JumpaDokter: Simplifying the Electronic Medical Record with DHIS2 Engine

HISP Indonesia
Outlines

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JumpaDokter

JumpaDokter is an ecosystem of systems for Electronic Medical Record management, such as Health Service, Diagnosis, and Medicines.

The big vision of JumpaDokter is to help any private health facilities that doesn’t have any EMR application, to use JumpaDokter as EMR application in compliance with the Indonesian MOH regulation that imposes any Health Facilities must use Electronic Medical Record on 2024.

JumpaDokter uses DHIS2 engine as a core application that very helpfully to build EMR metadata, and integrate with any custom application.

JumpaDokter will help facilities to manage health service and patient medical record.

JumpaDokter was developed by using several renowned technology for creating Web and Mobile applications like nodejs, React, and Flutter.

JumpaDokter currently in development for integration with SATUSEHAT to support the Indonesian Health Government interoperability for health information.
JumpaDokter Ecosystem contains several applications that integrate with each other by DHIS2 engine.

- **JumpaDokter mobile** for patient health service appointment.
- **Doctor Web App** for doctor to document the service given to the patient.
- **API Bridge** as a middleware between Doctor Web App, JumpaDoctor mobile with DHIS2 core engine. Also support for ICD10 API for diagnosis standard, and ICD9 API for procedural standard.
- **JumpaDokter Admin**, managing doctor schedules and health services.
- **DHIS2 to SATUSEHAT Platform**, data mapping and interoperability layer for JumpaDokter to SATUSEHAT platform (Indonesian health data exchange protocol).
JumpaDokter Mobile is a mobile based application build with Flutter and Firebase as authentication and notification. This mobile application integrate with JumpaDokter DHIS2 engine over API Bridge with Rest API.

JumpaDokter Mobile empowers patients by offering a user-friendly and accessible platform to order health services or virtual consultation whenever and wherever they want.

JumpaDokter Mobile provide OTP authentication with user phone number that make JumpaDokter easier to use.
JumpaDokter Doctor App

- **JumpaDokter Doctor App**, is a web based application created with *React* and *NodeJs* that integrate with JumpaDokter DHIS2 engine over API Bridge with Rest API.

- **Doctor App** provided Basic authentication that follow the DHIS2 authentication.

- This application provide several features like, view list of patients, enter patient medical records, and view the schedule for health services.
DHIS2 To SATUSEHAT Platform
DHIS2 To SatuSehat App | Data Flow

- **DHIS2 To SatuSehat App**, is a web based application created with DHIS2 Custom App.
- Integrate directly with JumpaDokter DHIS2 Engine.
- Mapping JumpaDokter health data (patient, doctors, clinics, patient EMR) to SATUSEHAT standard.
- Data exchange layer between JumpaDokter and SATUSEHAT Platform

**Process:**

1. Request to get data sources to DHIS2 that need to store to the FHIR Data Storage
2. DHIS2 return the requested data.
3. The DHIS2 to FHIR web App Request the data matching template to the Backend
4. DHIS2 to FHIR Backend return the Data Template Matching
5. DHIS2 to FHIR Web App view the mapped data and send to DHIS2 to FHIR Backend
6. DHIS2 to FHIR Backend store the mapped data to FHIR Data Storage
**Data Mapping Flow**

**DHIS2 Json Structure**
- Clinics/Health Facilities taken from DHIS2 Organisation Units.
- Patients taken from Trackedentityinstances.
- Diagnosage taken from events that tied to Patient trackedentities,

**DHIS2 to Json Simplify Template**
- **Json Template** provided metadata data mapping template scheme from DHIS2 to SatuSehat Json Simplify.

**SatuSehat Json Simplify Structure**
- **JSON Simplify** provided by DHIS2 to SatuSehat backend that used for easier data mapping.
- From this json simplify, DHIS2 to SatuSehat backend will convert it to SatuSehat Json standard.

**SatuSehat Json** is json standard that contains complex json structure. Difficult to use for data mapping.
Dashboard, this page will show the summary of all queue event was executed by DHIS2 to FHIR Backend.
- **Template**, is a feature in DHIS2 to FHIR APP, to create a template scheme for data mapping from DHIS2 to FHIR json simplify (provided by DHIS2 to FHIR Backend).
- For DHIS2 resource will be a dropdown with values OrganisatonUnits, TrackedEntity, and Event.
- If OganisationUnits is selected, the mapping field will taken from root json field from OrganisationUnits.
- If TrackedEntity is selected, the mapping field will taken from attributes field from TrackedEntityInstances.
- If Event is selected, the mapping field will taken from dataValues field from Event.
- **Queue**, is a feature in DHIS2 to FHIR APP, to create a queue from selected scheme template. The page will show the result of data mapping that follow the json simplify structure of FHIR resource.

- **Queue list**, is a feature in DHIS2 to FHIR APP, to show the list of created queue with it's status.
UI Design | Settings

Setting Page to configure the DHIS2 to SatuSehat backend and SatuSehat/FHIR client ID and Secret ID.
THANK YOU :)