

Tools for Building Your Identity Application

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e•ernym

Solid foundation...



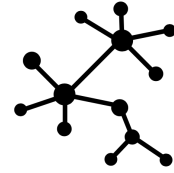
Solid foundation...

- **indy-plenum**: Ledger Impl & Consensus Protocol (RBFT)
- **indy-node**: Identity Specific Transaction
- **The Sovrin Network**: Public-Permissioned Network



Ledger Scanner

★ <https://indyscan.io>



VON

Verifiable Organizations Network

VON Browser

★ <https://sovrin-mainnet-browser.vonx.io>

And still...

And still...

- [indy-crypto](#): *Indy Crypto Library (ZKP, BLS...)*
- [indy-sdk](#): *Low Level SDK*
- [libvcx](#): *High Level SDK (Conns, Creds, Wallet Backup...)*
- [indy-cli](#): *Admin Interface*

connect.me®



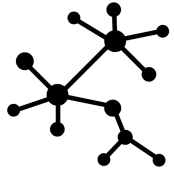
Credential Exchange Demo

★ <https://try.connect.me>

And new...

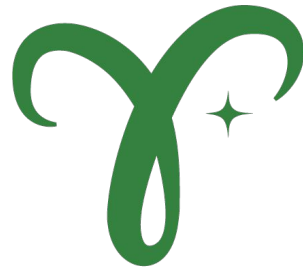
And new...

- [URSA](#): *Hyperledger Shared Crypto Library*
- [ACA-Py](#): *Ready-to-use extensible Agent*
- [Aries Framework](#): *Framework for writing Agents*
- [Aries Toolbox](#): *Tools for working with Agents*
- [OSMA](#): *Open-Source Mobile Agent*



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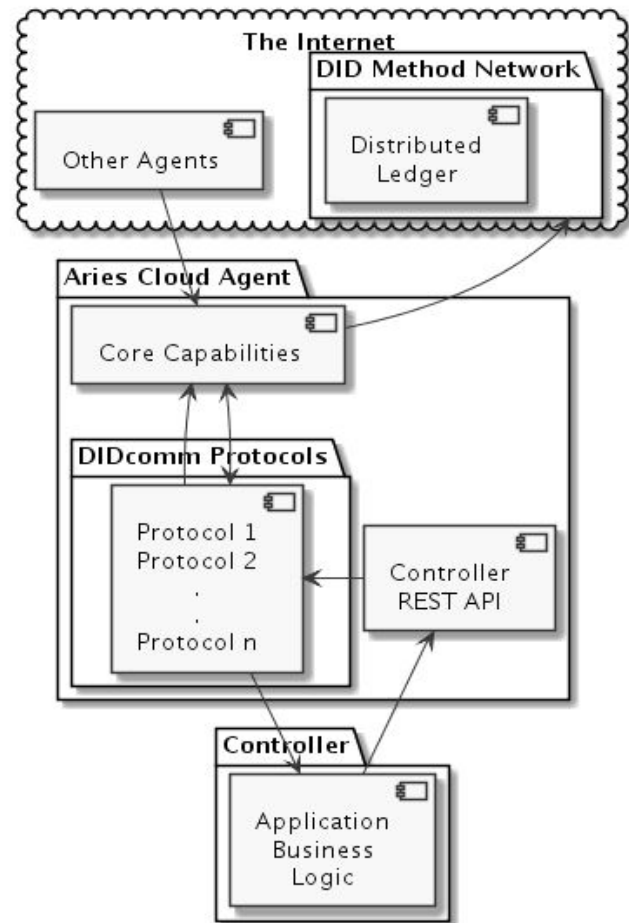


ACA-Py

★ <https://github.com/hyperledger/aries-cloudagent-python>

Overall Architecture

- The agent - built from PyPi and deployed "as is"
 - Configured via command line parameters
 - Interacts with other agents via pluggable transports
 - Manages storage, ledger with pluggable implementations
 - Manages messages and protocol state
 - Invokes protocols (configurable set)
 - Driven by a controller
 - Sends events to controller
 - Exposes an HTTP JSON administrative API to controller
- The controller - business logic for instance of agent instance
 - Receives events from agent
 - Sends requests to agent using HTTP JSON administrative API

