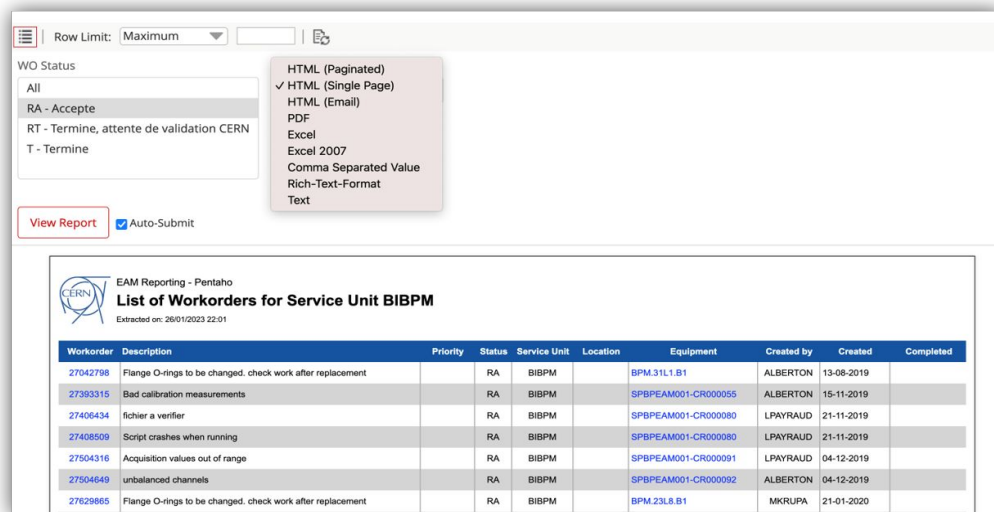# Openlab Summer Internship
Authentication Plugin for Pentaho

Annette Shajan
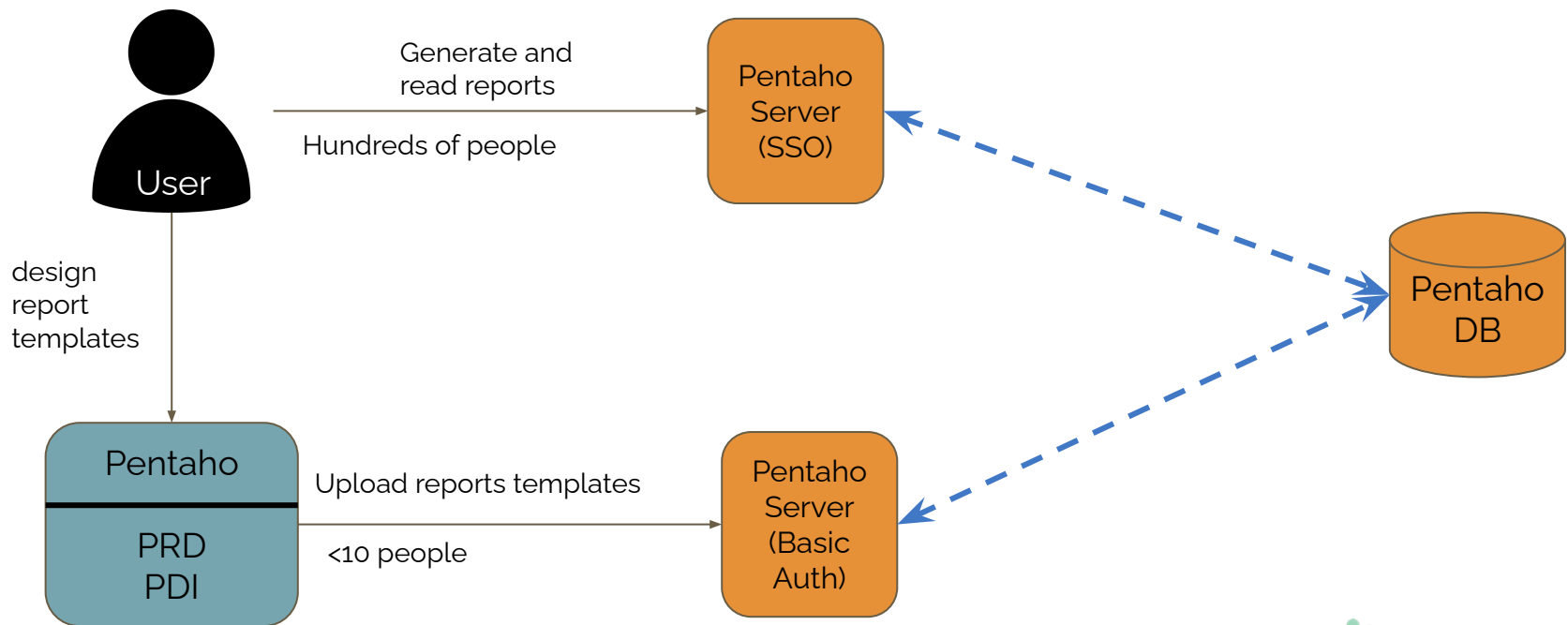**Supervisor: Jakub Granieczny**

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.

