

# ADMIN

## Network & Security

ISSUE 84

# Non-Relational Databases

NoSQL, vector, and key-value stores

## Sizing Monster VMs

Rules for performance-hungry VMs

## Ansible Automation-as-Code

## SQL Server Replication

Migrating from SQL Server to Azure SQL

## Reducing the Windows Attack Surface

### AIDE

File integrity checks discover attackers' tracks

### Gitea

Migrate your Git repositories to Gitea

### Raspberry Pi Storage

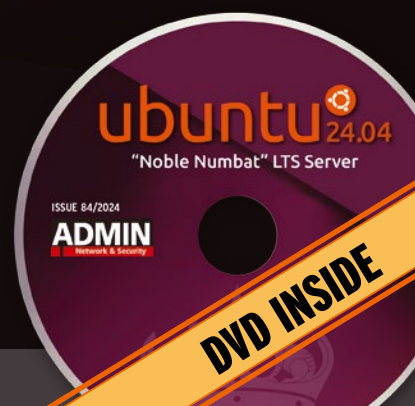
MicroSD, USB, and PCIe speed tests

### NVMe over Fabrics

High-redundancy storage gears up to replace iSCSI



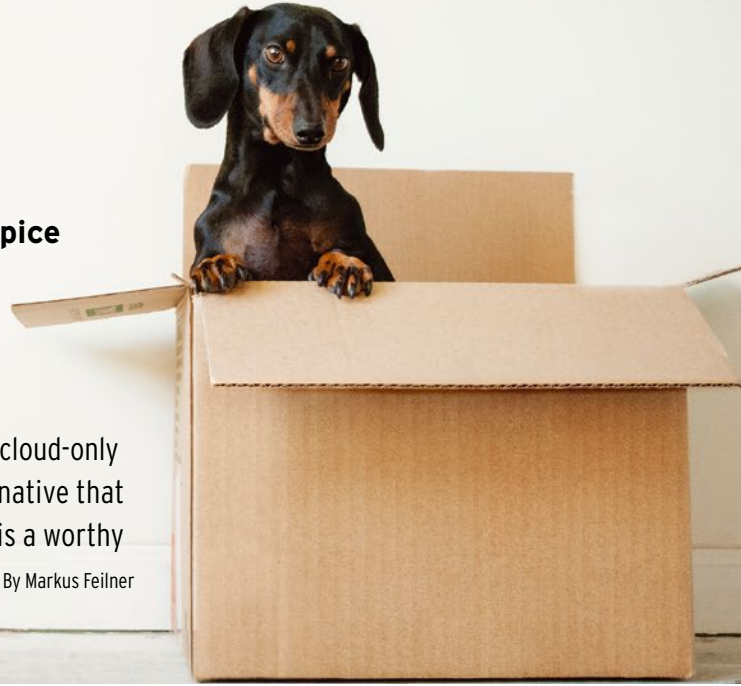
LINUX NEW MEDIA  
The Pulse of Open Source



## Moving from Atlassian Confluence to BlueSpice

# Big Move

With Atlassian's announcement that they are moving to a cloud-only solution, many organizations will be looking for an alternative that lets them keep their collaboration data local. BlueSpice is a worthy open source alternative with easy-to-use migration tools. By Markus Feilner



**Atlassian Confluence** is a popular collaboration platform used by many organizations around the world. Users are accustomed to relying on Confluence for meetings, memos, wikis, and project management; however, Atlassian recently announced that they are discontinuing the server edition in favor of a cloud-only configuration. Many customers with sensitive information, such as research companies in

the high-tech industry, lawyers, financial service providers, and journalists, are concerned about moving all their collaboration data to the web. Others, even if they aren't in particularly sensitive industries, might not want to give their data to the cloud for any number of policy or practical reasons. Even as some Confluence admins grapple with the challenge of moving to the Atlassian cloud, others are

looking for alternatives that will let them keep their data local and avoid the vendor lock-in of proprietary tools like Atlassian Confluence, but migrating data is often time-consuming, although it is possible. The transfer of Atlassian data to a new system is typically the most complex task during migration. Users who want to leave will usually not receive any help from

