

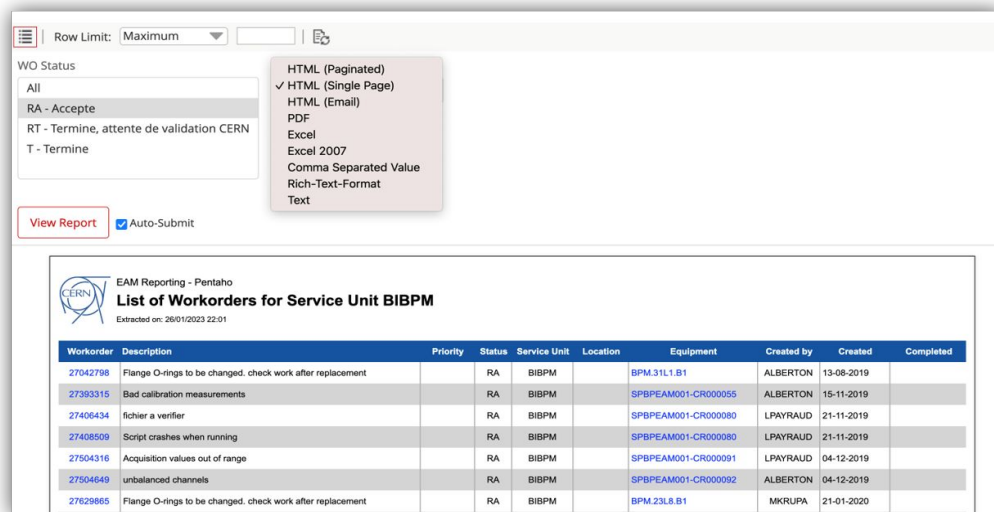
Openlab Summer Internship

Authentication Plugin for Pentaho

— Annette Shajan —
Supervisor: Jakub Granieczny

Pentaho

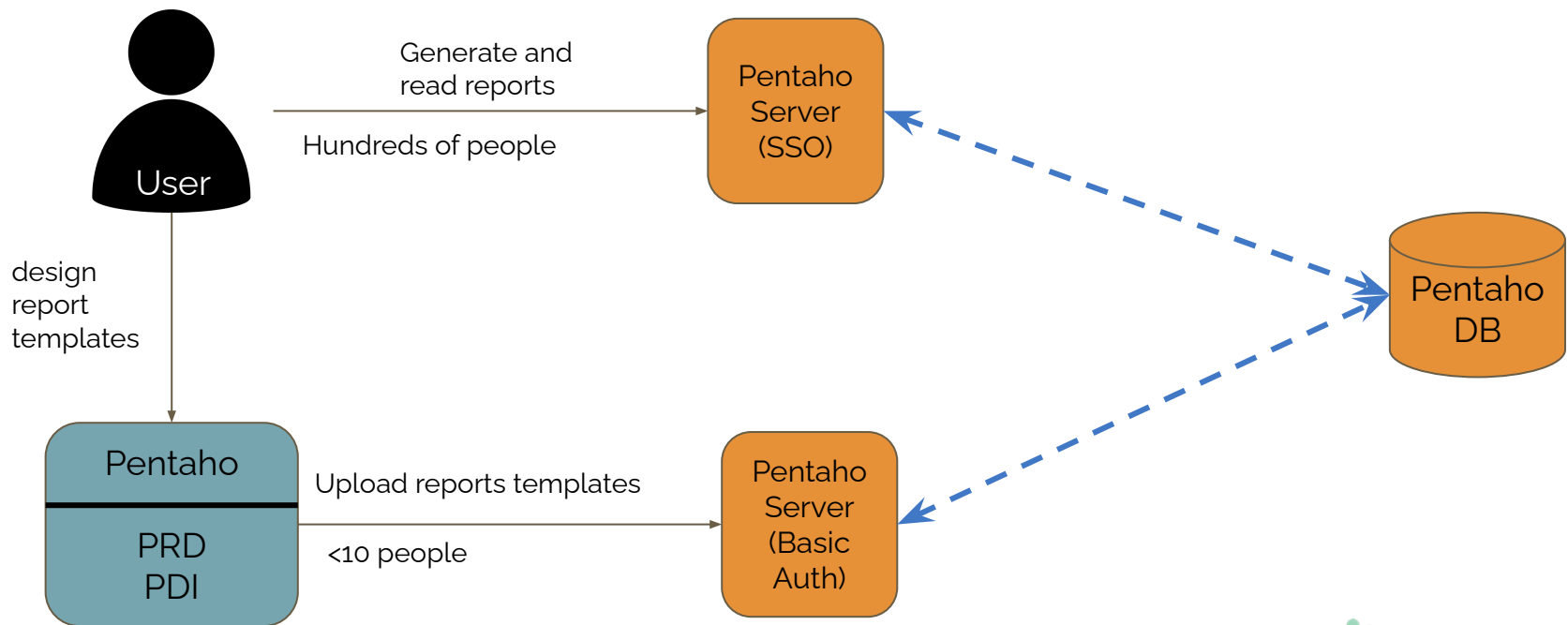
- Business Intelligence and Reporting Tool
- Consist of 3 main parts
 - Pentaho Server
 - Pentaho Report Designer (PRD)
 - Pentaho Data Integration (PDI)
- Used daily by hundreds of employees and contractors in CERN administration, HR, site management, infrastructure, contracts, etc.



