



Lebanon Digital Transformation

التحول الرقمي في لبنان

DIGITAL TRANSFORMATION CONFERENCE 2018

مؤتمر التحول الرقمي 2018



Republic of Lebanon



Office of the Minister of State
for Administrative Reform

SUPPORTED BY:



WORLD BANK GROUP

Complex Services: Rapid Digital Product Delivery enabled by Microservices Orchestration with Open Standards

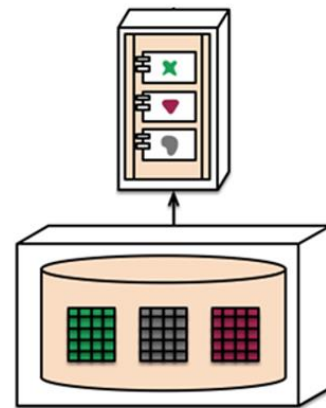
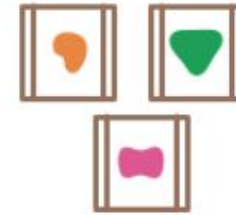
Presented by: Antonio Nehme

A Fine Grained Architecture

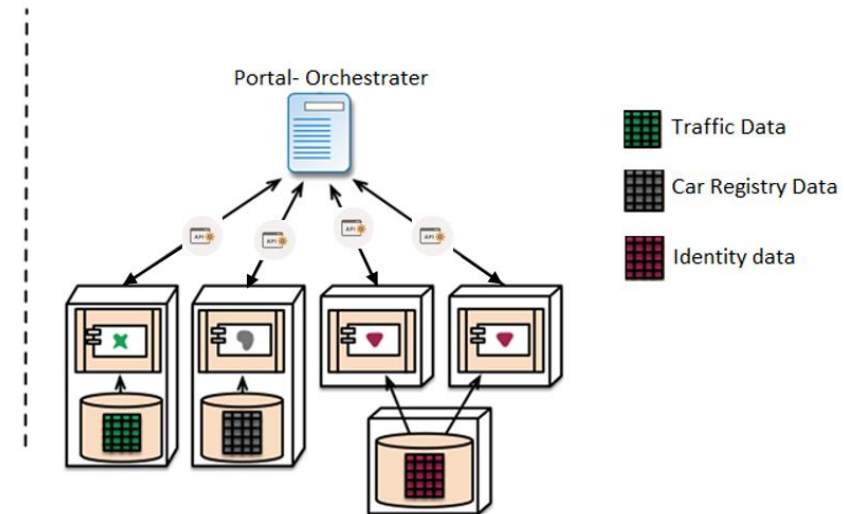
A monolithic application puts all its functionality into a single process...



A microservices architecture puts each element of functionality into a separate service...



Monolithic Paradigm



Microservices Paradigm

Advantages

- Achieving Faster delivery and better maintainability.
- Reaching Higher availability with flexible scalability.
- Maintaining the governance of each ministry.
- Securing each part of the system according to the data criticality (data encryption, users and services authentication and authorization, users' consent to access information).

Essential Requirements for Digital Transformation

- Embrace Reusability
 - Following open standards
 - Reusing services and components
 - Reusing open source code
- Transparency
 - User consent for personal data use

Why Open Standards

- Non-proprietary solutions for common problems
- Security by experts at an international level
- Ease of adoption for open source code → Faster Development

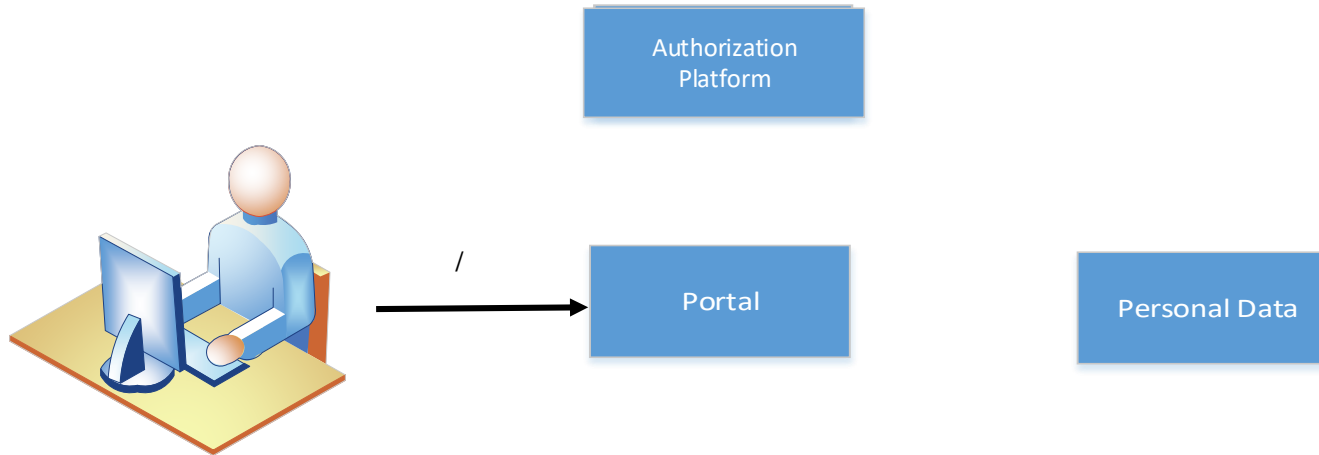
Open Authorization 2

No Information is received by the application without the consent of the Citizen.