### XWiki

French company XWiki produces the Java-based open source software of the same name and has been successful in many setups, including as a part of the digitally sovereign openDesk [1] web desktop from the German and French governments. Although anything else in XWiki is free, the company has not made the supported version of its migration tool available as open source software. For EUR1,900, the customer receives the Confluence Migration Toolkit [2], which interested parties are allowed to test for 30 days free of charge after entering a test key [3]. A free license (trial) for the Migration Toolkit is available on request at any time. The XWiki customer must send their instance ID to the manufacturer and enter it in the *Global Administration / Licenses* section under *Add License* (Figure 1).

### Global Administration: Licenses

View the list of installed extensions that require a license. Set the license owner. Buy licenses for paid extensions or get trial licenses to test them. Check for license updates. Configure automatic upgrades for licensed extensions.

Search for...

- Users & Rights
- Extensions**
- Extensions
- History
- Updater
- Licenses
- Look & Feel
- Content
- Editing
- Mail
- Search
- Social
- Wikis
- Other

**License Ownership**

Fill in the following fields in order to buy a license or to get a trial one.

FIRST NAME

LAST NAME

EMAIL   
You will use this email address to contact the support, so make sure it is valid.

INSTANCE ID   
Unique identifier for your XWiki instance. Used to associate your licenses with your XWiki instance.  
136f76fd-7782-49c5-b202-cacea9d1f388

**Licensed Extensions**

Here's a list of extensions installed in your wiki that require a license to be activated. You can buy a license or get a 10-day trial license that can be extended only once with 10 days. A license covers all versions of the licensed extension and is shared by the main wiki and all its subwikis. A licensed extension is listed multiple times if different versions are installed on different subwikis, but all these versions will share the same license.

Extension Name	Version	Expiration Date	Support	User Limit	Wikis	Actions
Diagram Application (Pro)	1.17.3	No license available	-	-	Home	Buy Get Trial

Results 1 - 1 out of 1 per page of 15 Page 1

Check for Updates

**Add License**

If you already have a license, copy it here to activate the extension(s) associated with:

Add License

1. Add your details

2. Purchase or request a trial license

**Figure 1:** The XWiki migration wizard is available for a fee. Users need a registration key for the 10-day test and a number of other XWiki extensions. © XWiki [2]

Atlassian, and Confluence support service providers expect good money for their help. To make matters worse, Confluence is different from most wikis. Unlike its open source competitors, Confluence manages individual pages in “workspaces,” has its own access rights, and handles subordinate pages, as well as numerous macros. Some of these features might not correspond directly to equivalent features in the alternative tools.

Confluence administrators are happy to see that export functions are available, at least export the content to, for example, XML, so those who

know how to use scripts will achieve quick and good results manually.

A pair of leading open source wiki tools advertise migration assistants to help you migrate your Confluence data. One of those tools, XWiki, is fully open source once everything is moved over, but their supported migration assistant costs EUR1,900 after 30 days (see the “XWiki” box). Another enterprise alternative that offers a less restrictive migration path is BlueSpice.

XWiki offers a number of resources, including a blog with numerous articles about migration and 60 supported Confluence macros [4]. The


XWiki Migration Toolkit also has a guided migration process that the manufacturer has integrated directly into the XWiki web interface.

## BlueSpice


BlueSpice, which is developed by the company Hallo Welt! [5], is available as open source on GitHub, including the scripts tested in the example in this article. The company advises its customers to seek support during the migration process, perhaps because of the business model or the complexity of the tasks. In many cases, migrating everything on your own might seem

### Live Macro Check - Test your compatibility now


Find out immediately how compatible your system is with BlueSpice and which content and functions can be directly adopted by our script. Use the macro check as follows:




