IOT LEDGER CREATOR

A semi-automated tool to easily design and deploy blockchain applications

for data-centric IoT using Hyperledger Fabric

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Abstract

Most of the IoT applications are built with the use of centralized servers to process, transmit and store data. There are risks of single point of failure, mistrust, data manipulation, tampering and privacy evasion, delay and high operational and security and efficiency of these applications have become critical concerns.

Integrating Blockchain technology can ensure security and efficiency and solve the above-mentioned issues in data-centric IoT applications. Many real-life problems can be solved by IoT-Blockchain solutions. Research was done to find suitable blockchain mechanisms, Hyperledger Fabric was selected and a model was created for data-centric IOT applications.
An inadequate number of skilled programmers are able to understand blockchain and use it. This motivated us to create a system for the developers to easily create blockchain based data-centric IoT applications with better user experience.

IOT Ledger Creator is a semi-automated tool that gets IOT Data stream attributes and network configurations from the developer and help to design and deploy Blockchain applications for data-centric IOT using Hyperledger Fabric. From the given configurations, necessary configuration files and smart contract will be generated. Later the blockchain application can be easily deployed with less effort and time.

Keywords: Blockchain, data-centric IOT, Hyperledger Fabric