FIWARE Workshop

IIITD&M, Jabalpur, India

Rahul Tomar, Peter Muryshkin, James Clarke - 26 November 2016

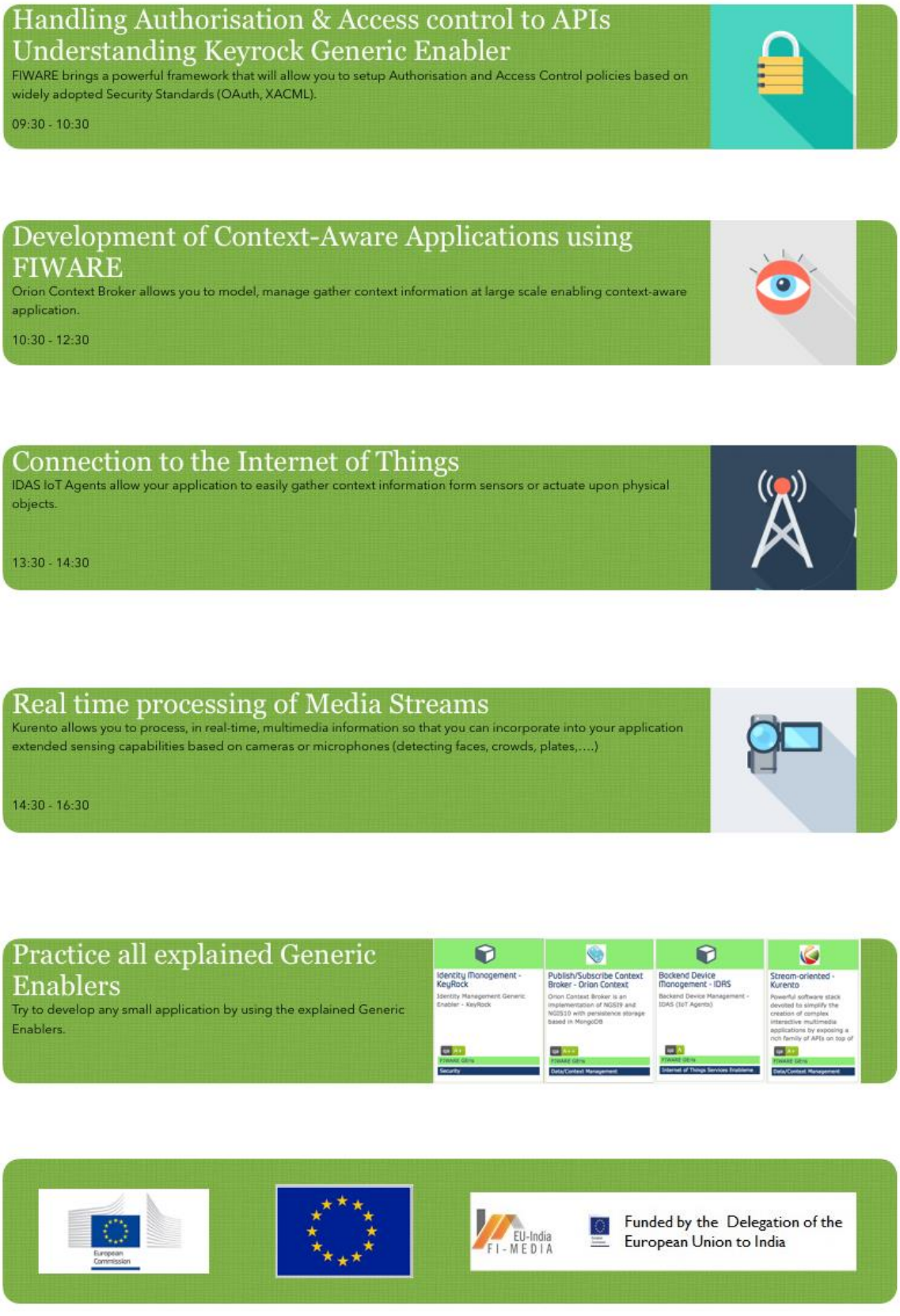
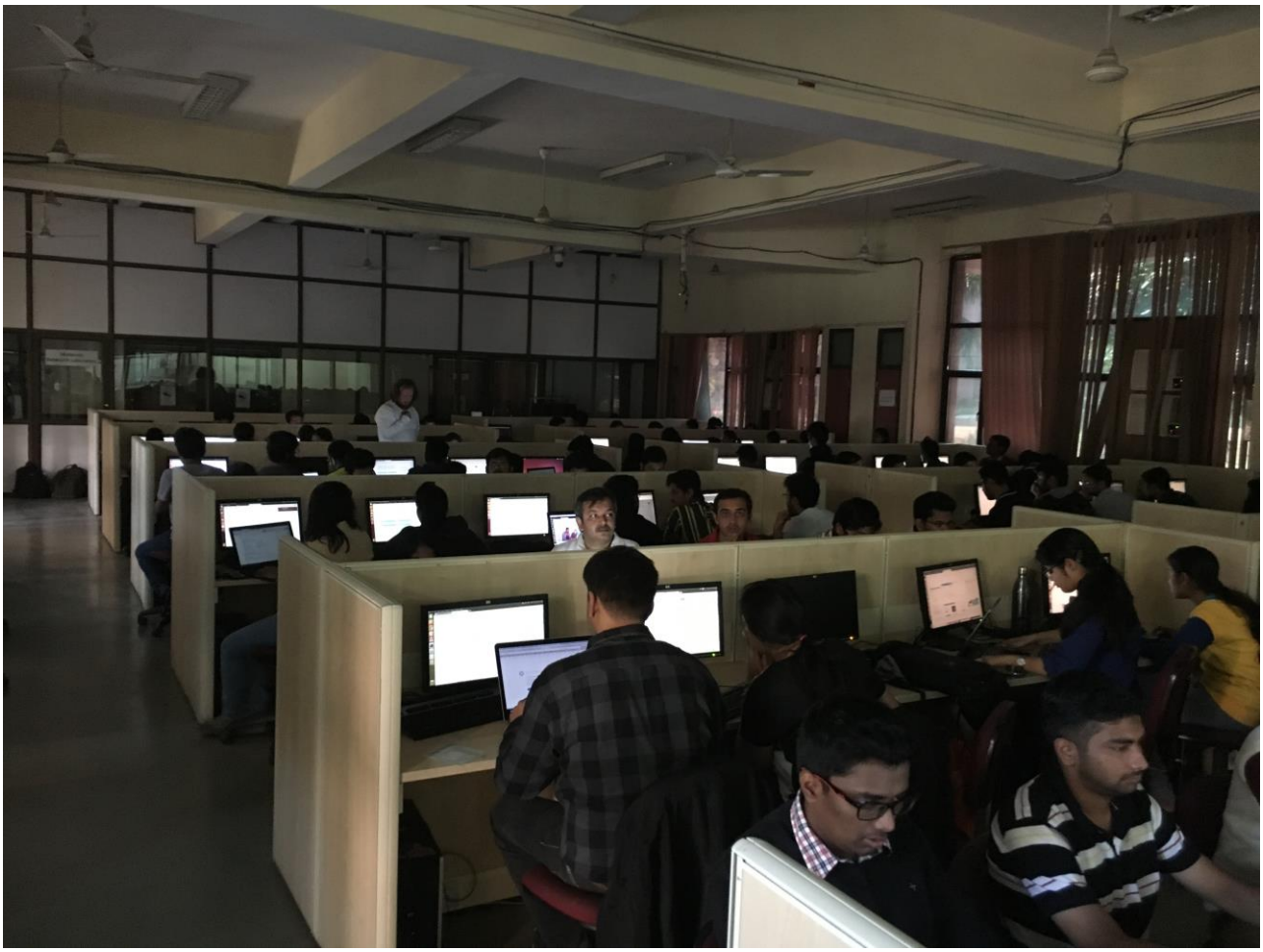


