The TMSS project for LOFAR 2.0 operations
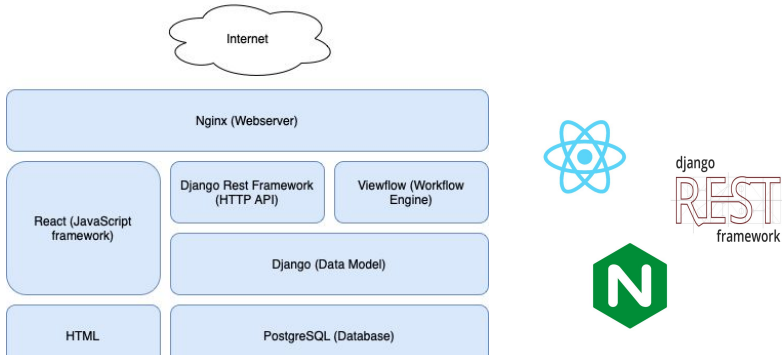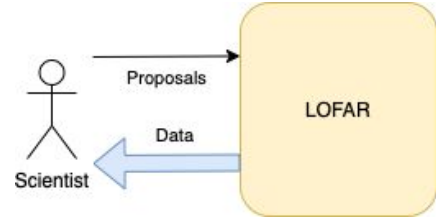
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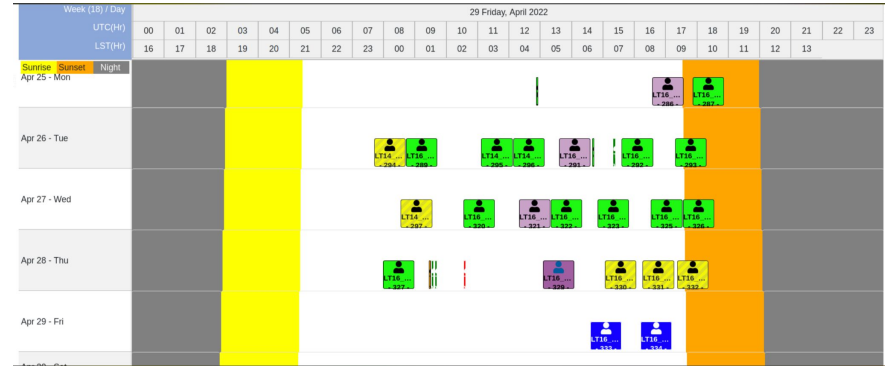*Forum della Ricerca Sperimentale e Tecnologica in INAF 2022 - Bologna*

TMSS Overview

The **TMSS (Telescope Manager Specification System)** project can be seen as:

a user proposing specifications to LOFAR observations and receiving results for such operations.

It is developed by employing state-of-the-art *Web technologies*, *open source* and *modern de-facto global standards packages*.
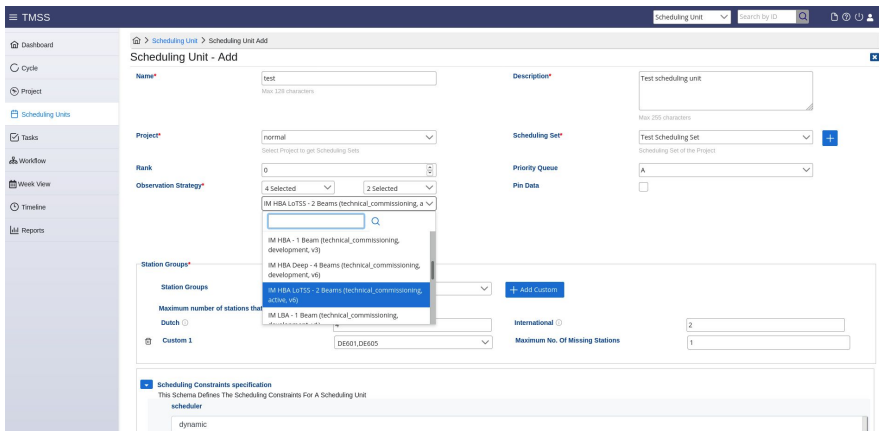