**Step 1**  
Open your Confluence and click the gear icon in the top right corner.




**Step 2**  
The page reloads. In the “Data Management” section on the left, select “Macro Usage”.



**Step 3**  
Scroll down to “All macros”. Select all the information displayed. Copy them with Ctrl+C.

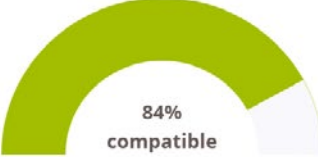


**Step 4**  
Paste the copied text into the macro checker with Ctrl+V.



**Step 5**  
Find out how compatible your system is with BlueSpice.

```
Advanced Macros
blog-posts (4)
recently-updated (3)
excerpt (1)
tip (12)
code (8)
info (8)
36
Confluence Live Search Macros Plugin
livesearch (1)
1
Confluence Roadmap Planner
roadmap (1)
1
```



**84%**  
compatible

**Advanced Macros**

- blog-posts (4)**  
*Unfortunately, this macro is currently not supported by the automatic migration script.*
- recently-updated (3)**  
*This macro is supported.*
- excerpt (1)**  
*This macro is partially supported, reworking may be necessary.*
- tip (12)**  
*This macro is supported (uses Extension:ContentDroplets).*
- code (8)**  
*This macro is supported (uses Extension:SyntaxHighlight\_GeSH).*
- info (8)**  
*This macro is supported (uses Extension:ContentDroplets).*

**Confluence Live Search Macros Plugin**

- livesearch (1)**  
*Unfortunately, this macro is currently not supported by the automatic migration script.*

**Confluence Roadmap Planner**

- roadmap (1)**  
*Unfortunately, this macro is currently not supported by the automatic migration script.*

One of your important macros is flagged as unsupported? It is very likely that the content can still be transferred. We will be happy to check this in more detail and advise you. Just [get in touch with our sales team](#).

**Figure 2:** The BlueSpice macro wizard has found an unknown macro - manual work is necessary.

unrealistic, but with BlueSpice, the attempt is possible, even without the manufacturer's help, thanks to open source migration scripts. Some American universities and institutions have done so without support from the vendor, even from Atlassian's products to BlueSpice's upstream project, MediaWiki, with the use of Hallo Welt! tools.

Migration with BlueSpice takes five steps: provide infrastructure (server, storage, network, installation), extract content, check data homogeneity, correct language and media, and integrate [6]. The initial macro check is followed by the XML export from

Confluence and then migration with data import and checking. Many Confluence installations use macros (built-in or programmed by third parties) to prepare, link, and display content. So many of these macros exist that not all of them can be supported by BlueSpice or XWiki.

Hallo Welt! offers a test on its website that you can use to find out which macros are supported during migration: Macro management is also found in the data management settings in Confluence, where you can select all macros and copy them to the clipboard (Ctrl + C). On the BlueSpice website [6] you will then

find the live macro check, where you can paste the macros found (Ctrl + V) and click *Check* (Figure 2).

## Exporting a Space to XML

Once all macro problems have been resolved, the next step is to transfer an entire space from Confluence to BlueSpice (Figure 3). Confluence can export data to CSV, HTML, XML, and PDF (Figure 4). XML is the best choice when it comes to structured data migration (and as in the following example, neatly packaged in an archive). During migration, the data is extracted from Confluence and the