Figure 1 - Agenda

EU-INDIA FI-MEDIA
FIWARE LAB
PDPM IIITDM JABALPUR



The Morning session was started with inaugurating FIWARE Lab by the Director of IIITD&M Jabalpur, Prof. Pramod Kumar Jain along with James Clarke (Waterford IT & FI-MEDIA coordinator), Peter Muryshkin (Fraunhofer IAIS, Germany), Rahul Tomar (CTO & Co-Founder Smart Cities Lab, Germany), Prof. M.P. Gupta (Dhanjay Chair Professor & Head - DMS at IIT Delhi, India), Abhishek Sharma (Beyond Evolution Tech Solutions, Gurgaon, India), Dr. Ruchir Gupta (Prof. IIITD&M Jabalpur), Dr. Pritee Khanna (Prof. IIITD&M Jabalpur) and 90 participants from the Institute and other organisation from Jabalpur and Aalto University, Finland. This is the first FIWARE Lab set up in India.

Immediately after the launch, Peter Muryshkin explained FIWARE Lab (as shown in Figure 2) to the attendees and how to open account in FI-Lab and start working with it.

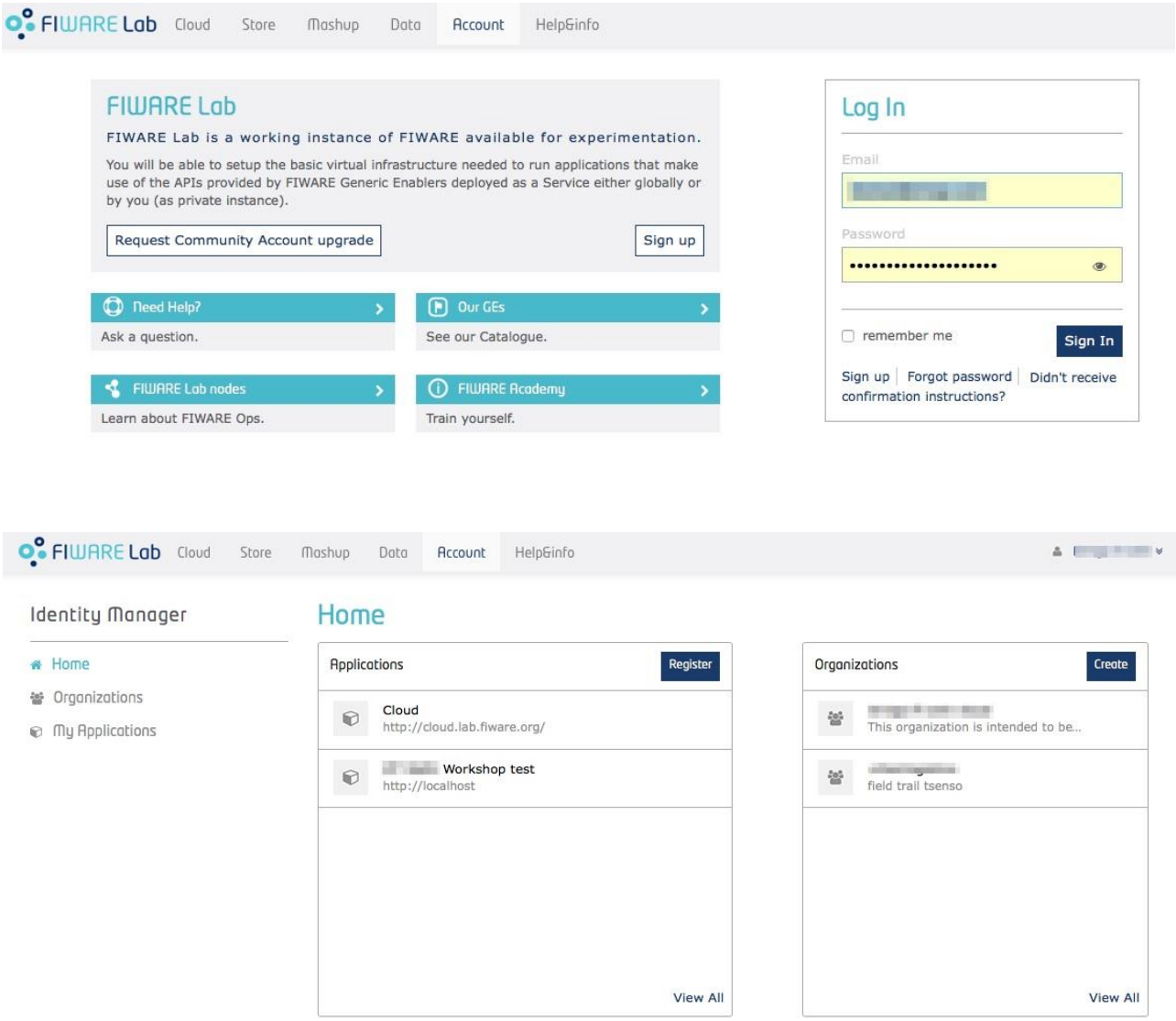
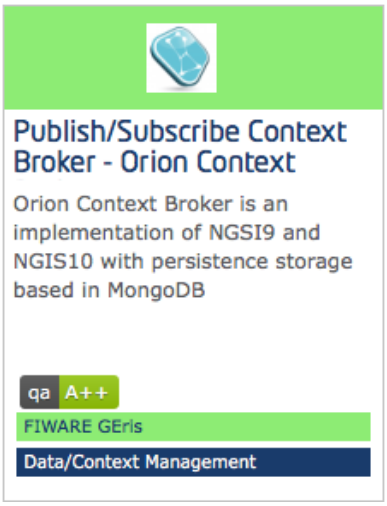