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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
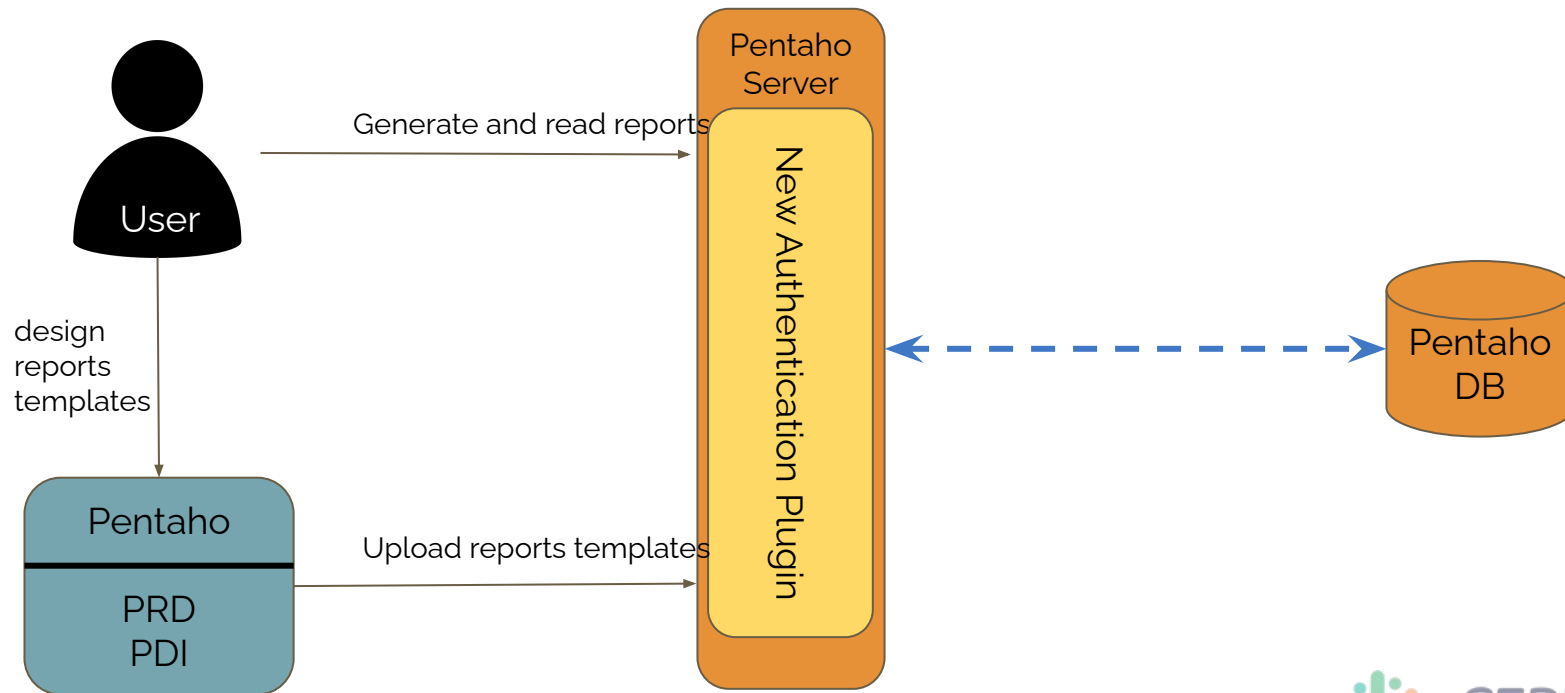
Possible Solutions

- **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.

