MARTEL
innovate

WALKING YOU
THROUGH
FIWARE SOLUTIONS

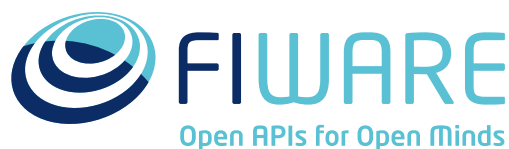FIWARE
OPEN APIs FOR OPEN MINDS

martel-innovate.com/training

WHAT IS FIWARE?

FIWARE is an open software platform for the creation of innovative Cloud-based applications and services. It provides both powerful and easy-to-use modules that allow developers to quickly and cost-effectively build their applications. Development of context-aware applications that connect to the Internet of Things, carry out real-time processing of data and content, perform BigData analysis or incorporate advanced user interface capabilities, has never been so easy, saving developers time and effort. FIWARE components provide APIs that are public and royalty free, supported by open source reference implementations.

MARTEL, A FIWARE PIONEER

The Martel team has a long history with FIWARE and has been intimately involved with its development since FIWARE was created in 2011. The head of Martel Lab, Dr. Federico Facca, is one of the driving forces in the OPS and LAB activities. Since early 2017, Martel has been a FIWARE Gold Member, taking part in technically steering the FIWARE Community. Our team has presented results of our technical activities in all FIWARE summits held so far. Also, it has been a leading partner in several H2020 FIWARE related projects, such as: FI-CORE, FINEXT, SmartSDK, FIWARE Mexico.

#SmartCities   #eHealth   #Manufacturing &Logisticts   #Media &Content

#Social &learning   #Transport   #Agrifood   #Energy &Environment

FIWARE
Open APIs for Open Minds

OUR FIWARE STORIES

QUANTUMLEAP

QuantumLeap is an API that supports the storage of NGSIv2 data into a time series database with scalable and geo-localised query functionalities for NGSI historical data. IoT data are streamed and saved in a persistent form that allows database storage, customizable dashboard visualizations and data comparison. Data can therefore be exported for further analysis and reinserted into QuantumLeap. QuantumLeap has recently been approved as an official incubated FIWARE Generic Enabler.

ORCHESTRA CITIES

Orchestra Cities is a Smart City platform that fosters the creation of a collaborative space for cities and citizens to share data, services and solutions. It does this through a modular scalable solution embracing small cities' needs and cost constraints. Having successfully completed the first phases of a Public Procurement with the cities of Antwerp, Copenhagen and Helsinki, Orchestra Cities is currently under active development. A first beta version was released in June 2018 and it is now being prepared for the next in-city testing phase.

OUR FIWARE STORIES

➕ GREEN ROUTE

Martel is supporting the development of a Smart City solution for Mexico City that provides green routing services in polluted cities. The application is focused on supporting citizen mobility in highly polluted cities, like Mexico City, with the aim of improving citizens' quality of life and fostering environmentally-friendly behaviours by citizens. The objective of Green Route is to help the final user determine the best route to follow to reach a destination, taking into account the user profile (such as health conditions), and user preferences, such as transport type.

➕ SMART SECURITY

Traditional video-surveillance systems provide a closed circuit of video cameras connected with a control room where the user (commonly a security guard) can verify the visual information. These systems have been useful; however, it is difficult for the security personnel to check all the screens for a long period of time without losing details. Smart Security detects risk events based on the information provided by the cameras and smartphones registered. When a risk event is detected, Smart Security notifies the users by sending an alarm to their smartphones, highlighting the event and showing a message on the screen.

➕ ZERO BREAK-DOWNS/DEFECT MANUFACTURING USE CASE

This is the first open source implementation of Industrial Data Space Architecture (IDS) based on FIWARE. It was presented for the first time at the Hannover Messe 2018 in April. It improves predictive maintenance tasks, reduces failures and it improves the quality management of the components. Data analysis is based on the manufacturing process, overriding information silos to ensure that only specific data are exchanged and only for specific purposes.