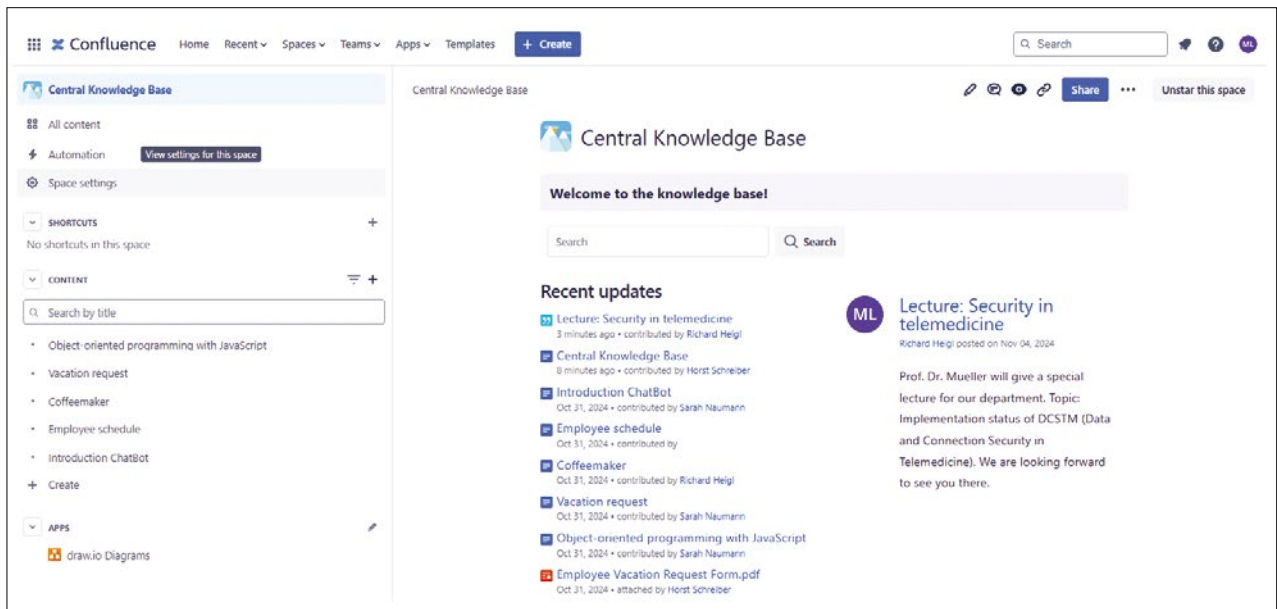


Figure 3: In the *Space settings* of Confluence ...

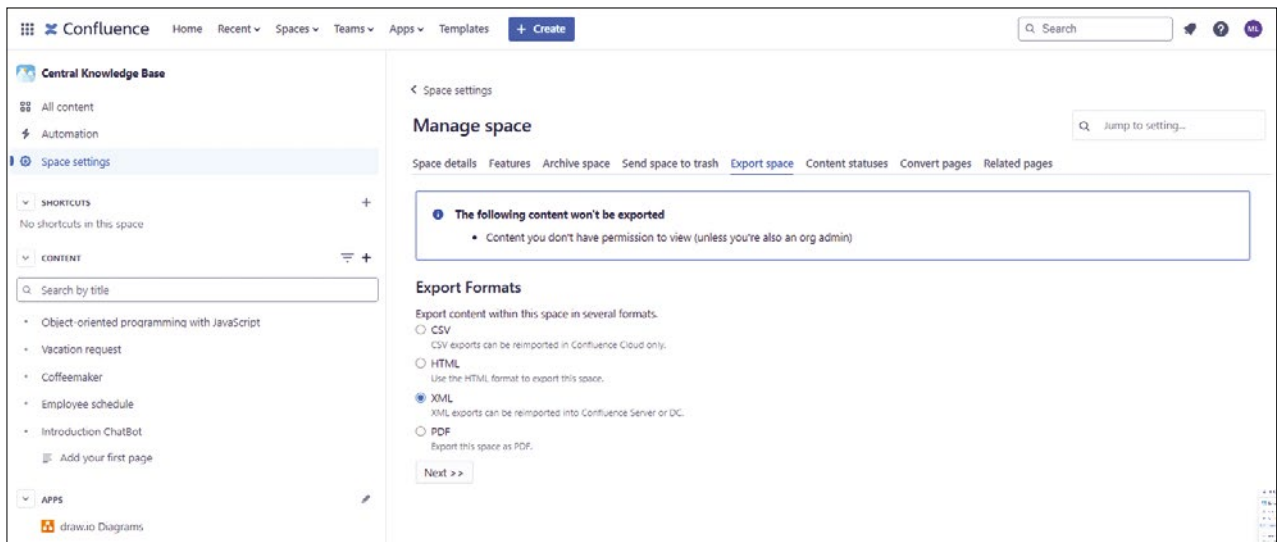


Figure 4: ... you will also find the settings for data export.

archive is stored on the BlueSpice server or the administrator's working machine. The subdirectories `input` and `workspace` must be created, and the Confluence archive is unpacked to `input`. Now it is time to get the migration tools from GitHub [7] and test their functionality; you will need the well-known universal documentation tool `pandoc` and more (all documented in the `README.md` file).

