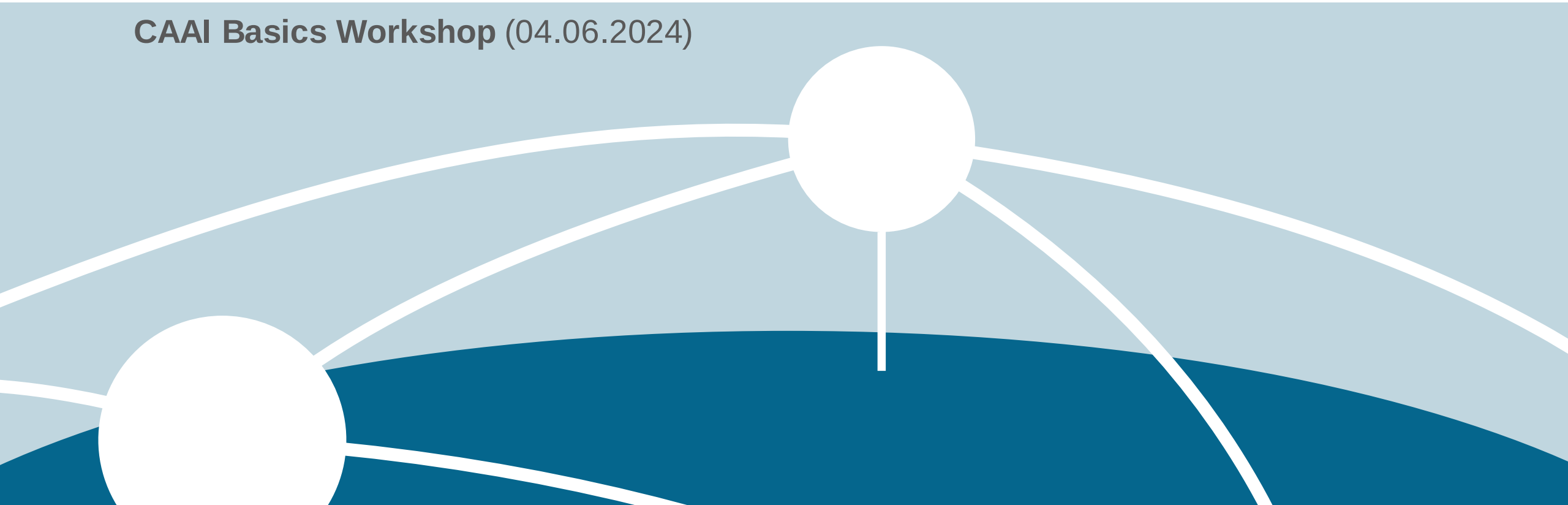
IAM4NFDI – Exemplary Incubator Project

Integration of NFDI AAI to Open edX

CAAI Basics Workshop (04.06.2024)