TMSS Timeline View
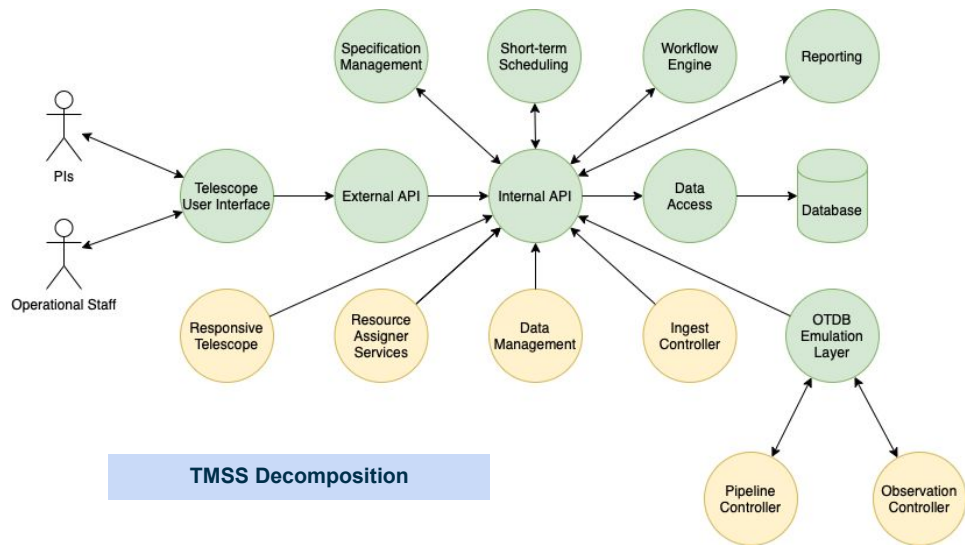
TMSS Architecture

The system supports a selection of standard **observing strategies**.

TMSS implements a **dynamic scheduling** mechanism to optimise the operational procedures, (partially) automated by handling priority classes. The scheduler also takes care of reserved resources (e.g., maintenance windows).

The **quality assessment workflow** helps to streamline the reporting of observations to the PIs.
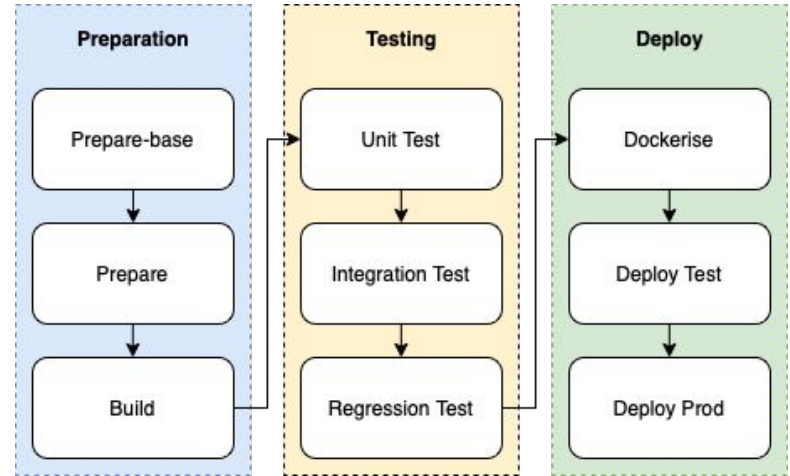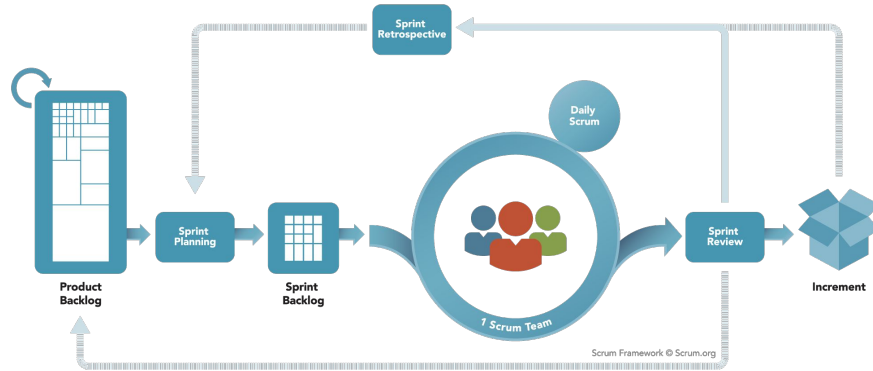
TMSS is able to generate **reports** tailored to the users' needs.

TMSS Decomposition

TMSS Development Process

TMSS embraces the **Scrum AGILE methodology**.

Issue tracking and AGILE project management are conducted using the *Jira* and *Confluence* softwares.

The development process is supported by using a **Gitlab pipeline** that ensures *CI/CD practices* and *QA*.

Test coverage: *unit tests*, *integration tests* and *regression tests*.

Conclusions and Future Work

Jan 2020   Apr 2020   *TMSS Timeline*   Oct 2021   Apr 2022   Oct 2022
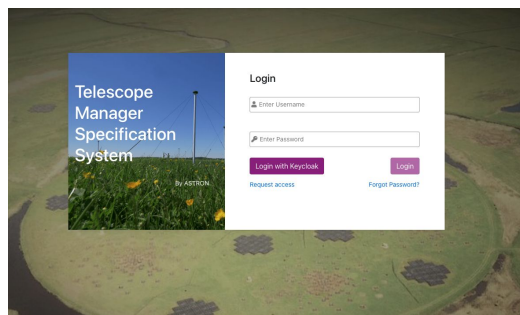
- Run its **first observation** in April 2020
- Deployed to **production** in October 2021
- Successfully performed its **first production observation** in April 2022
- *Validation* and *commissioning* is still ongoing
- **Further work** is planned to support additional *observing strategies* and *campaigns* until the end of October 2022

TMSS is currently available at https://tmss.lofar.eu/

The code is open source available at https://git.astron.nl/ro/lofar

For any questions or more info, please contact me: mario.raciti@inaf.it