The scripts prepare the data for import, which ends up in the `workspace/result` subdirectory. Now the `migrate-confluence` migration script (from GitHub) can be started.

## Starting the Migration

The `migrate-confluence.phar` file is called four times in succession: once to analyze the data (`analyze`, Figure 5), then to extract (`extract`), convert (`convert`), and

finally compose in the new format (`compose`).

The following illustrations show the syntax in examples and the feedback from the system for a simple Confluence space, as well as the result in the directory tree. The parameter `--config=config.yaml` in the analysis is only necessary if you have defined special configuration options in a YAML file. If you use it, you must specify it in the first three steps. The command

```
php migrate-confluence.phar 2
    analyze --src=input --dest=workspace
```

analyzes the data and stores files with this information in the workspace directory. The `analyze` parameter prepares the export. The `--config=` parameter (as used in Figure 5) is only necessary if the optional configuration mentioned earlier is used; otherwise, it can be

omitted. The output provides information about the exported content. In the second step, the command,

```
php migrate-confluence.phar 2
    extract --src=input --dest=workspace 2
        --config=config.yaml
```

takes the exported and analyzed data from Confluence and stores it in the destination – in this case the workspace directory (Figure 6). Now, the command

```
php migrate-confluence.phar 2
    convert --src=workspace 2
        --dest=workspace 2
        --config=config.yaml
```

takes the data from workspace and converts it into a format that can be imported by BlueSpice (Figure 7). The workspace directory now usually contains numerous raw files with the

```

/data/hallowelt# php /opt/migrate-confluence.phar analyze --src=input --dest=workspace --config=config.yaml
Source: /data/hallowelt/input
Destination: /data/hallowelt/workspace

Fetching file list ...done.

Finding users
- 'Margit.Link-rodrique' (ID:624c4eb01da0e100713d309c)
- '6035864ce2020c0070b5285b' (ID:8a7f808a7a045426017a047e745f0023)
- '5b70c0b00fd0ac05d309f5e9' (ID:8a7f8009759cb58301759d3871b3004e)

Finding namespaces
- CKB (ID:698843143)

Finding pages
- 'CKB:Coffemaker' (ID:699105303)
- 'CKB:Main_Page' (ID:698843436)
- 'CKB:Vacation_request' (ID:699105281)
- 'CKB:Object-oriented_programming_with_JavaScript' (ID:698581004)
- 'CKB:Introduction_ChatBot' (ID:698417166)
- 'CKB:Employee_schedule' (ID:698417154)

Finding attachments
- 'CKB_CKB_unknown'

Finding users
- 'Margit.Link-rodrique' (ID:624c4eb01da0e100713d309c)
- '6035864ce2020c0070b5285b' (ID:8a7f808a7a045426017a047e745f0023)
- '5b70c0b00fd0ac05d309f5e9' (ID:8a7f8009759cb58301759d3871b3004e)

Finding namespaces
- MS (ID:699662340)

Finding pages
- 'ISM:Management-system/Work_instructions/Preparing_an_offer' (ID:699105475)
- 'ISM:Management-system/Risk_management/Risk_''Mobile_devices'' (ID:699105513)
- 'ISM:Management-system/Risk_management' (ID:699105498)
- 'ISM:Main_Page' (ID:699662633)
- 'ISM:Management-system/Risk_management/Incident_-_Loss_of_notebook' (ID:699105530)
- 'ISM:Management-system/Introduction' (ID:699105331)
- 'ISM:Management-system' (ID:699105314)
- 'ISM:Management-system/Introduction/Process_map' (ID:699105361)
  - File '699662710' (ISM:Management-system/Introduction/Process_map/Prozesslandkarte.drawio.png) not found
  - File '699170838' (ISM:Management-system/Introduction/Process_map/Prozesslandkarte.drawio) not found
  - File '699629576' (ISM:Management-system/Introduction/Process_map/Prozesslandkarte.drawio.tmp) not found
  - File '698010393' (ISM:Management-system/Introduction/Process_map/Prozesslandkarte.drawio.tmp) not found
  - File '699662699' (ISM:Management-system/Introduction/Process_map/Prozesslandkarte.drawio) not found
- 'ISM:Management-system/Introduction/ISO_9001_Certification' (ID:699105346)
- 'ISM:Management-system/Organizational_structure' (ID:699105393)
- 'ISM:Vorlage_-_Fehlerbehebungsartikel' (ID:699662669)
- 'ISM:Management-system/Process_organization_(Process_descriptions)/Sales_process' (ID:699105425)
  - File '698613812' (ISM:Management-system/Process_organization_(Process_descriptions)/Sales_process/unbenanntes_Diagramm-1723543301910.drawio.png) not found
  - File '699432900' (ISM:Management-system/Process_organization_(Process_descriptions)/Sales_process/unbenanntes_Diagramm-1723543301910.drawio) not found
  - File '699400240' (ISM:Management-system/Process_organization_(Process_descriptions)/Sales_process/unbenanntes_Diagramm-1723543301910.drawio) not found
  - File '699531318' (ISM:Management-system/Process_organization_(Process_descriptions)/Sales_process/unbenanntes_Diagramm-1723543301910.drawio.png) not found
- 'ISM:Management-system/Process_organization_(Process_descriptions)' (ID:699105410)
- 'ISM:Management-system/Work_instructions' (ID:699105460)

Finding attachments
- 'ISM_MS_unknown'

Done.
/data/hallowelt#