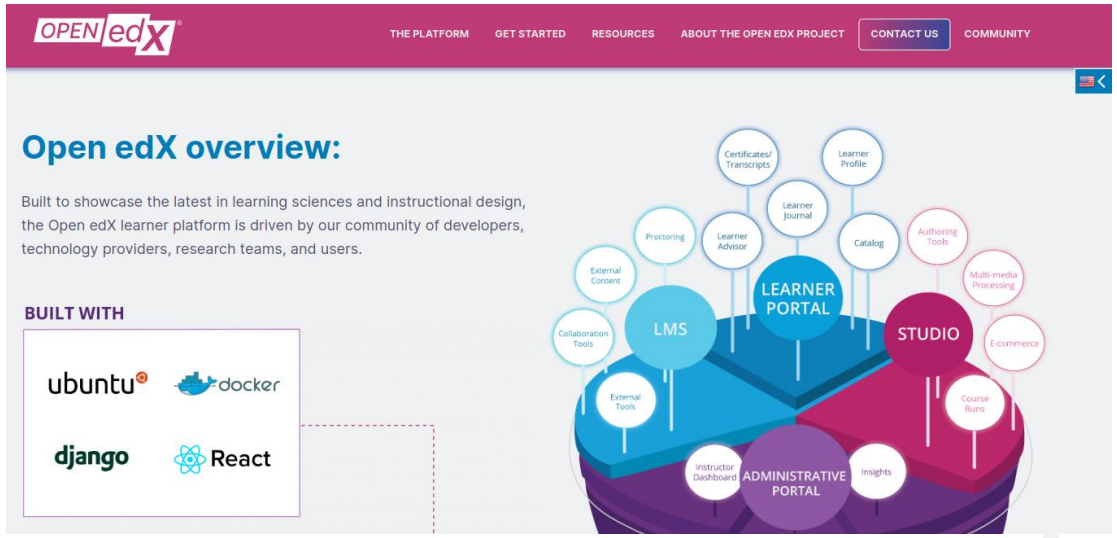
Background

Learning Management System (Open edX) is 1of 6 core services within NFDI4Earth

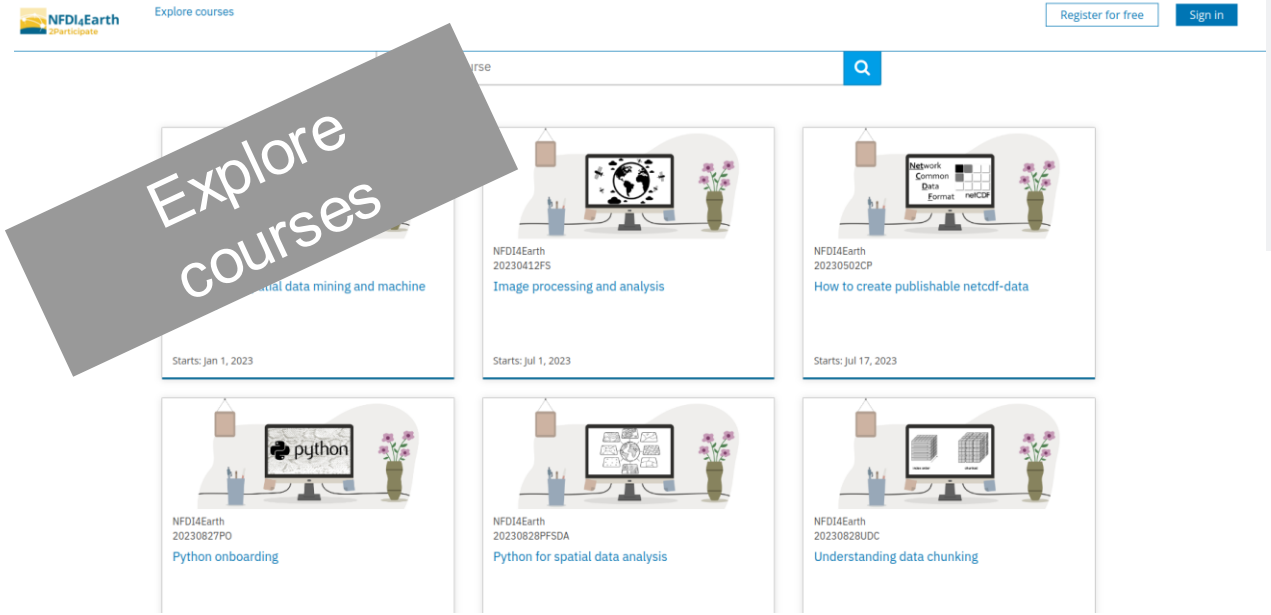
Human-readable interface(s)