The screenshot displays the Pentaho reporting interface. At the top, there is a 'Row Limit' dropdown set to 'Maximum'. Below it, a 'WO Status' filter menu is open, showing options: 'All', 'RA - Accepte', 'RT - Termine, attente de validation CERN', and 'T - Termine'. A secondary menu is also open, listing report formats: 'HTML (Paginated)', 'HTML (Single Page)', 'HTML (Email)', 'PDF', 'Excel', 'Excel 2007', 'Comma Separated Value', 'Rich-Text-Format', and 'Text'. A 'View Report' button and an 'Auto-Submit' checkbox are visible. The main content area shows a report titled 'EAM Reporting - Pentaho' and 'List of Workorders for Service Unit BIBPM', extracted on 26/01/2023 22:01. The report contains a table with columns: Workorder, Description, Priority, Status, Service Unit, Location, Equipment, Created by, Created, and Completed.

Workorder	Description	Priority	Status	Service Unit	Location	Equipment	Created by	Created	Completed
27042798	Flange O-rings to be changed. check work after replacement		RA	BIBPM		BPM.31L1.B1	ALBERTON	13-08-2019	
27393315	Bad calibration measurements		RA	BIBPM		SPBPEAM001-CR000055	ALBERTON	15-11-2019	
27406434	fichier a verifier		RA	BIBPM		SPBPEAM001-CR000080	LPAYRAUD	21-11-2019	
27408509	Script crashes when running		RA	BIBPM		SPBPEAM001-CR000080	LPAYRAUD	21-11-2019	
27504316	Acquisition values out of range		RA	BIBPM		SPBPEAM001-CR000091	LPAYRAUD	04-12-2019	
27504649	unbalanced channels		RA	BIBPM		SPBPEAM001-CR000092	ALBERTON	04-12-2019	
27829865	Flange O-rings to be changed. check work after replacement		RA	BIBPM		BPM.23L8.B1	MKRUPA	21-01-2020	