```

Figure 5: The BlueSpice migration assistant analyzes the data.

```

/data/hallowelt# php /opt/migrate-confluence.phar convert --src=workspace --dest=workspace --config=config.yaml
Source: /data/hallowelt/workspace
Destination: /data/hallowelt/workspace

Fetching file list ...done.
/data/hallowelt/workspace/content/raw/698417155.mraw
/data/hallowelt/workspace/content/raw/698417164.mraw
/data/hallowelt/workspace/content/raw/698417167.mraw
/data/hallowelt/workspace/content/raw/698417186.mraw
/data/hallowelt/workspace/content/raw/698449925.mraw
/data/hallowelt/workspace/content/raw/698449931.mraw
/data/hallowelt/workspace/content/raw/698449948.mraw
/data/hallowelt/workspace/content/raw/698449951.mraw
/data/hallowelt/workspace/content/raw/698482695.mraw
/data/hallowelt/workspace/content/raw/698482789.mraw
/data/hallowelt/workspace/content/raw/698482712.mraw
/data/hallowelt/workspace/content/raw/698482716.mraw
/data/hallowelt/workspace/content/raw/698515464.mraw
/data/hallowelt/workspace/content/raw/698515469.mraw
/data/hallowelt/workspace/content/raw/698548238.mraw
    
```

Figure 6: The content is being converted.

```

/data/hallowelt# php /opt/migrate-confluence.phar compose --src=workspace --dest=workspace
Source: /data/hallowelt/workspace
Destination: /data/hallowelt/workspace

Processing: CKB:Coffeemaker
Getting '699105304' body content...

Processing: CKB:Main_Page
Getting '698843437' body content...

Processing: CKB:Vacation_request
    
```

Figure 7: The compose command compiles the raw data extracted from Confluence and stores it as XML files.

prepared Confluence export. The last step (if everything went well) is to use the compose option,

```

php migrate-confluence.phar 2
  compose --src=workspace 2
    --dest=workspace
    
```

to assemble the various elements. The successfully converted export can now be found under workspace/result.