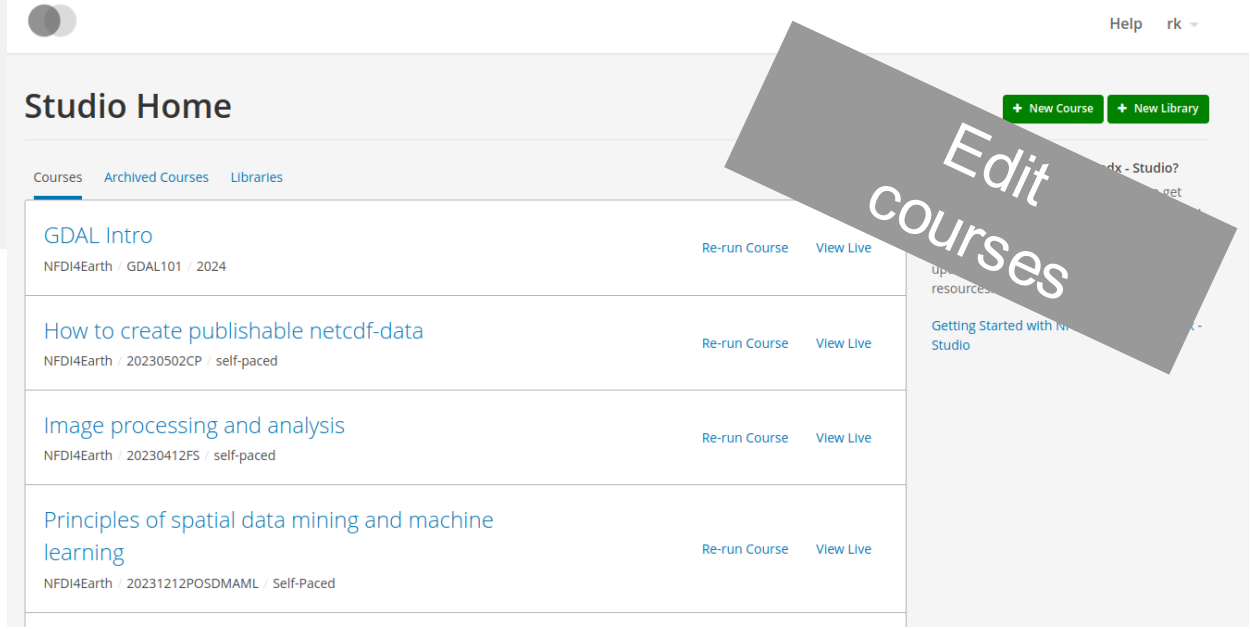
Machine-readable interface

Background



- Login is obligatory
- 2 user groups
  - Users
    → many and heterogeneous
  - Authors
    → different institutions



