

A full stack data acquisition, archive and access solution for J-TEXT based on Web technologies

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Flexible and fast deployable data acquisition system has been always demanded by tokamak facilities. This work proposes a full stack data acquisition, archive and access solution for J-TEXT based on Web technologies. This solution is based on a single unified software. This software can be configured into data acquisition software, data archiving server as well as data access and management server. All of the above systems are using the same communication interface: HTTP RESTful API which unifies the status monitoring, command sending even diagnostic data accessing. A working system on J-TEXT were built using this solution. It consists of data acquisition system for ECEI and an archiving system build on HDF5 files. A data management system and a unified data access interface are also implemented using this solution. User can access data from the HDF5 or MDSplus server without noticing which data source is providing the data. All the user interfaces in this system are built as web pages which can be accessed using web browser on various devices. It is integrated into J-TEXT CODAC system which is based on EPICS CA and MDSplus. This solution provides unified data access interface and unified software for deployment.

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