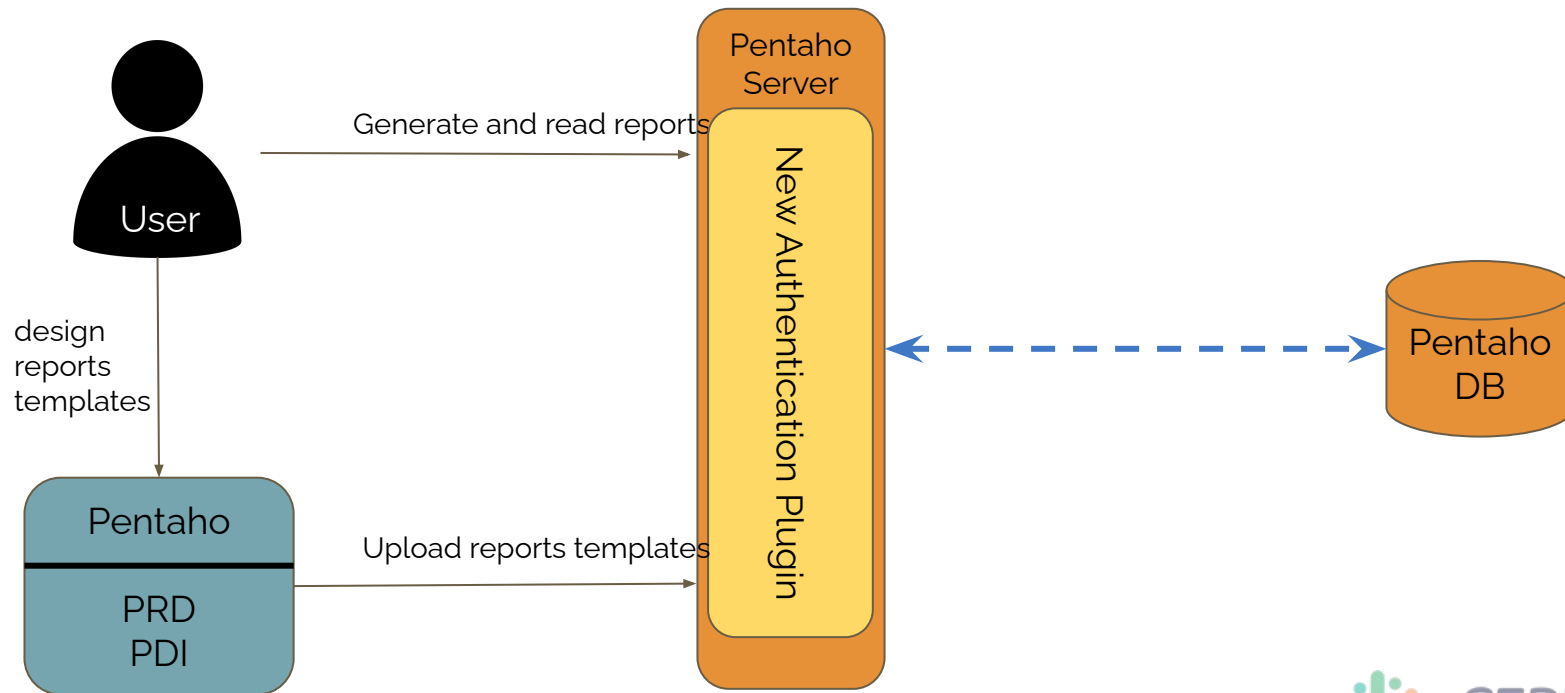
Current Setup



Problems with Current Setup

- Too many resources being used
- Complicated deployment
- multiple credentials → multiple authentication mechanisms
- Confusion for end users
- Upgrades take double the time
- Cannot have parallel restarts of deployment (DB conflict)

Solution



Possible Solutions

- **SAML (currently used)**

Web based authentication mechanism with browser as broker of authentication flow.