FIWARE CONSULTANCY

We are leading experts on production-level configuration of FIWARE Data and IoT management services. We can help you design your FIWARE-based platform and customise FIWARE to your needs. And we can help you manage your infrastructure for production ready requirements such as:

+ Security
+ Resilience
+ Scalability
+ Availability

TRAINING

Attend MARTEL's training "How to develop solutions with FIWARE": a one-day comprehensive, hands-on and interactive learning opportunity for participants who are currently developing or would like to develop applications based on this reliable, interoperable, versatile open source platform.

MASTER TRAINER: Dr. Federico Michele Facca, *Head of Martel Lab*

Dr Federico Michele Facca joined Martel in January 2016. He is a strong advocate of Open Source solutions (e.g. OpenStack, Apache Hadoop, Kubernates, Docker, …) and his expertise covers Cloud computing architectures and their application to different fields, e.g. Big data, Internet of Things, Network Function Virtualization Infrastructure. Dr. Facca acted as Technical Manager and Chief Architect in different large ICT projects: COIN, Infinity, SemanticGov, SUperhub and XIFI. He is among the core technical figures in the FIWARE programme, within which he successfully supervised a heterogeneous team of more than 60 engineers from different ICT companies and major European research centers (e.g. Telefonica, Thales, Engineering, etc.) contributing to the FIWARE Lab activities.
Previously, he worked as Area Head in CREATE-NET focusing on Cloud computing management solutions; before that he was Area Head and Institute Manager at STI Innsbruck, focusing on service-oriented architectures and service middlewares. Dr. Facca obtained his Ph.D. in Information Technology and his M.Sc in Computer Science at the Politecnico di Milano.
Dr Facca was named one of the inaugural FIWARE Evangelists when the programme was launched in summer 2018.

TRAINING
DEVELOP A SMART SOLUTION WITH FIWARE

✚ WHO SHOULD ATTEND?

This course is aimed at FIWARE newcomers interested in using FIWARE to develop production-ready smart solutions. The course will be of greatest benefit to developers looking for innovative ways to develop services relying on sensors and real time data. Basic knowledge of coding and container technologies are required.

✚ WHY DO YOU NEED THIS COURSE?

It's a technical introduction on how the different APIs provided by FIWARE can be used to quickly create innovative applications combining sensors and real time data in various domains. After the training sessions, our experts also offer a consultation session to discuss how your ideas can benefit from FIWARE.

✚ WHAT ARE THE BENEFITS?

- ✚ Familiarize yourself with FIWARE essential building blocks
- ✚ Trace the path of your first steps with FIWARE leading to the success of your project
- ✚ Understand from day 1 how to build applications that are reliable and scalable
- ✚ Learn from examples and discuss how to tackle issues beyond the official documentation pages

TRAINING
DEVELOP A SMART SOLUTION WITH FIWARE

+ TRAINING PLAN

M O R N I N G

Module 1: Preparing your Platform
- **+** Understand your infrastructure options: minimise upfront costs while getting ready for upscale
- **+** Design your application architecture: overview of FIWARE GEs and common patterns
- **+** High-Available deployment of FIWARE GEs and essential OS components
- **+** Troubleshooting and readiness check for next modules

Coffee break and networking

Module 2: Managing Context Data
- **+** Managing Context Information at large scale in FIWARE (Context Broker APIs)
- **+** Strengths and limitations of NGSI and Orion Context Broker
- **+** Historical records and timeseries in FIWARE: STH and QuantumLeap
- **+** Open Data in FIWARE: CKAN and Data Models.

Lunch break and networking

A F T E R N O O N

Module 3: The FIWARE IoT Layer
- **+** Devices protocols and examples
- **+** Using IoT Agents
- **+** Scaling IoT Agents with IoT Managers

Module 4: Additional FIWARE options to explore
- **+** Visualizing your IoT Data
- **+** Integrating heterogeneous systems with Cygnus
- **+** Front-end and mashup development with WireCloud
- **+** Where to go next

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FOR CUSTOMISED OR DEDICATED TRAINING

CONTACT US

info@martel-innovate.com
+ 41 31 994 25 25

111 Überlandstrasse
8600 Dübendorf (Zurich)
Switzerland

martel-innovate.com/training