Open the KNOCK

Overview:
A *challenge–response authentication* **knocking-lock**.
Identification –> Challenge generation –> Client response –> Unlocking;

A challenge form is filled by the client using our **cross platform OTK-App**.
To open the lock, the client must successfully handle a sequence of events.

The client first identifies himself by knocking his id, then
a unique challenge is randomized by the **OTK Cloud-Service**.
The right solution consists of a **sequence of knocks** that only the client can know.
Upon failure to complete the challenge, a **defense system** is activated.

In Depth:
The knock sends a message over the **IoT-Hub** with the required id.
The message is routed to **Event-Hub** which triggers the **Azure Function** with the message payload. The **Azure Function** access the user data stored in **CosmosDB**, generates three random challenges, then invokes a device method using
Direct Method with a payload containing the challenge information.

Technologies

CosmosDB | IoT-Hub | Event-Hub | Azure Functions | Arduino IDEA | ESP8266 | Xamarin
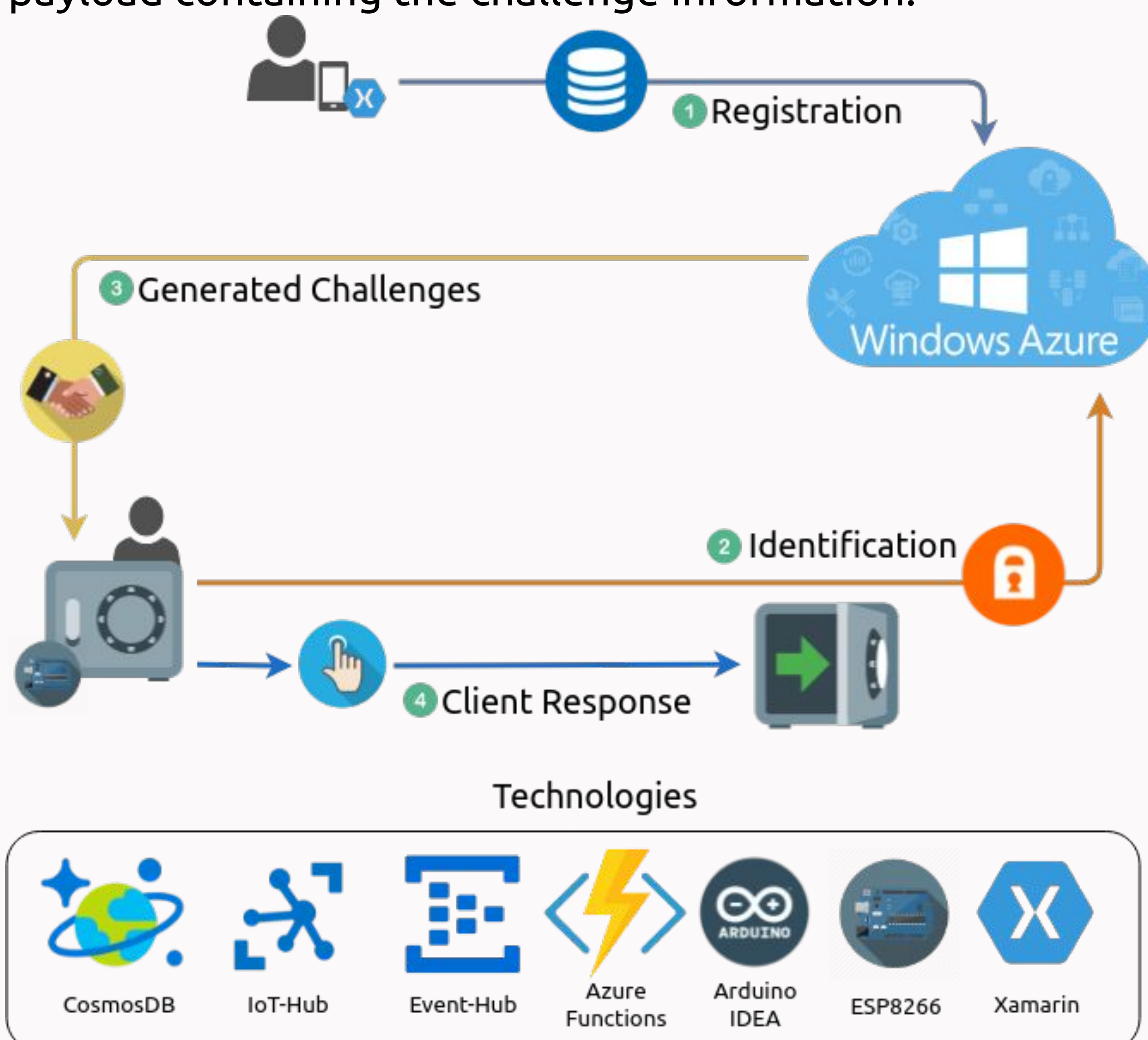
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A Project in Internet of Things (IoT)

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