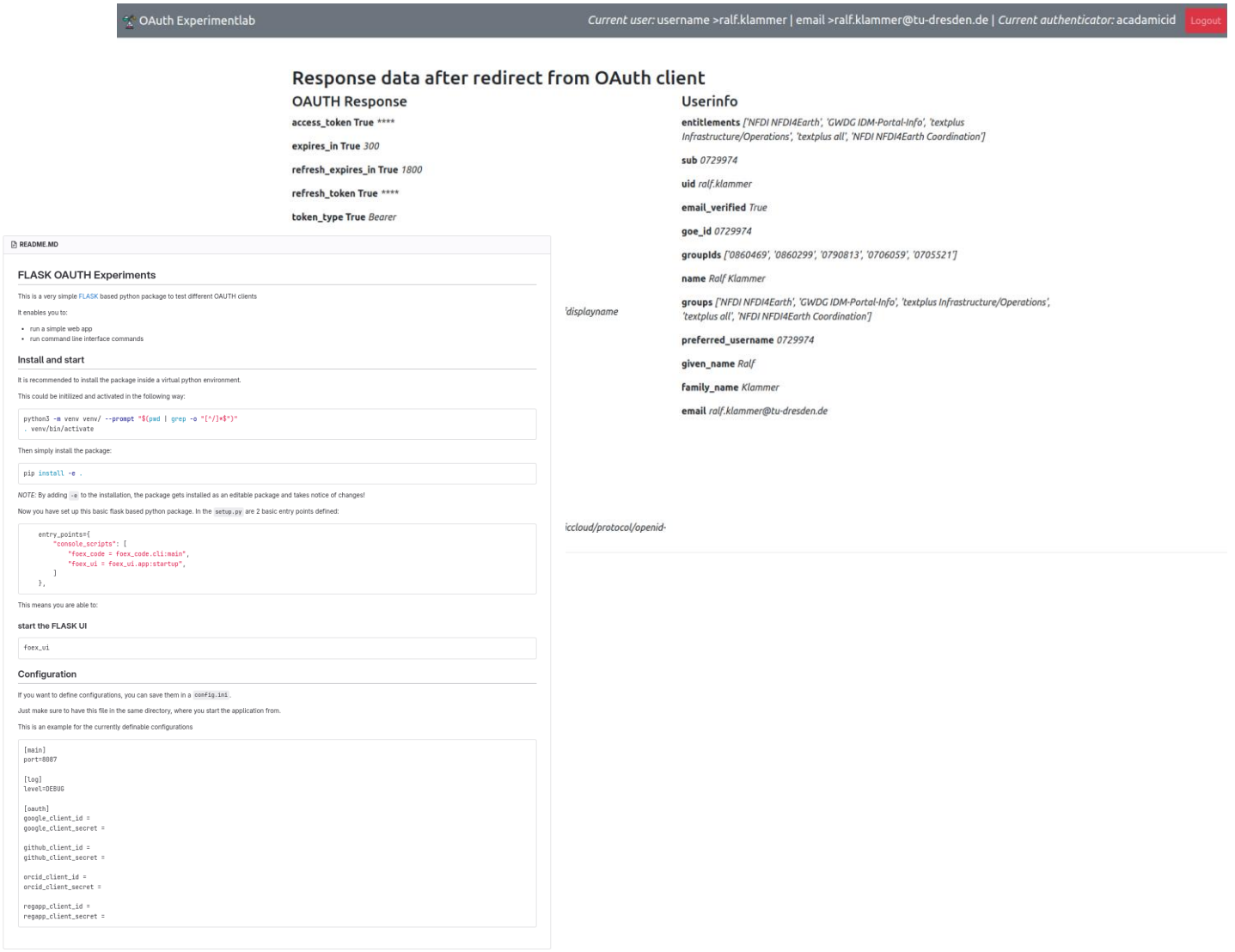


Process of the incubator project

- Goals:
  - Getting first impression of IAM4NFDI
  - Test usability and features of available Community AAIs
  - Find out how to decide between Community AAIs
- 3 major steps
  1. Test authentication process
  2. Test handling of Virtual Organizations
  3. Decide for one Community AAI