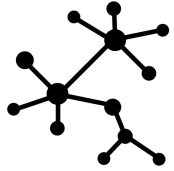


Controller: Events and Administrative API

- Listen for HTTP requests on an webhook URL
 - Process event
 - Optionally pass to external system (person, legacy system, etc.) to get "next step" decision
 - Optionally respond with an HTTP request to the Agent's Administrative API
- Take inputs from other sources
 - Process input
 - Optionally initiate agent protocols with an HTTP request to the Agent's Administrative API
- Simple example: Alice/Faber command line API
 - **Simple:** Both agents know about each other
 - Deploys agent as a [sub-process](#), [initializes](#) and [waits at command line](#) for user input
 - Process user input to [initiate protocol invocations](#)
 - [Listen for](#), receive, [process](#) and [respond](#) to protocol events
 - Report event received and automatically process (based on [command line parameters](#))

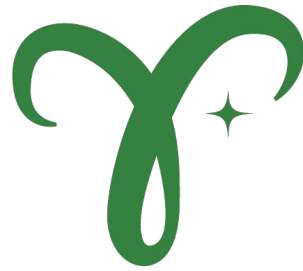
Pluggable Agent Components

- Reason
 - You want to be able to add support for other implementations for your use cases
- Pluggable implementations for:
 - Inbound, Outbound [Transports](#): currently HTTP and WebSockets
 - [Wallets](#) - Indy entities (DIDs, schema, cred defs, etc.)
 - [Basic](#) - in memory
 - [Indy-SDK](#) - SQLite, Postgres
 - [Storage](#) - non-secrets (anything else)
 - [Basic](#) - in memory
 - [Indy-SDK](#) - SQLite, Postgre
 - Future(?): Ledger Integration



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ACA.py Example

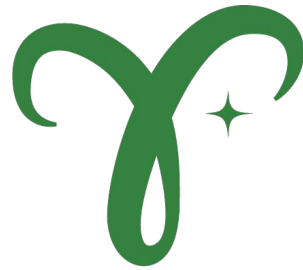
★ <https://github.com/hyperledger/aries-cloudagent-python/tree/master/demo#the-alicefaber-python-demo>



Aries Agent Toolbox

★ <https://github.com/sovrin-foundation/aries-toolbox>

Aries Agent Framework (.Net)



- A .NET Core library for building Sovrin interoperable agent services
- Abstraction on top of Indy SDK
- Runs .NET Standard (2.0+), including ASP.NET Core and Xamarin
- Mobile Agents (OSMA, StreedcredID)
- Web Agents
- <https://github.com/hyperledger/aries-framework-dotnet>