User Control →

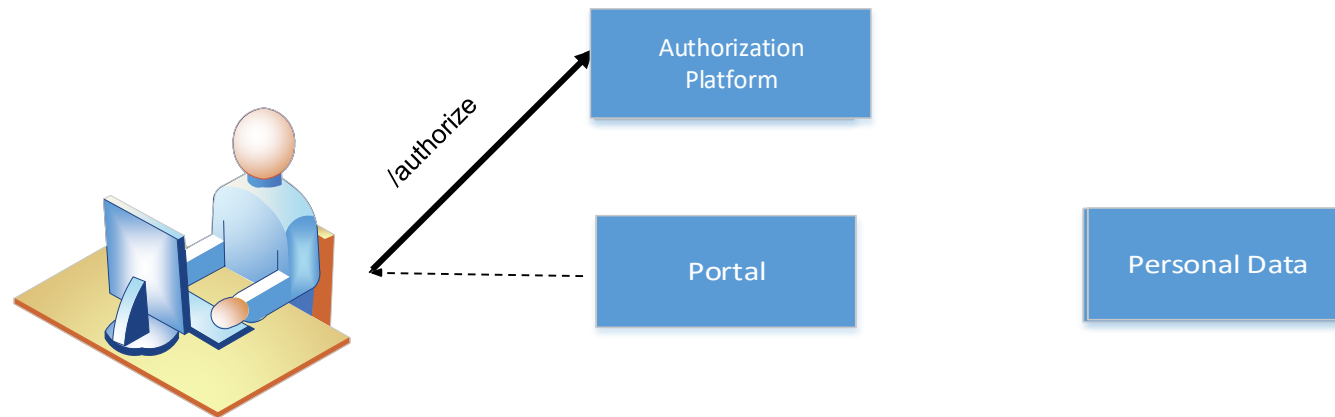
- Confidentiality
- Transparency

Open Authorization 2 Flow



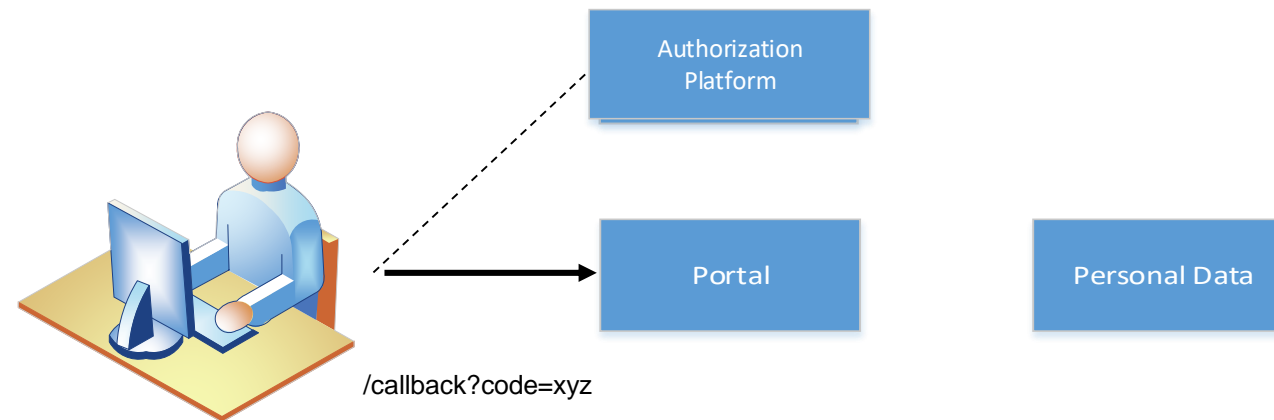
Browser makes a request to the Portal

Open Authorization 2 Flow



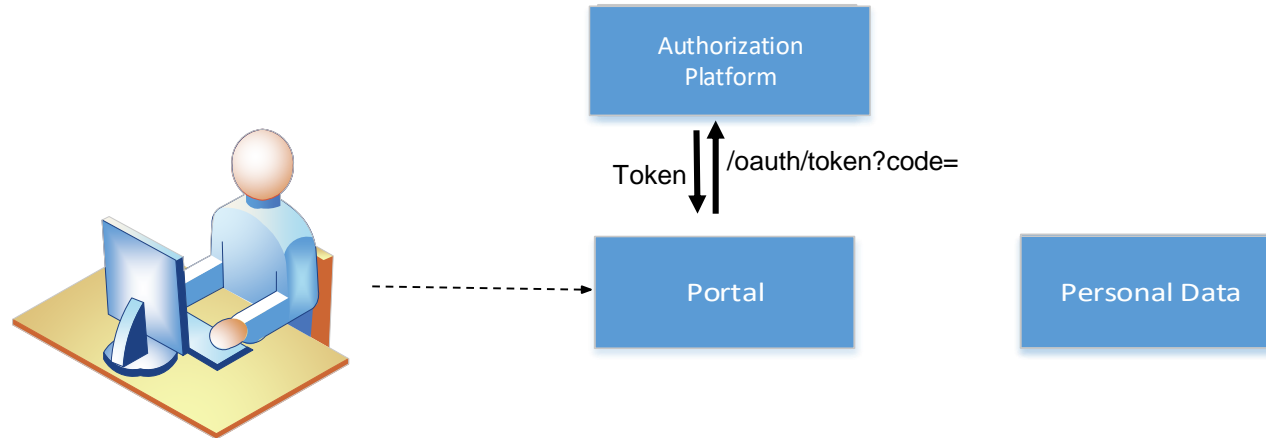
App redirects to Auth Server. User authenticates.

Open Authorization 2 Flow