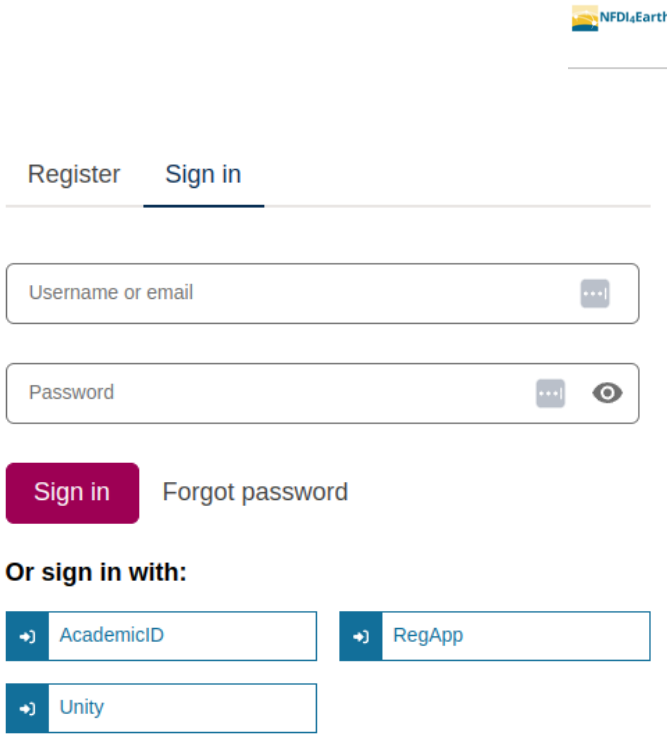
Step 1 - Authentication – Testapp

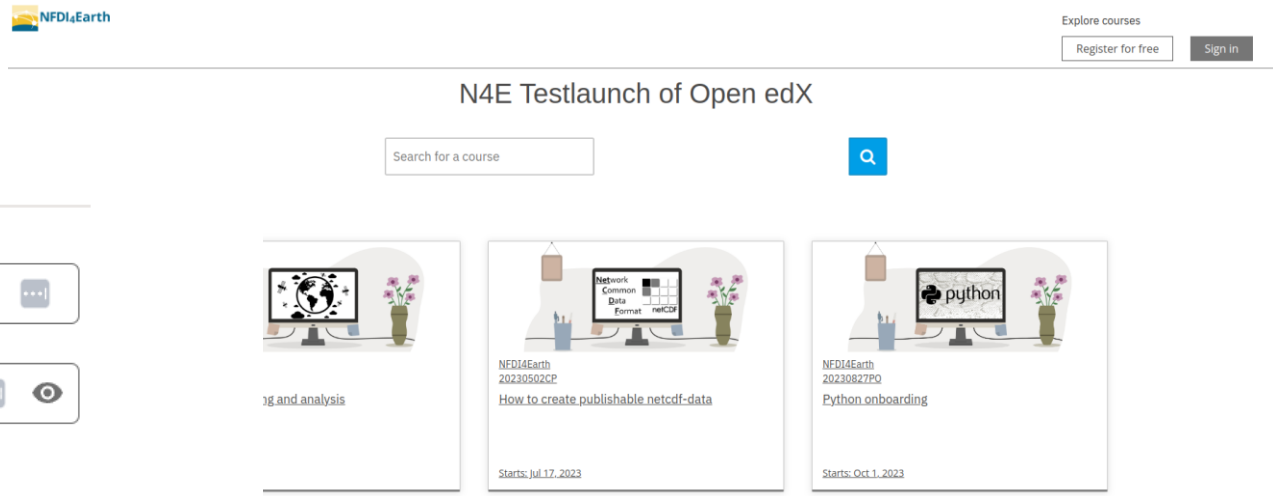
- Applied for OAuth-Client at 3 of 4 CAAIs (Unity, RegApp & AcademicID)
- Simple Flask Application to learn and test
  - "How to authenticate in general"
  - "How to authenticate via each CAAI"