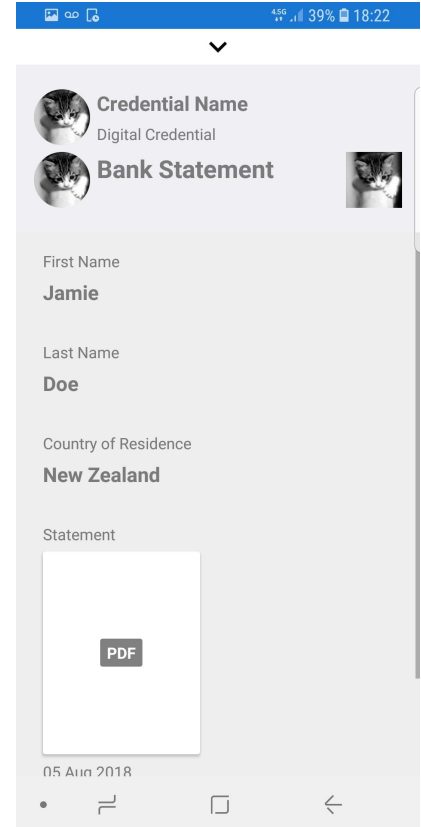
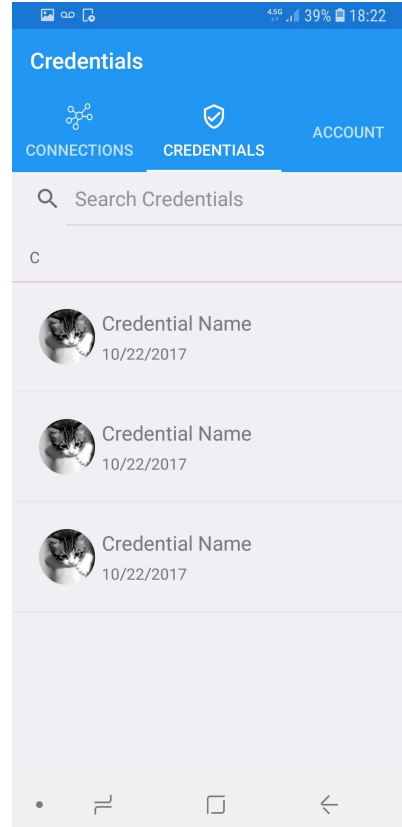
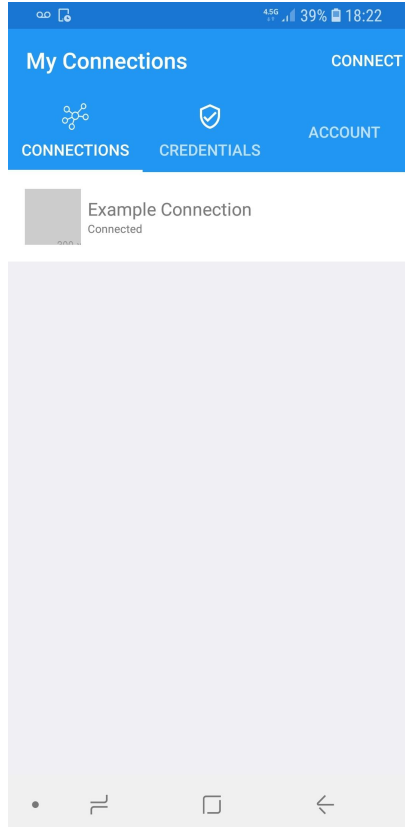
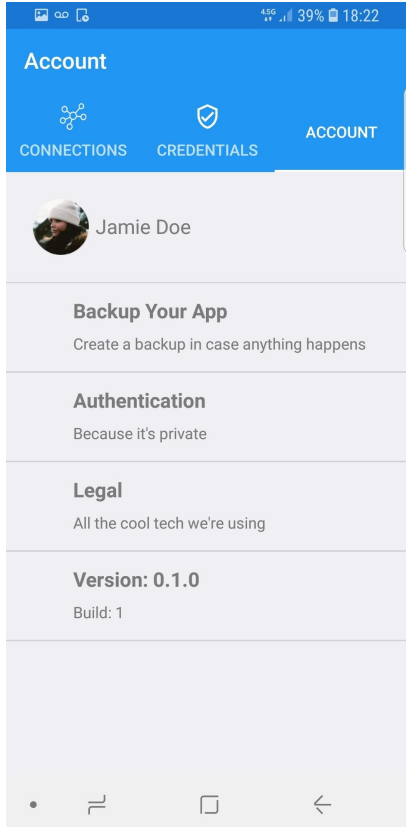
Mobile Agents...

OSMA

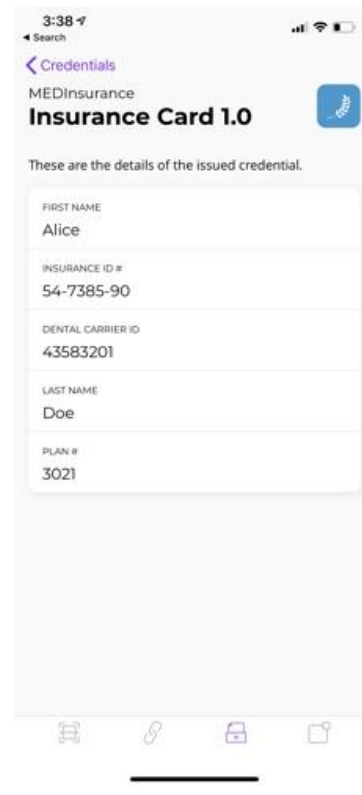
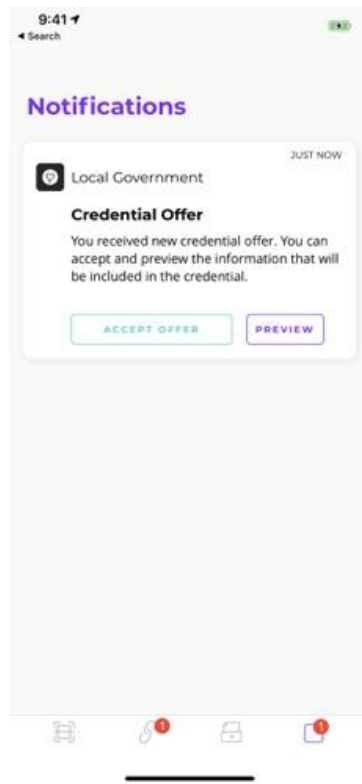


- An open source mobile agent for achieving self sovereign identity
- Provide a common project to progress emerging community standards around mobile agents.
- Cross platform mobile app (iOS/Android) built using .Net Aries Agent Framework
- Contributed by MATTR Global
- <https://github.com/mattrglobal/osma>

OSMA



Streetcred ID



Questions?