



Joint Institute for Nuclear Research

Document Management Service

Ivan Sokolov*, Nikita Balashov

Introduction



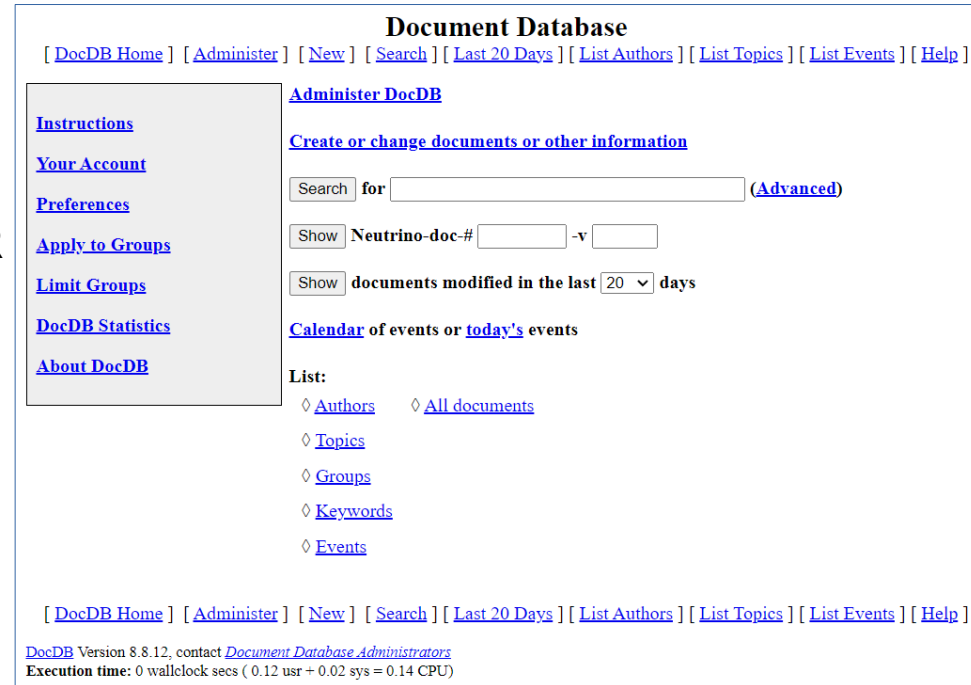
- Scientific groups collaborate on various types of documents
 - Articles
 - Presentations
 - Reports
 - Technical notes, etc.
- Common challenges of collaborative work
 - Organizing safe and structured documents storage
 - Tracking changes to documents
 - Restricting access to documents
 - Sharing of documents
- Many scientific projects generate a significant amount of documents (files + versions)



Motivation and Background



- Several **independent** instances of the DocDB system are deployed at JINR
 - BM@N
 - Baikal-GVD
 - Shared instance for Neutrino projects at JINR
 - Accelerator Division No.1 of the VBLHEP accelerator complex
- Experience with these systems has shown
 - Not fully met requirements:
 - Functional
 - Security and reliability
 - System support and improvement are complex



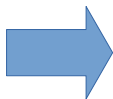
The screenshot shows the 'Document Database' web interface. At the top, there are navigation links: [DocDB Home], [Administer], [New], [Search], [Last 20 Days], [List Authors], [List Topics], [List Events], [Help]. Below this is a sidebar with links: [Instructions](#), [Your Account](#), [Preferences](#), [Apply to Groups](#), [Limit Groups](#), [DocDB Statistics](#), and [About DocDB](#). The main content area is titled 'Administer DocDB' and includes a section for 'Create or change documents or other information'. This section contains a search form with a 'Search for' input field and an '(Advanced)' link. Below the search form are two 'Show' buttons: one for 'Neutrino-doc-#' with a text input and a '-v' dropdown, and another for 'documents modified in the last' with a '20' dropdown and 'days' text. There is also a 'Calendar of events or today's events' link. A 'List:' section contains several links: [Authors](#), [All documents](#), [Topics](#), [Groups](#), [Keywords](#), and [Events](#). At the bottom, there are more navigation links: [DocDB Home], [Administer], [New], [Search], [Last 20 Days], [List Authors], [List Topics], [List Events], [Help]. Below the links, it says 'DocDB Version 8.8.12, contact [Document Database Administrators](#)' and 'Execution time: 0 wallclock secs (0.12 usr + 0.02 sys = 0.14 CPU)'.

