



TIPS AND TRICKS, CMS, ADDON DEVELOPMENT, EPISERVER

Content Report Generator

Allan Thraen | 11 Months Ago | PDF | 8 Shares [f](#) [t](#) [p](#) [e](#) [r](#) [i](#) [n](#)

I helped a client with a cool little report generator that can give them an easy overview of all their content - and related metadata, that can be opened in excel and easily sorted, filtered and aggregated. Here it is.

When you have a lot of content, produced by many editors - and especially across many sites, pages and blocks - it's quite important to get a good overview over your content to answer some essential questions like:

- Who is producing all the content
- Where is the old content
- How are my review and approval rules implemented and used
- What is outdated and should be removed
- Which content needs to be translated
- And many other kinds of content governance.

Of course there is the good old Episerver Report center. And thanks to this [great example](#) by Henrik Fransas, it's pretty easy to figure out how to build your own reports and export them. But since those reports are generated on the fly (in the request) you can end up waiting for that download for a long time - if you don't run into a time out. Sure, not a problem when you have a few hundred content items - but not so fun when you are dealing with many hundred thousands (which is when you really need the overview). So, for this report I took the approach of letting a scheduled job generate the report and then make it available for download.

Also, most of the existing reports in the report center are pretty much focused purely on the content in the content repository. But these days there is quite a lot more interesting meta-information around the content. Who has access to it, how many versions does it have, where is it used, who is reviewing it and so on - all stuff that could help you achieve better content governance.

In the past I've done prototypes, examples, demos and experiments using PowerBI for this sort of task, but in this case an excel file is fine to keep people happy most of the time, so why complicate things.

Here is the initial code I came up with - feel free to use and modify it to fit your reporting needs:

```

1 using System;
2 using EPIServer;
3 using EPIServer.Core;
4 using EPIServer.Plugins;
5 using EPIServer.Scheduler;
6 using EPIServer.ServiceLocation;
7 using System.Linq;
8 using System.Collections.Generic;
9 using EPIServer.Web;
10 using EPIServer.DataAbstraction;
11 using OfficeOpenXml;
12 using System.Web.Mvc;
13 using EPIServer.Web.Mvc.Html;
14 using EPIServer.Approvals;
15 using EPIServer.Approvals.ContentApprovals;
16 using MyAlloy.Models.Media;
17 using EPIServer.Framework.Blobs;
18 using System.IO;
19
20 namespace CodeArt.Examples.Addons.Jobs
21 {
22     // REMEMBER: To add EPPPlus through nuget to the project!
23     // https://github.com/JanKallman/EPPPlus
24
25     [ScheduledPlugin(DisplayName = "Content Report Generator")]
26     public class ContentReportJob : ScheduledJobBase
27     {
28         private bool _stopSignaled;
29
30         public ContentReportJob()
31         {
32             IsStoppable = true;
33         }
34
35         /// <summary>
36         /// Called when a user clicks on Stop for a manually started job, or when ASP.NET shuts
37         /// </summary>
38         public override void Stop()
39         {
40             _stopSignaled = true;
41         }
42
43         /// <summary>

```

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About Allan

I'm a freelance software architect / developer and Episerver expert (EMVP) based in Copenhagen Denmark. I've worked for Episerver for more than 10 years before going freelance and understand both your business needs as well as the technical possibilities.



I love solving real business problems with innovative and creative coding!