### Preparing Namespaces

If everything has worked up to this

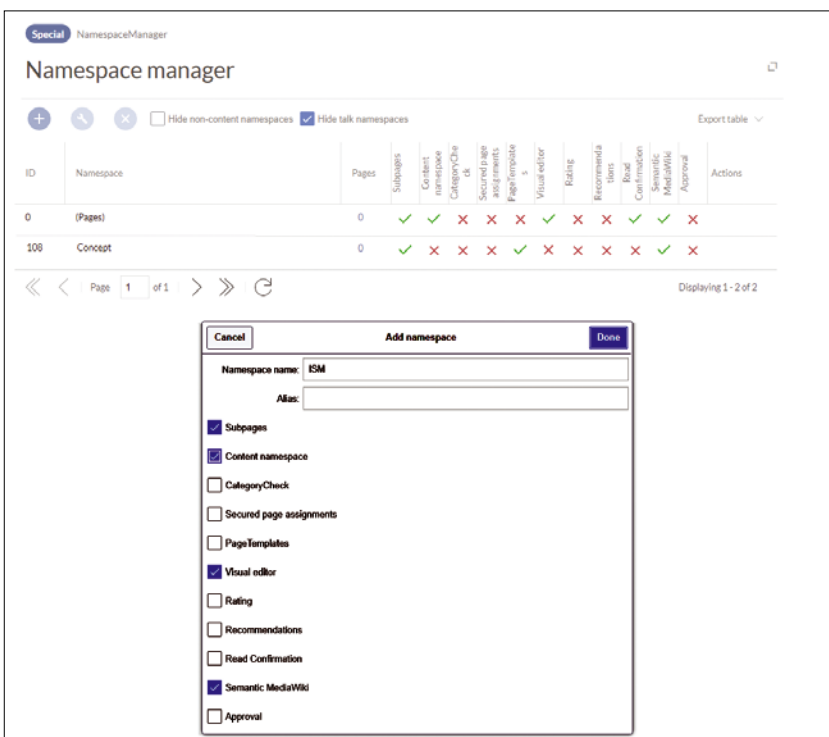


Figure 8: The required namespaces must be created in the Namespace manager (on the wiki page, Special:NamespaceManager) of the BlueSpice Wiki before the import.

point, you can create the necessary namespaces in BlueSpice, check the support for file types (by their file extensions), and import images. The required namespaces can be seen either during the analyze step (in the output of the script) or directly in the file workspace/result/output.xml. Under Linux, this information is discovered by a simple grep command:

```

grep -in "<title>" 2
  workspace/result/2
  output.xml
    
```

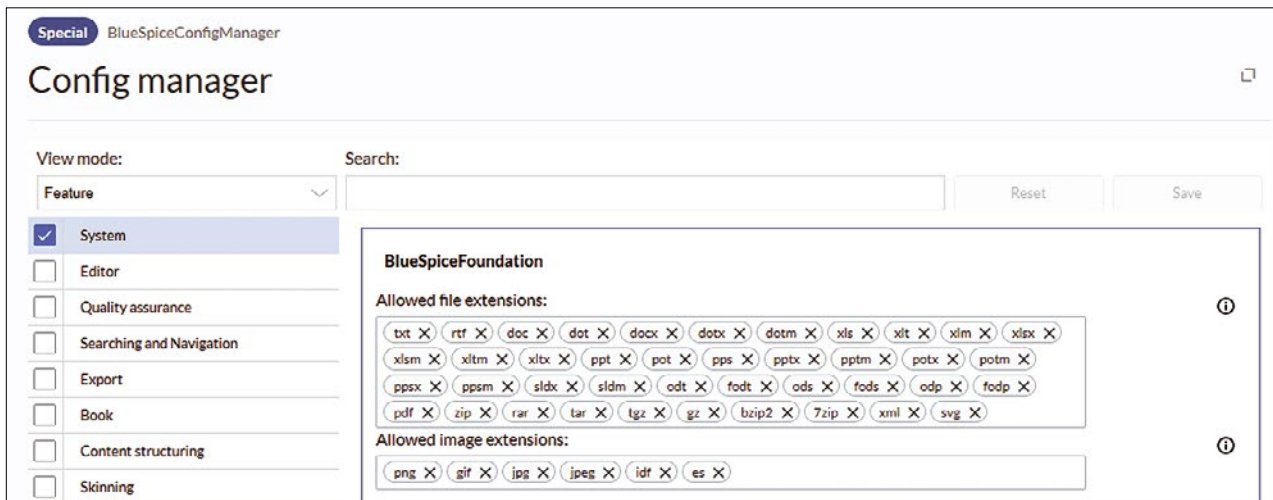
The resulting list shows all titles and namespaces (e.g., *Management:Work instructions*). The syntax here is the same as used by Wikipedia: *Management* is the namespace, and the colon separates it from the *Work instructions* page. All namespaces found must now be created in the page *Special:NamespaceManager* (aka Namespace manager; Figure 8).