What is Document Management Service?



- **Document Management Service (DocMS)** is a centralized, multi-community documentation storage service for collaborative activities
- The main purpose of the service is to replace the outdated DocDB
 - Include the Core Features of the DocDB
 - Enhance the access rights system to support groups and projects with flexible access control
 - Implement new features base on requests from collaborators
- Available to JINR employees and collaborators via JINR Single Sign-On (SSO) accounts on docs.jinr.ru and the JINR Digital Ecosystem

DocDB → DocMS: Interface Changes



Document Database

[[DocDB Home](#)] [[Administer](#)] [[New](#)] [[Search](#)] [[Last 20 Days](#)] [[List Authors](#)] [[List Topics](#)] [[List Events](#)] [[Help](#)]

[Instructions](#)

[Your Account](#)

[Preferences](#)

[Apply to Groups](#)

[Limit Groups](#)

[DocDB Statistics](#)

[About DocDB](#)

[Administer DocDB](#)

[Create or change documents or other information](#)

Search for ([Advanced](#))

Show Neutrino-doc-# -v

Show documents modified in the last days

[Calendar](#) of events or [today's](#) events

List:

- ◇ [Authors](#) ◇ [All documents](#)
- ◇ [Topics](#)
- ◇ [Groups](#)
- ◇ [Keywords](#)
- ◇ [Events](#)

[[DocDB Home](#)] [[Administer](#)] [[New](#)] [[Search](#)] [[Last 20 Days](#)] [[List Authors](#)] [[List Topics](#)] [[List Events](#)] [[Help](#)]

DocDB Version 8.8.12, contact [Document Database Administrators](#)
Execution time: 0 wallclock secs (0.12 usr + 0.02 sys = 0.14 CPU)

EN

Projects

Groups

Projects

- D Accelerator Department / **Documents**
- MLIT / MICC
- MLIT / Cloud Team / **JINR Cloud**
- MLIT / Cloud Team / **SciDocsCloud**

HELP

What is Document?



- Document = meta-data fields & associated files
- Document contains
 - Form with meta-data fields
 - Collection of files
 - Version control
 - Editors
 - Comments
- Document templates defines a set of meta-data fields
 - Enable three predefined templates: *Default, Article, Report*
 - Custom templates are planned to be implemented later

The screenshot displays the SciDocsCloud interface for a document titled "Development of a document database...". The document is identified as "SciDocsCloud Document 1-v14 (latest)". The interface includes a navigation breadcrumb: "MLIT > Cloud Team > SciDocsCloud > scidocscloud-doc-1".

Key sections of the document page include:

- Document Title:** "Development of a document database platform 'SciDocCloud'"
- Keywords:** "Information system", "IT", "service", "web"
- Description:** "Статья для публикации в PEPAN"
- Authors:** Ivan Alexandrovich Sokolov (isokolov@jlnr.ru) and Nikita Alexandrovich Balashov (balashov@jlnr.ru)
- Topics:** "IT"
- Files (1):** "Sokolov_Balashov_SciDocCloud_Article_v3.docx" (260.14 KB, File type: Document)
- Notes and Changes:** "Статья принята на печать. Ожидаем публикации"
- Comments (4):** A comment from Ivan Sokolov 3 months ago: "Добавил первую версию документа", with 3 replies.

On the right side, a sidebar provides additional information:

- Editors(4):** Sokolov Ivan, Testov Ivan, Balashov Nikita
- Document #:** scidocscloud-doc-1-v14 (latest)
- Submitted by:** Ivan Sokolov
- Updated by:** Ivan Sokolov
- Document Created:** 23 Nov 2024, 17:41
- Revised:** 10 Dec 2024, 16:59
- Latest Version:** scidocscloud-doc-1-v14
- Other Versions:** scidocscloud-doc-1-v14 (Статья принята на печать...), scidocscloud-doc-1-v13 (Добавлены правки в статью на...), scidocscloud-doc-1-v12 (Отправлено на рецензию), scidocscloud-doc-1-v11 (Переработано заключение), scidocscloud-doc-1-v10 (Добавлены файлы с исходниками), and scidocscloud-doc-1-v9.