Auth Server redirects back to App with an Authorization Code.

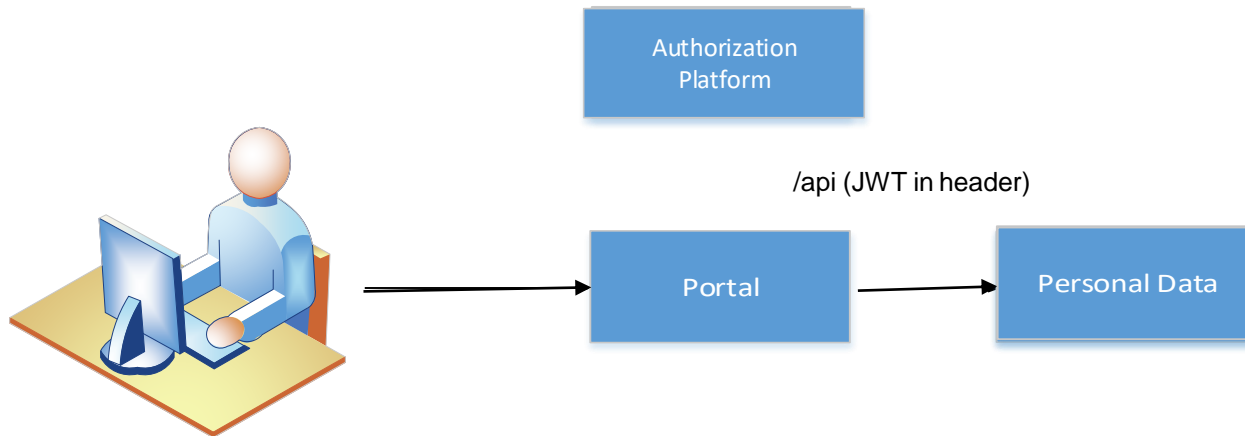
Open Authorization 2 Flow



Auth Server responds with a token representing the user. Portal validates the token and stores it in a session. Browser's session is now authenticated.

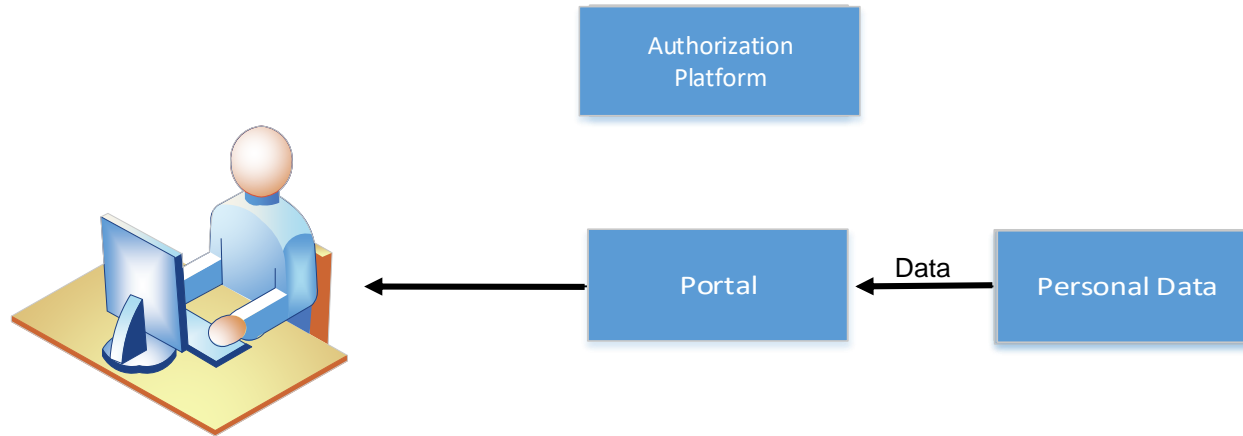
App sends Authorization Code to Auth Server