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OpenID Connect (OIDC)

| | User | Service Provider
Regular Web App | Identity Provider
Auth0 Tenant | Your API |

1. Click login link (User → Service Provider)
2. Authorization Code Request to /authorize (Service Provider → Identity Provider)
3. Redirect to login/authorization prompt (Identity Provider → User)
4. Authenticate and Consent (User → Identity Provider)
5. Authorization Code (Identity Provider → Service Provider)
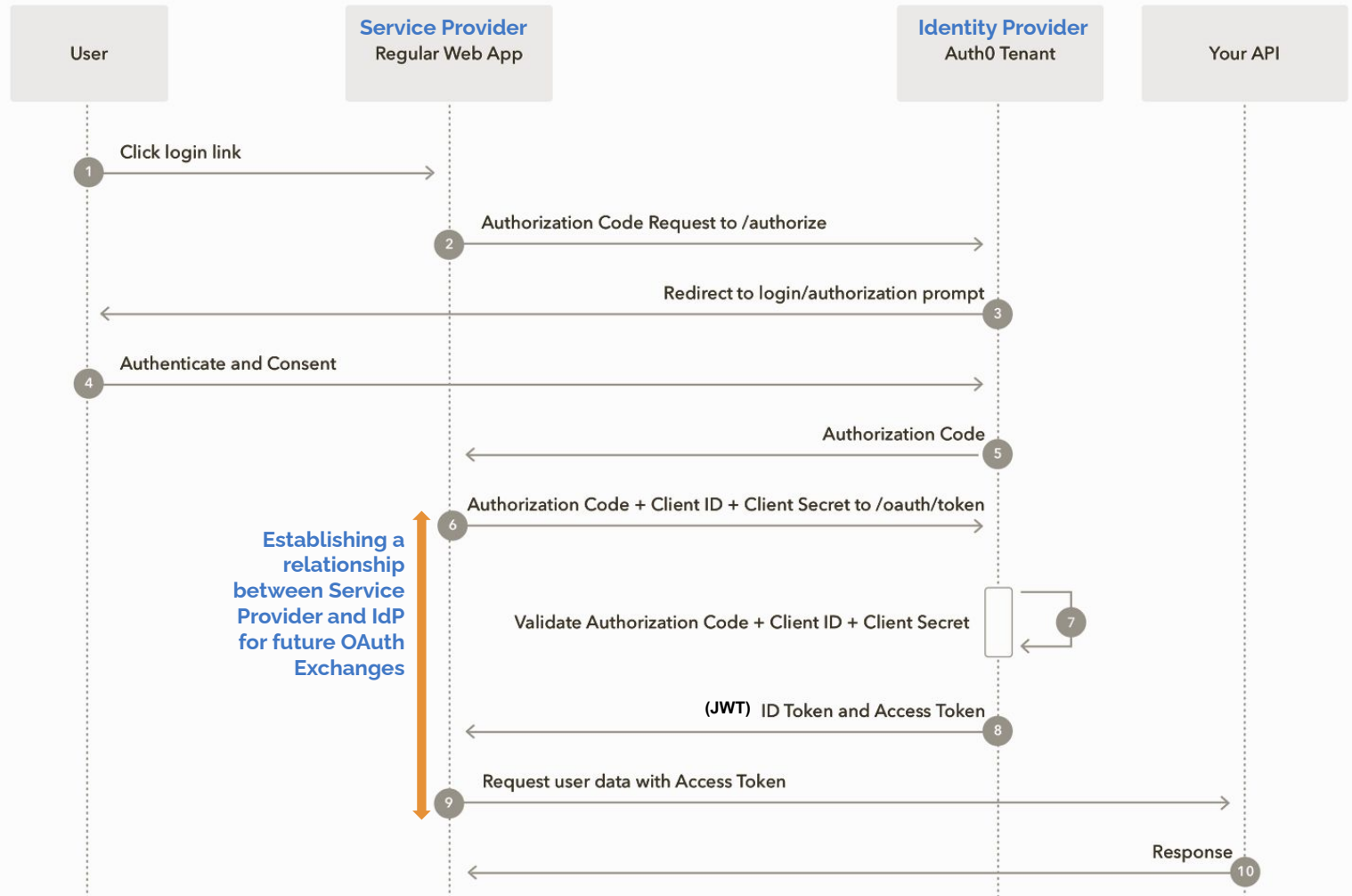6. Authorization Code + Client ID + Client Secret to /oauth/token (Service Provider → Identity Provider)

Establishing a relationship between Service Provider and IdP for future OAuth Exchanges

7. Validate Authorization Code + Client ID + Client Secret (Identity Provider)
8. **(JWT)** ID Token and Access Token (Identity Provider → Service Provider)
9. Request user data with Access Token (Service Provider → Your API)
10. Response (Your API → Service Provider)

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!