Document Features



- Create a new document
- Update document = new document revision
- Track changes to document
- View all document revisions
- Download associated files
- Manage Editors
- Discuss using Comments

The screenshot shows a comment thread interface. At the top, it says "Comments (6)". The first comment is from Ivan Sokolov, posted 5 months ago, with the text "Добавил презентацию и заметки". Below it, there is a summary of replies: "3 REPLIES Last reply by Nikita Balashov 5 months ago". The second comment is from Konstantin Gercenberger, also 5 months ago, with the text: "Так как у меня будет суммарный доклад по проведенным работам просьба присылать свои презентации мне, как можно раньше, чтобы у меня было время спокойно сформировать свою презентацию. Крайне желательно не позже этих выходных. Можно присылать черновые еще версии, чтобы я составил свой доклад, а потом уже подменил итоговыми версиями слайдов". Below this comment is a "COLLAPSE REPLIES" button. The third comment is from Ivan Sokolov, 5 months ago, with the text "Хорошо". At the bottom of the comment thread is a "Reply..." input field. Below the comment thread is a rich text editor with a toolbar containing icons for bold, italic, link, underline, text color, font color, bulleted list, numbered list, indent, and outdent. The text area contains the placeholder "Write a comment here..." and a blue "COMMENT" button at the bottom.

What is Project?



- Projects organize all the documents for collaboration and scientific projects
- Project is where the project members store and collaborate on documents
- The project provides tools for managing project membership and documents, as well as facilitating search capabilities

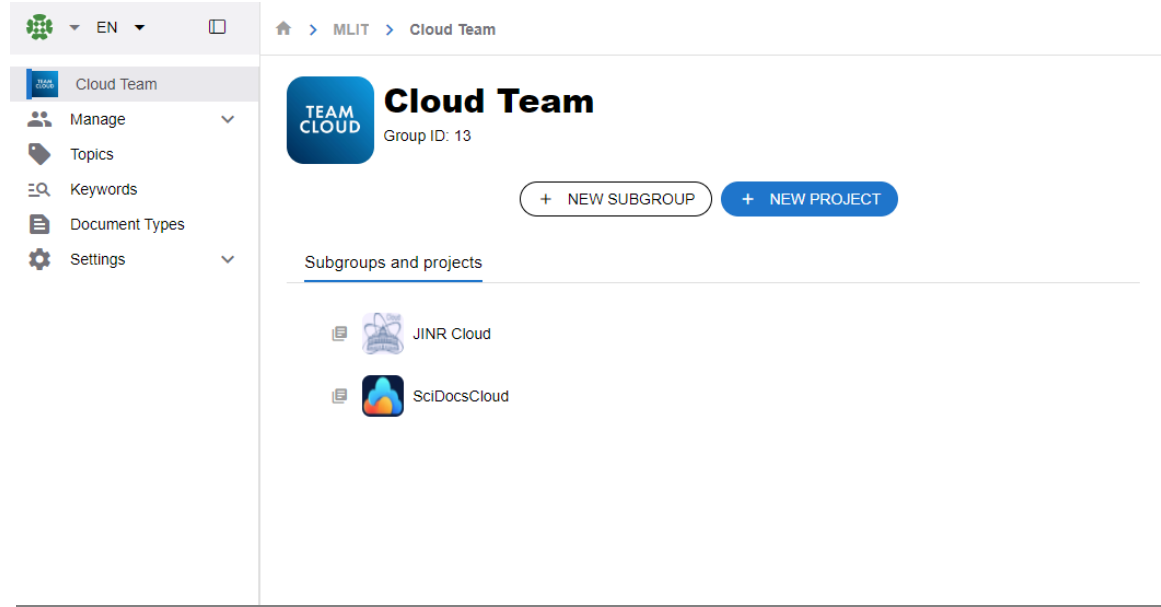
The screenshot displays a web application interface for document management. On the left is a sidebar with navigation options: Documents, Manage, Topics, Keywords, Document Types, and Settings. The main content area is titled 'Documents' and shows a list of documents. Above the list are various filters and a search bar. The document list includes columns for ID, Title, Topics, Authors, and Last Update.

