></code> + for all ancestors of the modified page: <code>node <site name> <alias path> childnodes</code>	<code>node corporatesite /home en-us</code> <code>node corporatesite /home</code> <code>nodeid 12</code> <code>nodeid 34</code> <code>documentid 39</code> <code>documentid 39 attachments</code> <code>nodes corporatesite cms.menuitem all</code> <code>nodeguid corporatesite a58ed488-5545-48d0- ...</code> <code>node corporatesite /childnodes</code>
Objects (not pages)	<code><object type> all</code> <code><object type> byid <id></code> <code><object type> byname <code name></code> <code><object type> byguid <guid></code> Tip: You can find the object type values in the System application on the Object types tab.	<code>cms.user all</code> <code>cms.user byid 53</code> <code>cms.user byname administrator</code> <code>cms.user byguid 1ced44f3-f2fc- ...</code>
Media files	<code>mediafile <guid></code> <code>mediafile preview <guid></code>	<code>mediafile 1ced44f3-f2fc- ...</code> <code>mediafile preview 1ced44f3-f2fc- ...</code>
Metafiles	<code>metafile <guid></code>	<code>metafile 1ced44f3-f2fc- ...</code>
Page attachments	<code>cms.attachment all</code> <code>documentid <attachment document id></code> <code>documentid <attachment document id> attachments</code> <code>attachment <guid></code>	<code>cms.attachment all</code> <code>documentid 32</code> <code>documentid 32 attachments</code> <code>attachment 1ced44f3-f2fc- ...</code>
Forum attachments	<code>forumattachment <guid></code>	<code>forumattachment 1ced44f3-f2fc- ...</code>
Page relationships	<code>nodeid <node id> relationships</code>	<code>nodeid 5 relationships</code>

Settings	cms.settingskey <settings key code name> <i>(touched when the global value of the setting is changed)</i> cms.settingskey <site id> <settings key code name> <i>(touched when the site-specific value of the setting is changed)</i> Tip: You can find the setting key code name values in the Modules application by editing any module and opening the Settings tab.	cms.settingskey cmspagedescriptionprefix cms.settingskey 1 cmspagedescriptionprefix
Avatars	avatarfile <guid>	avatarfile 1ced44f3-f2fc- ...
Page templates	template <id>	template 12
Custom table data records	customtableitem.<custom table code name> all customtableitem.<custom table code name> byid <id>	customtableitem. customtable.sampletable all customtableitem. customtable. sampletable byid 2

Dependencies on form data records

The system currently does not touch any dummy cache keys when changes occur for data submitted via [forms](#).

As a workaround, developers can prepare custom [event handlers](#) for [BizFormItemEvents](#). Use the handler method to touch a custom cache key, and then enter the key into your cache dependencies. For example:

```
private void FormItem_InsertAfterHandler(object sender, BizFormItemEventArgs e)
{
    // Touches a custom cache key, for example: "customformdata|bizform.
    contactus"
    CacheHelper.TouchKey("customformdata|" + e.Item.BizFormClassName);
}
```

Adding custom cache dependencies

You can set custom cache dependencies for the following types of cache:

- [Full output cache of pages](#) (add the **Output cache dependencies** web part onto the page)
- [Partial output cache of web parts or controls](#) (**Partial cache dependencies** property)
- [Content cache of web parts or controls](#) (**Cache dependencies** property)
- [Cached data in custom code](#)

Create the dependencies by typing the names of **dummy cache keys** into the appropriate *Cache dependencies* property. Each dummy key must be on a separate line when entering dependencies in the web part properties dialog. The system automatically clears the related cache when the specified dummy keys are touched (i.e. when the corresponding objects are modified).

Examples

Scenario: You have a web part displaying information about users. You need to clear the web part's [partial output cache](#) whenever one of the user's data is modified.

Solution: Add the **cms.user|all** dummy key into the web part's **Partial cache dependencies** property. The system touches this dummy key whenever the data of a user in the system changes.

Scenario: You have a web part displaying information about one specific user — the administrator (UserID is 53, UserGuid is 849711D0-739D-412E-92B6-FE40EDCAD4A). You need to clear the web part's [partial output cache](#) when the administrator's user account data is modified.

Solution: Add any of the following dummy keys into the web part's **Partial cache dependencies** property:

- cms.user|byid|53
- cms.user|byname|administrator
- cms.user|byguid|849711D0-739D-412E-92B6-FE40EDCAD4A

Scenario: You have a web part displaying a list of news articles. The web part loads the data from all **CMS.News** pages on the website. The site's code name is **NewsSite**. You need to clear the web part's [partial output cache](#) when any of the news pages is updated.

Solution: Add the **nodes|newssite|cms.news|all** dummy key into the web part's **Partial cache dependencies** property.