Step 1 - Authentication - Open edX

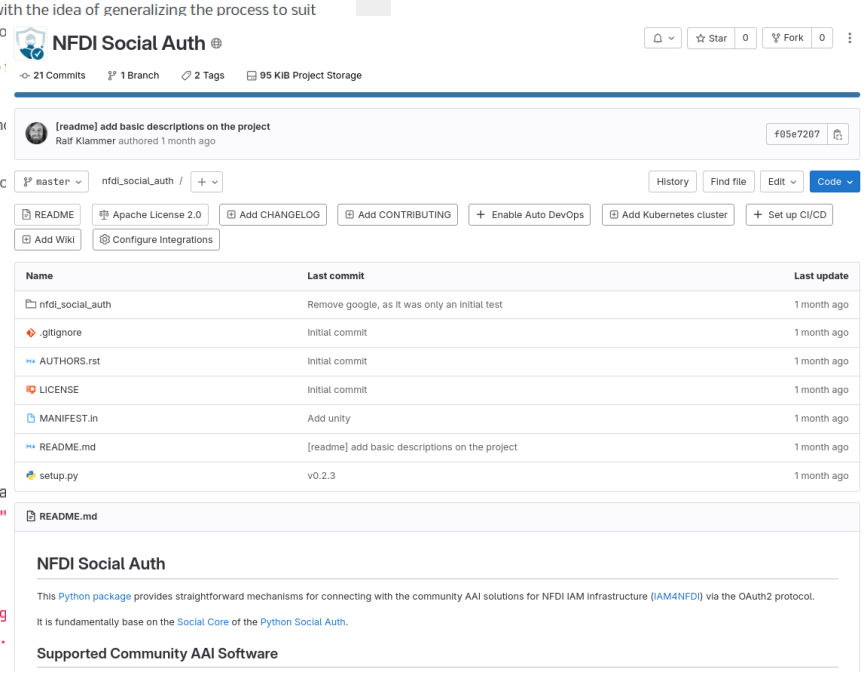
- Integrated 3 of the 4 CAAIs





Step 1 - Authentication – Python Social Auth

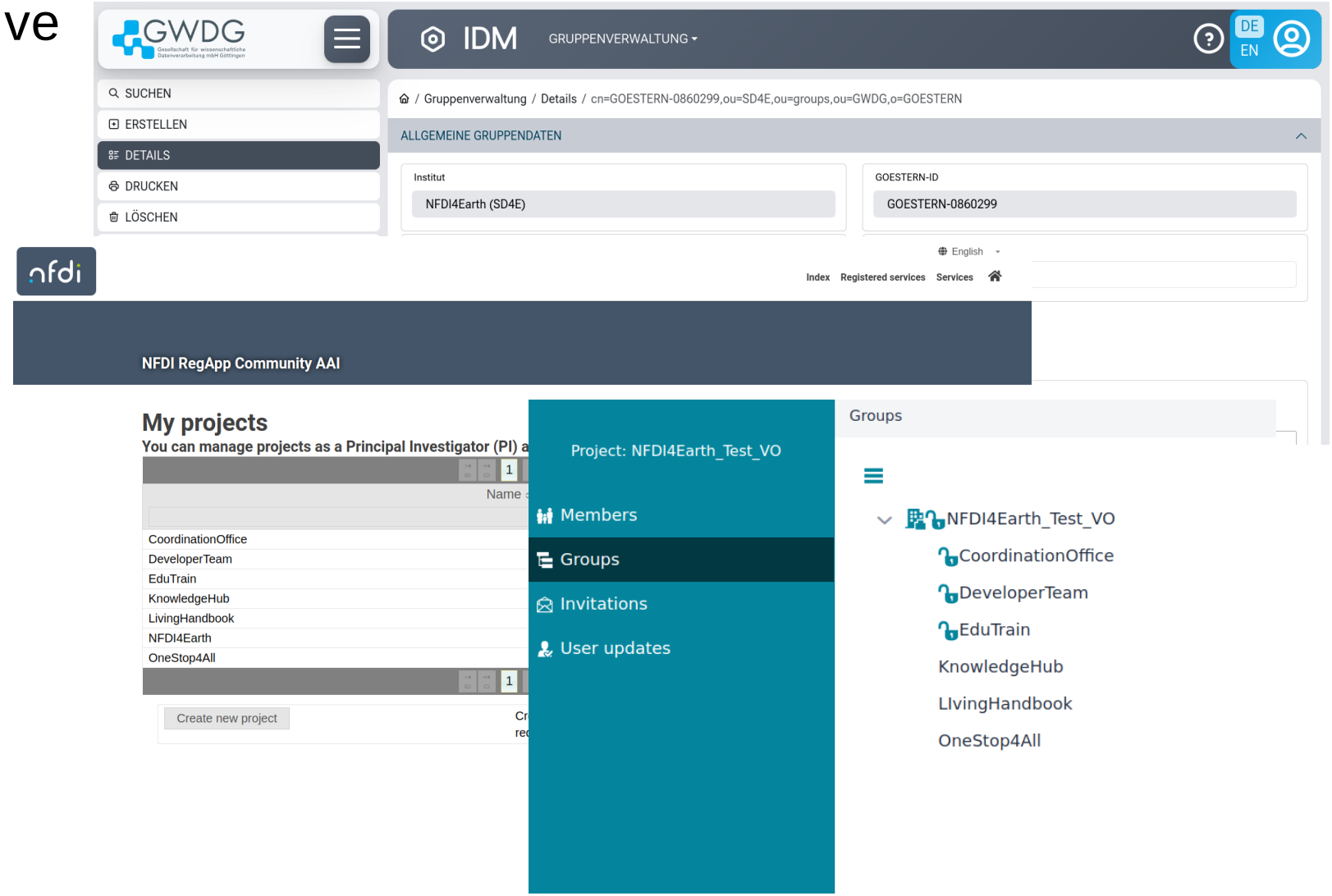
- Open edX based on Django
- makes use of "Python Social Auth" mechanism
- Simple integraton of CAAIs
  - third party auth provider
  - via tutor plugin
- Supplement:
  - [reusable python classes based on "Python Social Auth"]




```
57
58
59  class AcademicIDOAuth2(BaseAcademicIDOAuth2API, Ba
60      """AcademicID OAuth2 authentication backend"""
61
62      name = "academicid-oauth2"
63      REDIRECT_STATE = False
64      AUTHORIZATION_URL = "https://keycloak.sso.gwdg
65      ACCESS_TOKEN_URL = "https://keycloak.sso.gwdg.
66      ACCESS_TOKEN_METHOD = "POST"
67      REVOKE_TOKEN_URL = "https://keycloak.sso.gwdg.de/auth/realms/academiccloud/protocol/openid-connect/revoke"
68      REVOKE_TOKEN_METHOD = "GET"
69      # The order of the default scope is important
70      DEFAULT_SCOPE = ["email"]
71      EXTRA_DATA = [
72          ("refresh_token", "refresh_token", True),
73          ("expires_in", "expires"),
74          ("token_type", "token_type", True),
75      ]
```