#	Title	Topics	Authors	Last Update
73-v2	S-Cooling @ NICASoftware concept and requirements	Beam cooling Beam instrumentation Collider Software	Владимир Сергеевич Шпаков	10 days ago
70-v0	2			16 days ago
36-v9	Lectures: Colliders	Beam dynamics Beam optics Collider	Валерий Анатольевич Лебедев	about 1 month ago
72-v0	Работы для подготовки Сеанса Бустера	Accelerator applications Beam cooling Beam dynamics Beam instrumentation Beam optics Cryogenics Injection & extraction Ion sources Linac Software	Валерий Анатольевич Лебедев	about 1 month ago
71-v0	СВЧ подсистема ССО	Beam cooling Beam instrumentation Design reports Engineering	Константин Геннадьевич Осипов	about 2 months ago

What is Group?



- Groups organize projects
- Currently, each Project must be part of a group and cannot exist on its own
- You use groups to manage one or more related projects at the same time and permissions for projects
- For larger organizations groups can also have subgroups
- Subgroups/projects inherit the membership and permissions of their parent group



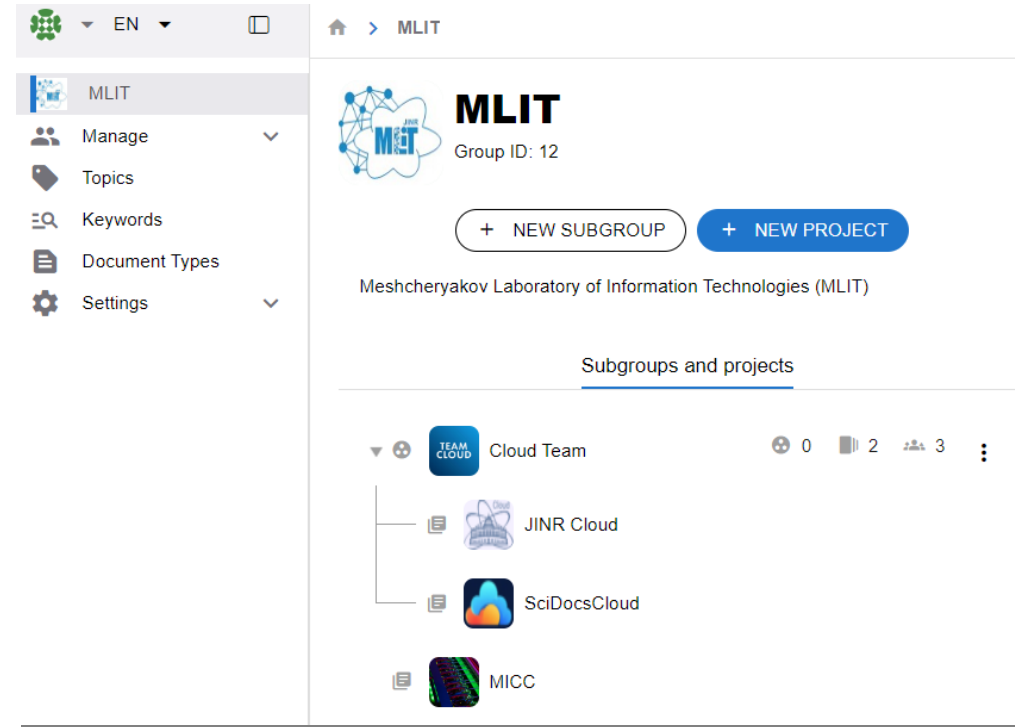
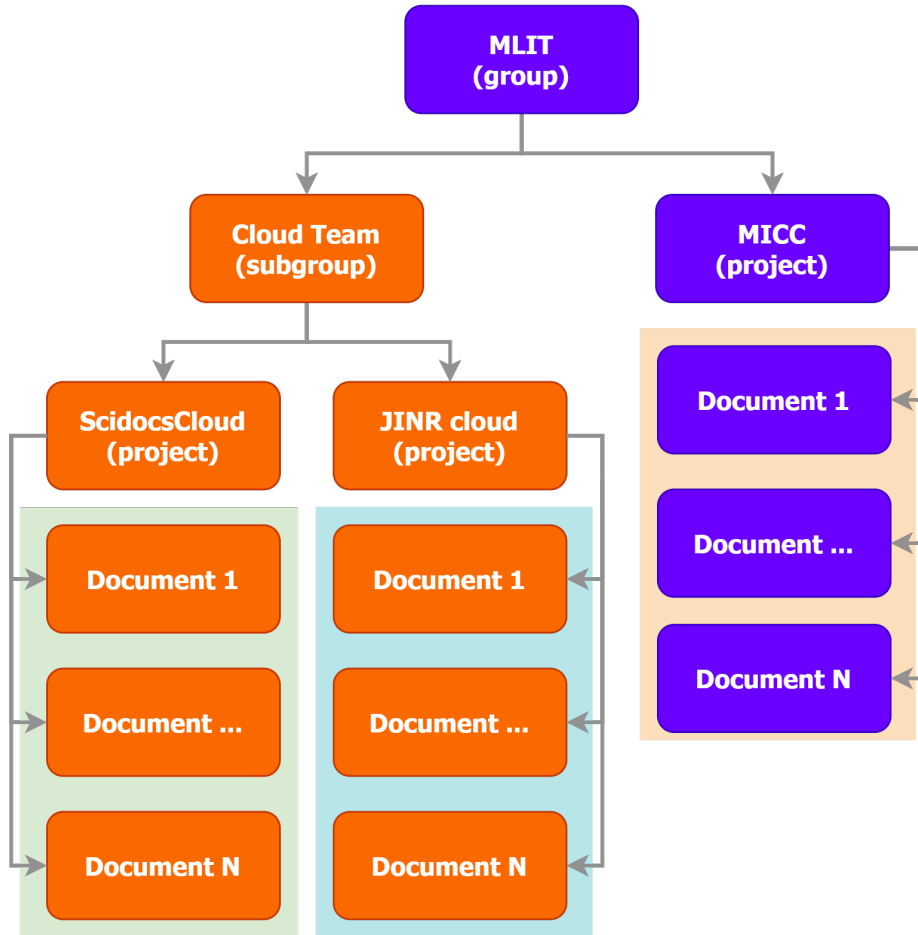
Group Use Cases