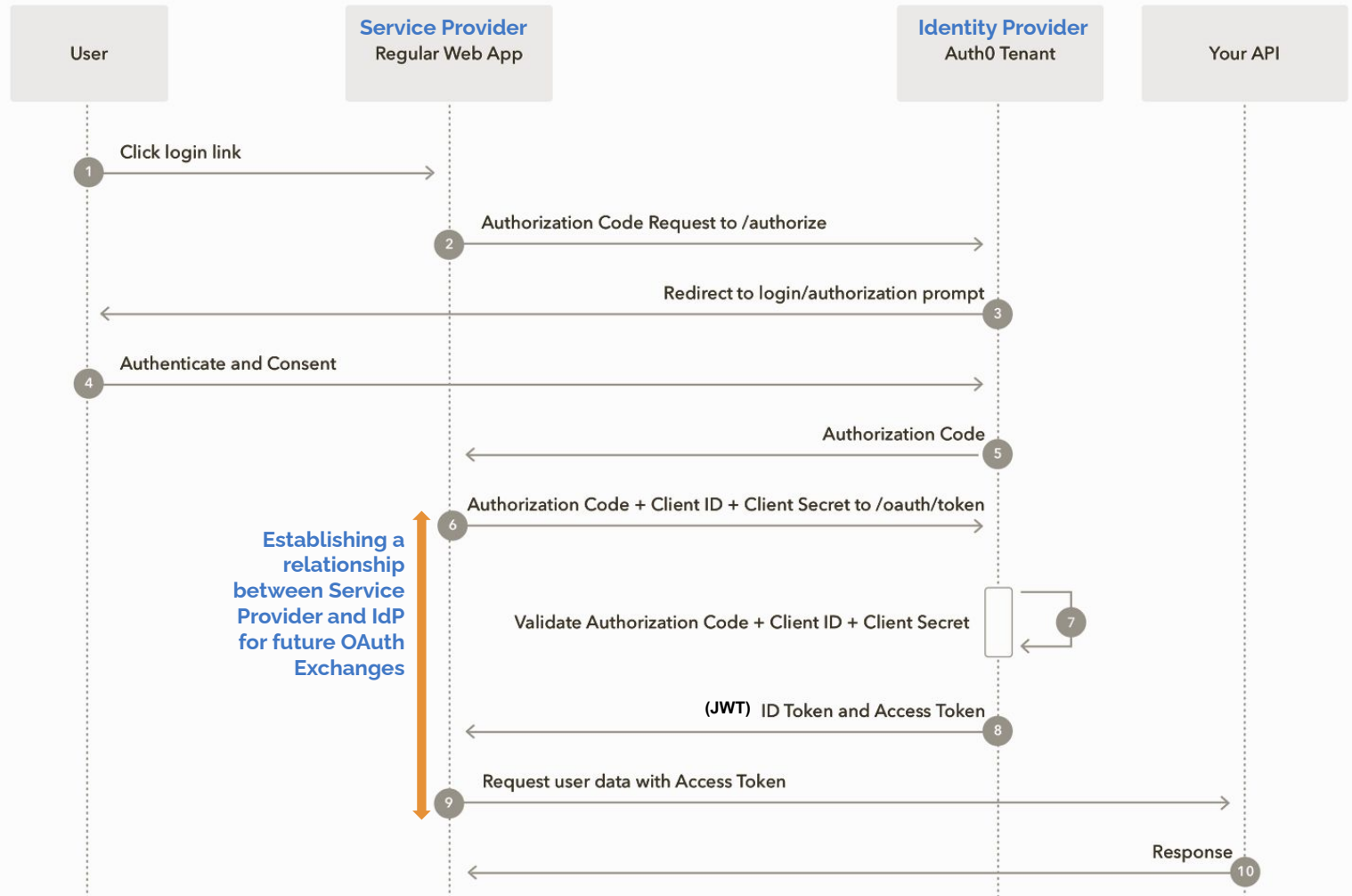
- **KeyCloak**

Use of spring security adapter as a dependency in the project. Deprecated and will be removed in future release.

- **OIDC (base for the new plugin)**

Similar to SAML; uses OAuth2 authorisation framework.

OpenID Connect (OIDC)



Why OIDC?

- Lightweight solution with better performance: use of JWTs
- Simpler than SAML
- Easy to do automatic flows
- Can be extended to scripts, APIs
- Possible to integrate with CERN SSO

Progress

- Set up test instance of Pentaho
- Set up local pentaho server
- Implemented the OIDC plugin in local system
- Connected PRD with LDAP connector
- Integrating LDAP with OIDC (ongoing)
- Deployment of the plugin on server (future)
- Ensure parallel restarts happen smoothly (future)

Thank you!