Learn more about my skills and specialities, reach out to me at info@codeart.dk or use [this form](#) to contact me.



```

44 // Called when a scheduled job executes
45 // </summary>
46 // <returns>A status message to be stored in the database log and visible from admin mod
47 public override string Execute()
48 {
49     //Call OnStatusChanged to periodically notify progress of job for manually started job
50     OnStatusChanged("Starting to build report");
51     int cnt = 0;
52
53
54     //Add implementation
55     var repo = ServiceLocator.Current.GetInstance<IContentRepository>();
56     var vrepo = ServiceLocator.Current.GetInstance<IContentVersionRepository>();
57     var sites = ServiceLocator.Current.GetInstance<ISiteDefinitionRepository>();
58     var trepo = ServiceLocator.Current.GetInstance<IContentTypeRepository>();
59     var resolver = ServiceLocator.Current.GetInstance<ISiteDefinitionResolver>();
60     var apdefrepo = ServiceLocator.Current.GetInstance<IApprovalDefinitionRepository>();
61
62     var url = new UrlHelper();
63     int trashid = trepo.Load("SysRecycleBin").ID;
64
65     //Ensure output folder
66     ContentReference outputRef = ContentReference.EmptyReference;
67     ContentFolder outputFolder = repo.GetChildrencContentFolder<>(ContentReference.GlobalBlockFolder);
68     if (outputFolder == null)
69     {
70         var tmp = repo.GetDefaultContentFolder<>(ContentReference.GlobalBlockFolder);
71         tmp.Name = "Internal Reports";
72         //TODO: Access rights, only admin access!!
73         outputRef = repo.Save(tmp, EPIServer.DataAccess.SaveAction.Publish, EPIServer.Security);
74     }
75     else outputRef = outputFolder.ContentLink;
76
77     //Fetch all IContent (not in trash), build report
78     Queue<ContentReference> todo = new Queue<ContentReference>();
79     Dictionary<ContentReference, bool> done = new Dictionary<ContentReference, bool>();
80     todo.Enqueue(ContentReference.GlobalBlockFolder);
81     todo.Enqueue(ContentReference.SiteBlockFolder);
82     sites.List().ToList().ForEach(sd => {
83         todo.Enqueue(sd.ContentAssetsRoot);
84         todo.Enqueue(sd.GlobalAssetsRoot);
85         todo.Enqueue(sd.SiteAssetsRoot);
86         todo.Enqueue(sd.StartPage);
87     });
88     using (var package = new ExcelPackage())
89     {
90         ExcelWorksheet ws = package.Workbook.Worksheets.Add("Content");
91         //Header row
92         ws.Cells[1, 1].Value = "Content ID";
93         ws.Cells[1, 2].Value = "Type";
94         ws.Cells[1, 3].Value = "Main Type";
95         ws.Cells[1, 4].Value = "Url";
96         ws.Cells[1, 5].Value = "Site Name";
97         ws.Cells[1, 6].Value = "Breadcrumb";
98         ws.Cells[1, 7].Value = "Name";
99         ws.Cells[1, 8].Value = "Status of latest draft";
100        ws.Cells[1, 9].Value = "Created By";
101        ws.Cells[1, 10].Value = "Created Date";
102        ws.Cells[1, 11].Value = "Changed By";
103        ws.Cells[1, 12].Value = "Changed Date";
104        ws.Cells[1, 13].Value = "Saved By";
105        ws.Cells[1, 14].Value = "Saved Date";
106        ws.Cells[1, 15].Value = "Published Date";
107        ws.Cells[1, 16].Value = "Languages";
108        ws.Cells[1, 17].Value = "Uses Count";
109        ws.Cells[1, 18].Value = "Uses";
110        ws.Cells[1, 19].Value = "Versions";
111        ws.Cells[1, 20].Value = "Reviewers";
112
113        int row = 2;
114        while (todo.Count > 0)
115        {
116            var cref = todo.Dequeue();
117            if (done.ContainsKey(cref)) continue; //Skip if we already did this
118            done.Add(cref, true);
119            var mastercnt = repo.Get<IContent>(cref);
120            if (mastercnt.ContentTypeID == trashid) continue; //Skip if it's the recycle
121            repo.GetChildrencContentFolder(cref).Select(ch => ch.ContentLink).ToList().ForEach
122
123            var ancestors = repo.GetAncestors(cref).Select(a => a.Name).ToList();
124            //Get versions
125            var versions = vrepo.List(cref);
126            //Which version should we use?
127            var draft = versions.Where(cv => cv.IsMasterLanguageBranch).OrderByDescending
128            var draftcnt = repo.Get<IContent>(draft.ContentLink);
129            var refs = repo.GetReferencesToContent(cref, false); //Does this work?
130            var site = resolver.GetByContent(cref, true);
131
132            var apdef = apdefrepo.ResolveAsync(cref).Result;
133            var revs = apdef?.Definition?.Steps?.SelectMany(st => st.Reviewers).Select(r => r.Name);
134            string reviewers = (revs == null || apdef.Definition.IsEnabled == false) ? "(
135
136            ws.Cells[row, 1].Value = cref.ID;
137            ws.Cells[row, 2].Value = trepo.Load(mastercnt.ContentTypeID).Name;
138            ws.Cells[row, 3].Value = (mastercnt is PageData) ? "Page" : (mastercnt is MediaData) ?
139            ws.Cells[row, 4].Value = (mastercnt is PageData || mastercnt is MediaData) ?
140            ws.Cells[row, 5].Value = site.Name;
141            ws.Cells[row, 6].Value = string.Join(" > ", ancestors.ToArray());
142            ws.Cells[row, 7].Value = draftcnt.Name;
143            ws.Cells[row, 8].Value = draftcnt.Status.ToString();
144            ws.Cells[row, 9].Value = (draftcnt as IChangeTrackable)?.CreatedBy;
145            ws.Cells[row, 10].Value = (draftcnt as IChangeTrackable)?.Created.ToString("y
146            ws.Cells[row, 11].Value = (draftcnt as IChangeTrackable)?.ChangedBy;
147            ws.Cells[row, 12].Value = (draftcnt as IChangeTrackable)?.Changed.ToString("y
148            ws.Cells[row, 13].Value = draftcnt.SavedBy;
149            ws.Cells[row, 14].Value = draftcnt.Saved.ToString("yyyy-MM-dd HH:mm");
150            if (mastercnt is IVersionable)
151            {
152                ws.Cells[row, 15].Value = ((mastercnt as IVersionable).StartPublish.HasVa
153            }
154            if (mastercnt is ILocalizable)
155            {
156                ws.Cells[row, 16].Value = (mastercnt is ILocalizable) ? string.Join(", ",
157            }
158            ws.Cells[row, 17].Value = refs.Count().ToString();
159            ws.Cells[row, 18].Value = string.Join(", ", refs.Select(r => r.OwnerName + "(
160            ws.Cells[row, 19].Value = versions.Count().ToString();
161            ws.Cells[row, 20].Value = reviewers;
162
163            //For long running jobs periodically check if stop is signaled and if so stop
164            if (!_stopSignaled)
165            {
166                break; //Still finish report