- Don't use groups as folders for organizing documents. Organizing documents into folders within projects is planned to be implemented later
- Try to stick the simplest structure – one group for one project

Model	Structure	Use cases
Simple	One group – one project	One collaboration stores all documents in one project
More Advanced	One group – many projects	Many experiments sharing same facility, for example, NICA → BM@N, MPD, SPD. The group can be used for setting basic permissions to all group members in all of the projects
Complex Organization	Many subgroups and projects	Large organizations like laboratory → departments → projects. YOU PROBABLY DON'T NEED THIS!

Organizational Structure



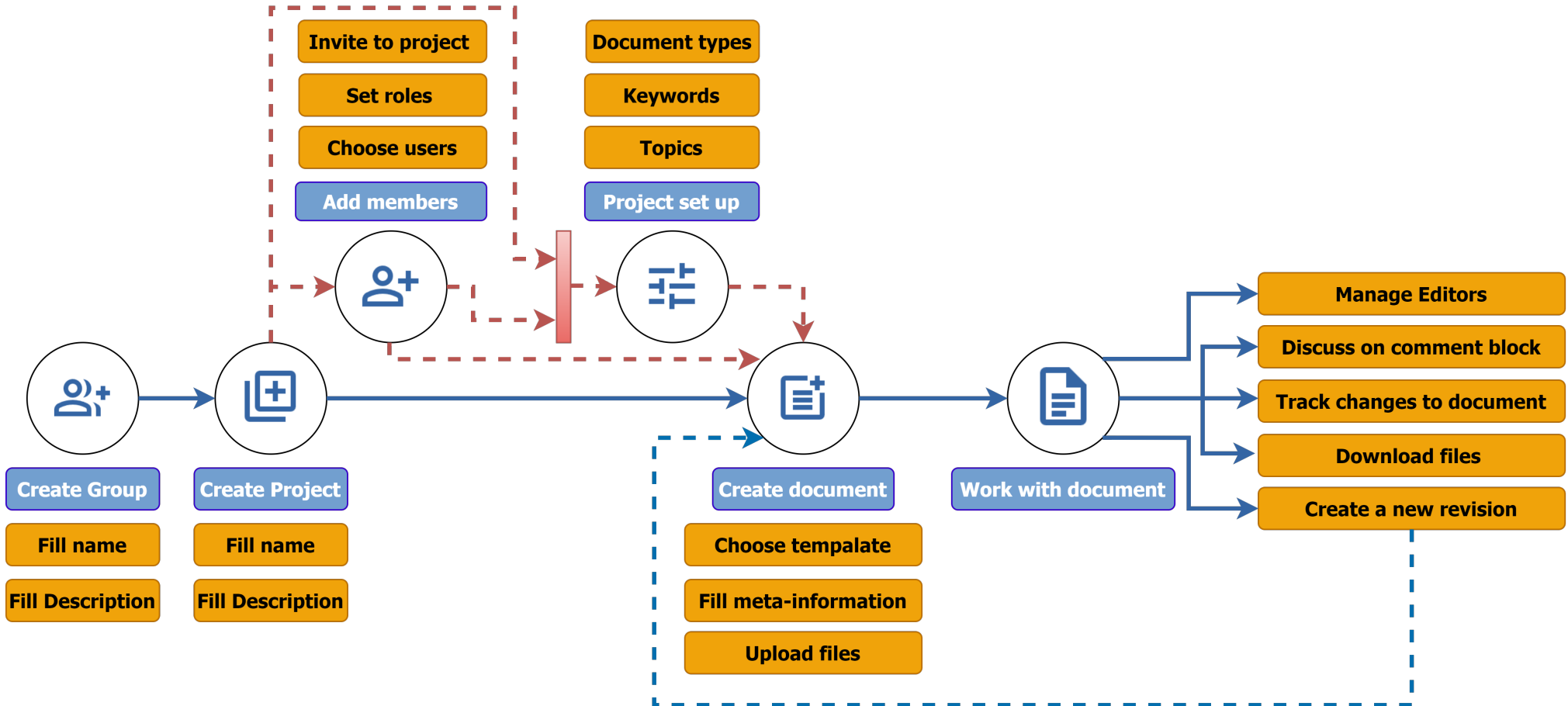
Role-based Access Model



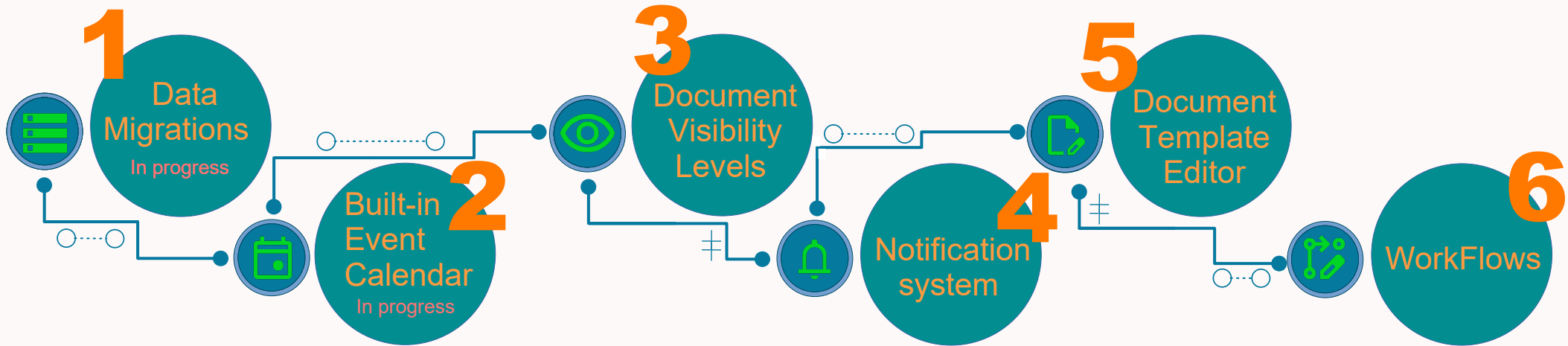
- Each member is assigned a role, which determines what they can do in the project
- Currently implemented roles: *Owner, Maintainer, Author, Viewer and Guest*
- All subgroups and projects inherit parent group role
- Direct subgroups and projects membership gives the Viewer role in all parent groups

Action	Guest	Viewer	Author	Maint	Owner
View project, groups	+	+	+	+	+
View documents		+	+	+	+
Use comment block			+	+	+
Create document			+	+	+
Update document			+ -	+ -	+
Create group				+	+
Create project				+	+
Create subgroup				+	+
Manage members				+	+
Manage topics				+	+
Manage keywords				+	+
Manage document type				+	+
Edit group				+	+
Edit project				+	+
Remove project					+
Remove group					+
Remove document					+
Manage editor list					+

Basic Workflow



Road Map



Conclusion and Feedback



- The **DocMS** is available to JINR employees and collaborators → docs.jinr.ru and the JINR Digital Ecosystem
- For questions, bug reports, or suggestions contact us at docs@jinr.ru



Thank you for your attention!