### File Formats and Endings

The next step is to ensure in the BlueSpice configuration manager (*Special:BlueSpiceConfigManager*) that all required file extensions (i.e., all media and file formats that were previously embedded in Confluence) are permitted (Figure 9). Mind that the BlueSpice importer is selective. Only files from the workspace/result/images directory are imported that have file extensions specified here; others are ignored.

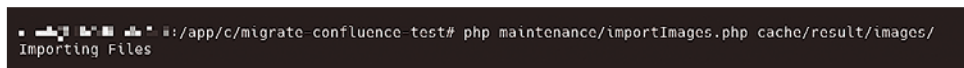
### Import and Check Success

Now it's time to copy the Confluence data to the BlueSpice server (e.g., to its /tmp folder). Figure 10 shows the output of the command



**Figure 9:** In the configuration of BlueSpice, you have to ensure that all media file formats that were used in Confluence are listed. Only those will be imported.

```
php maintenance/2
importImages.php /tmp/2
result/images/
```



**Figure 10:** Data import of media files on the wiki server.

for the data import in the installation path of the wiki. Each line represents a media file that it has imported successfully.

In the last step, `importDump`, the migration script pulls the content from the migration result XML file into its database with the command:

```
php maintenance/importDump.php 2
/tmp/result/output.xml
```

Now all the data has been imported from Confluence to BlueSpice. Finally, call `php maintenance/runJobs.php` to processes any tasks that have arisen. To refresh various tables that contain links for images and to update the search index, enter:

```
php maintenance/rebuildall.php
php extensions/BlueSpiceExtendedSearch/2
maintenance/rebuildIndex.php
```

Finally, call

```
php maintenance/runJobs.php
```

to processes any tasks that have arisen. It might be necessary to run this script more than one time.

## Conclusion

If your organization uses the Atlassian Confluence collaboration platform and you aren't interested in following Atlassian into the cloud, consider BlueSpice as an alternative. BlueSpice is powered by the same technology behind Wikipedia and provides free and easy-to-use migration tools for moving your data. Keep in mind that this kind of migration almost always requires manually reworking and creating data, especially when it comes to user and metadata.

With BlueSpice, thanks to open source, you can even adapt the code

### Author

Markus Feilner is a consultant for open source strategies in Regensburg, Germany, with experience working with Linux since 1994. Markus is now grommunio's Open Source Ambassador and previously was deputy editor-in-chief for the German-language *Linux-Magazin*. His company, Feilner IT, focuses on solving problems on OSI Layers 8 to 11.



of the migration wizards, as institutions such as NASA [8] and the University of Illinois [9] have done. ■

### Info

- [1] openDesk: [<https://interoperable-europe.ec.europa.eu/collection/open-source-observatory-osor/opendesk/>]
- [2] XWiki Confluence Migration Toolkit: [<https://store.xwiki.com/xwiki/bin/view/Extension/Confluence%20Migration%20Toolkit/>]
- [3] Confluence to XWiki migration: [<https://xwiki.com/en/confluence-to-xwiki-migration/>]
- [4] Confluence Migrator (Pro): [<https://xwiki.com/en/Blog/Easiest-migration-from-Confluence-to-XWiki/>]
- [5] Hallo Welt!: [<https://hallowelt.com/en/>]
- [6] Confluence to BlueSpice migration: [<https://bluespice.com/confluence-migration-process/>]
- [7] migrate-confluence: [<https://github.com/hallowelt/migrate-confluence>]
- [8] NASA and MediaWiki: [<https://diff.wikimedia.org/2016/05/05/mediawiki-nasa/>]
- [9] University of Illinois wiki: [<https://itaccessibility.illinois.edu/ewh/meeting/2022/01/11/>]