Figure 2 – FIWARE Lab

All of the participants have created their trial account to go further with the workshop. After this, Rahul Tomar took over explaining the Generic Enablers (GEs) of FIWARE as per the agenda mentioned above. It was started by explaining the Keyrock Generic Enabler. Identity Manager (IdM) GE API specifications comply with existing standards for authentication and user and provide access information. The presentation on Keyrock can be downloaded from here[1].

For explaining the concept even better, codes have been presented to the developers. The code can be downloaded from the GitHub repository. GitHub Tutorial Link[2].

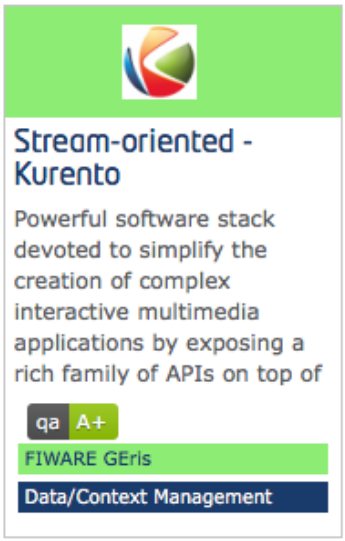
[1] https://www.dropbox.com/s/lgbfiv7l8bxxi8m/Keyrock.pdf?dl=0
[2] https://github.com/1605200517/fi_delhi2016/tree/master/keyrock.tutorial



A second GE, Orion Context Broker[3], was presented in front of the attendees. The Orion Context Broker is an implementation of the Publish/Subscribe Context Broker GE, providing the NGSI9 and NGSI10 interfaces. Using these interfaces, clients can carry out several operations:

- Register context producer applications, e.g. a temperature sensor within a room;
- Update context information, e.g. send updates of temperature;
- Being notified when changes on context information take place (e.g. the temperature has changed) or with a given frequency (e.g. get the temperature each minute);
- Query context information. The Orion Context Broker stores context information updated from applications, so queries are resolved based on that information.

In the afternoon session, a third GE that was presented entitiled IDAS. IDAS IoT Agents translate IoT-specific protocols into the NGSI context information protocol, which is the FIWARE standard data exchange model. It was explained how developers do not need this component if their devices or gateways natively support the NGSI API.



Finally, the GE Kurento was presented. The *Stream Oriented GE Kurento* is a multimedia platform aimed to help developers to add multimedia capabilities to their applications.

In the hands-on sessions, the participants significantly worked with all these Generic Enablers to understand how to use NodeJS for developing applications.

The selection of Jabalpur as the venue for the FIWARE Lab workshop is important since Jabalpur was announced by the Government of India in seventh place in the list of first 20 smart cities under 'Smart Cities Mission', where the aim is to identify challenges and explore opportunities in order to support creativity and interdisciplinary collaboration required for development of smart cities. IIITD&M Jabalpur, EU-INDIA FI-MEDIA project[4], funded by the Delegation of the EU to India, and Smart Cities Lab organised the full day hands-on developers workshop on FIWARE technologies specifically for Smart Cities, including IoT. There were over 90 attentive participants for the entire day at the workshop and follow up activites are being planned.

[3] https://www.dropbox.com/s/tx0rd4ri274ac0z/Orion-Context-Broker.pdf?dl=0
[4] http://www.bic-fimedia.eu/