Step 2 - Virtual Organisations

- Applied for administrative Accounts
- Tested
  - Handling of UI
  - Effect on "authentication attributes "



Step 3 – Decision on CAAI

- Find objective decision on 1 of the 3 tested CAAIs
- Comparison matrix with rating 1-5
- Decision process within consortium:
  1. Recommendation for one CAAI
  2. Proof of recommendation via internal group (responsible for "software decisions")
  3. Final decision via steering group

IAM4NFDI @ NFDI4Earth

Empfehlung zur Entscheidung für eine der angebotenen AAI Lösungen

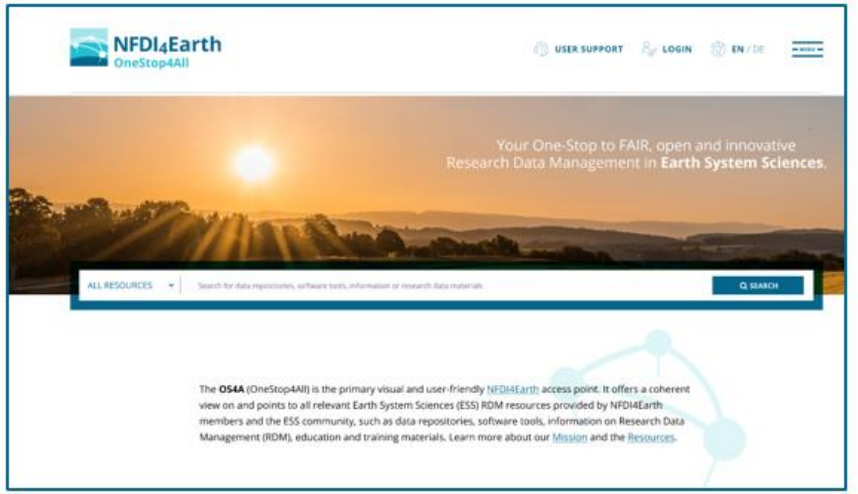
Grundlage

- IAM4NFDI a.k.a. "Identity and Access Management for the German National Rese Infrastructure"
- Schafft Voraussetzungen, dass Nutzende aus unterschiedlichen Disziplinen Kons

Nutzersicht			
Self-Service - Funktionsumfang	4	3	4
Self-Service - Usability	4	2	5
OAuth-Client			
Client Administration	3	-	-
Client Documentation	4	2	2
Client Support	4	5	3
Client 2FA	4	4	5
Organizational IdPs	5	4	4
Social IdPs	3	2	1
Virtual Organisation			
VO Administration - Funktionsumfang	4	3	5
VO Administration - Usability	3	2	5
Gruppenmanagement	4	3	4
Nutzer einladen	3	2	5
VO Documentation	5	1	5
VO Support	4	5	2
Mailinglisten	-	-	1
Historie	-	-	3
Export & Druck	-	-	2
Weitere Faktoren			
Development & Maintenance an einem Ort	-	1	1
Policy framework	5	3	4
Gesamtpunktzahl	**59**	**42**	**61**
Gesamteindruck	4	3	4
Bewertungsskala	-		
	1	nicht gut	
	2	größere Einschränkungen	
	3	basics verfügbar	
	4	so wie es zu erwarten ist	
	5	hat features, die über die Grunderwartung hinaus gehen	
Zusatzpunkte	- es gibt Aspekte, die beschwerlich durch die Standardskala abbildbar sind - darum habe ich mir damit beholfen, diese Kriterien durch Extrapunkte einfließen zu lassen - es wurde bis zu 3 Punkte vergeben		

Wrap up

- Getting first impression of IAM4NFDI
- Test usability and features of Community AAIs
- Find decision process
- Decide for one Community AAI



Thank You !

https://www.nfdi4earth.de/

Funded by
DFG Deutsche Forschungsgemeinschaft
German Research Foundation
through project no. 460036893 within the German National Research Data Infrastructure (NFDI, https://www.nfdi.de/).