```



Recommended for you

CodeArt

Error: No parameterless constructor defined for this object

Episerver Forms: Adding Datasource for hidden field with Profile Store data

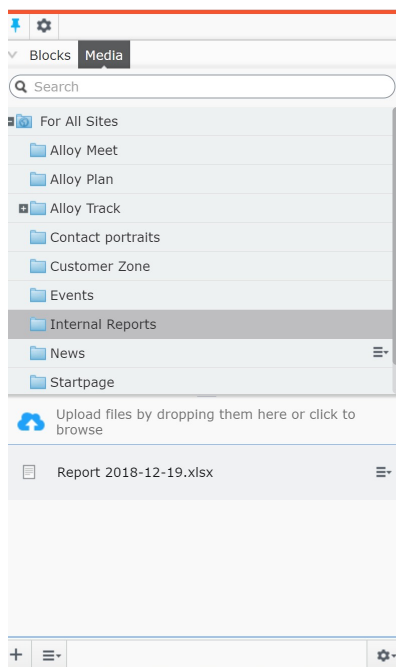
```

167     }
168     row++;
169     cnt++;
170     OnStatusChanged($"In progress, done with {cnt} content items, {todo.Count} wa
171     }
172     //Save excel file
173     string repname= "Report " + DateTime.Now.ToString("yyyy-MM-dd") + ".xlsx";
174     GenericMedia reportcnt = repo.GetChildren<GenericMedia>(outputRef).Where(ch => ch
175     if (reportcnt != null)
176     {
177         reportcnt = (GenericMedia) reportcnt.CreateWritableClone();
178     }
179     else
180     {
181         reportcnt = repo.GetDefault<GenericMedia>(outputRef);
182         reportcnt.Name = repname;
183     }
184     var blobfactory= ServiceLocator.Current.GetInstance<IBlobFactory>();
185     var blob=blobfactory.CreateBlob(reportcnt.BinaryDataContainer, ".xlsx");
186     using (var s = blob.OpenWrite())
187     {
188         BinaryWriter w = new BinaryWriter(s);
189         w.Write(package.GetByteArray());
190         w.Flush();
191     }
192     reportcnt.BinaryData = blob;
193     repo.Save(reportcnt, EPIServer.DataAccess.SaveAction.Publish, EPIServer.Security.
194     }
195     }
196     return $"Job done. Wrote {cnt} content items";
197     }
198     }
199     }

```

ContentReportJob.cs hosted with ❤ by GitHub [view raw](#)

It will generate a report as a media file in Episerver, in an automatically created folder called "Internal Reports". I advice that you after the initial creation set access rights on the folder to ensure that the reports can only be accessed by specific roles!



For the report I included a bit of the code used in my previous post for gathering information about who is configured to review the content - and a bunch of other code to get a list of places that use the content, and the versions of the content.

To generate the excel format document I use the EPPlus library, easily added to your project through nuget.

A fairly easy modification I would recommend might be to generate plain CSV files instead (I ended up doing that for the client, but haven't updated the example code yet). Using EPPlus you build up the excel file in memory and write it in the end - which I expect could be a problem if you excel files turns really big. CSV files you can generate, write and flush to disk line-by-line, hence eliminating memory issues.

Here you can find an example Report from a standard Alloy site:

ReportsExample.xlsx

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