Open Authorization 2 Flow



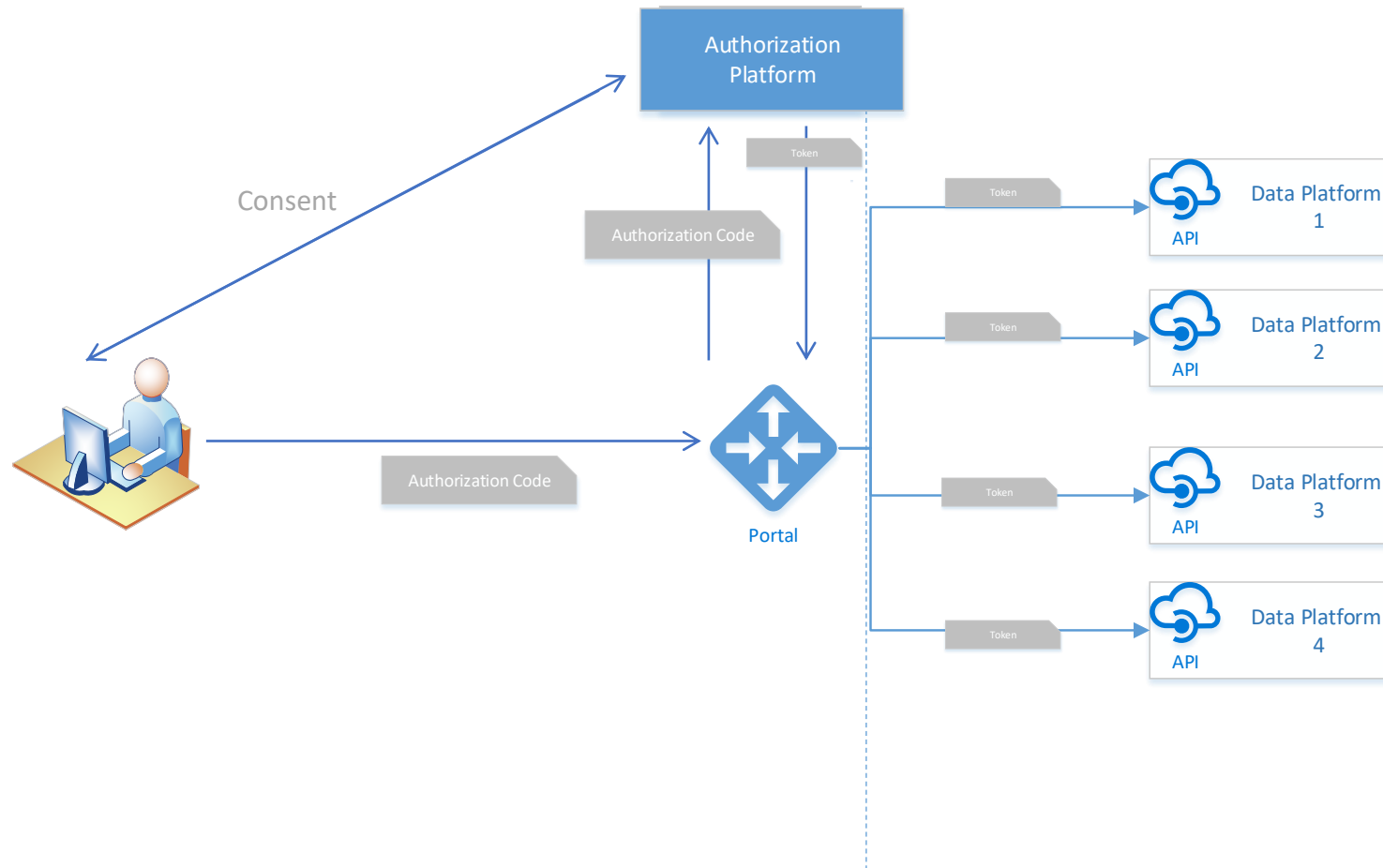
App uses JWT to request the Resource on behalf of User.
Resource validates JWT.

Open Authorization 2 Flow



Resource responds with data, and App renders page.

Abstract View of the System



Demo

THANK YOU

شكراً