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OpenCred

An Open Source Verifiable Credential Verifier Implementation

Agenda

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Why did we build it?

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How it Works

... and what can you use it for?

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Questions and answers

...



Thank You to the OpenCred Developers!



Nate



Brian



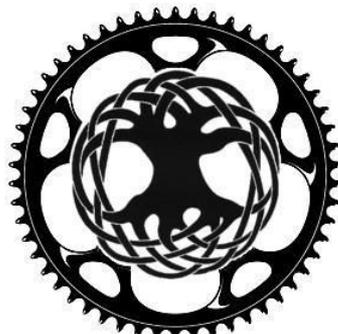
Kayode



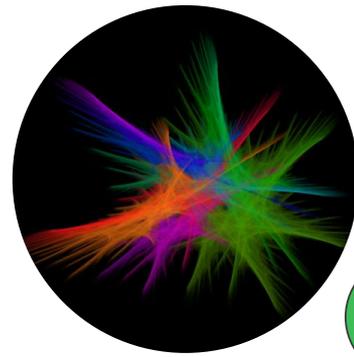
Ganesh



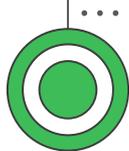
Longley

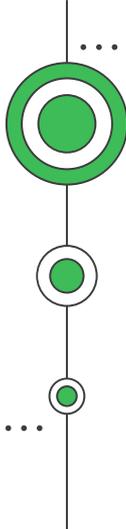


Matt



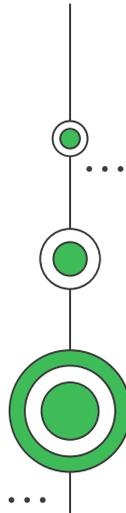
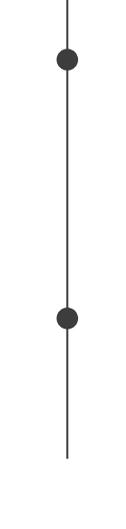
Lehn





01

Overview



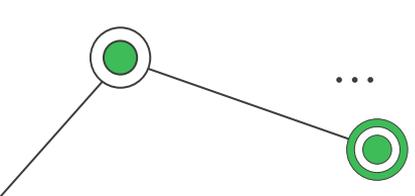
OpenCred Overview

OpenCred is an open source software platform, funded by the California DMV, designed to make it easy for organizations (relying parties) to check digital credentials from individuals (holders), with their consent, in a secure and verifiable way.

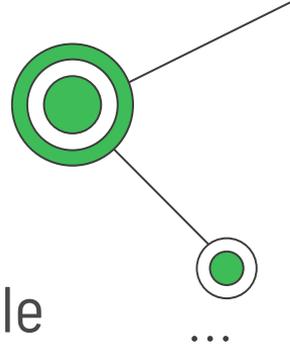
- Verifier software
- Open source
- Supports multiple formats and protocols
- In production



Learn more here: <https://www.dmv.ca.gov/portal/ca-dmv-wallet/opencred-for-relying-parties/>

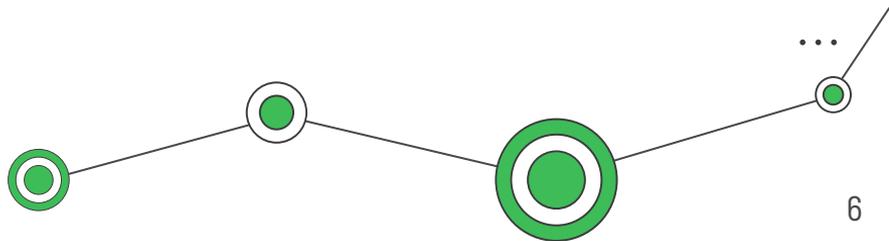


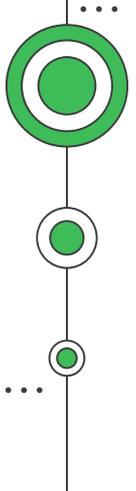
Why is it a Big Deal™?



OpenCred is the first production platform to use the Verifiable Credentials Data Model to express a Driver's License. It is deployed by the State of California Department of Motor Vehicles which serves over 30 million drivers.

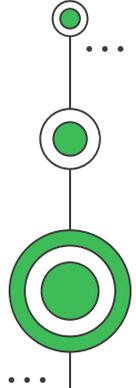
It enables the consumption of the California digital driver's license, as a Verifiable Credential, in production, anywhere in the world.

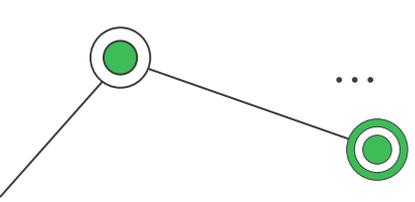




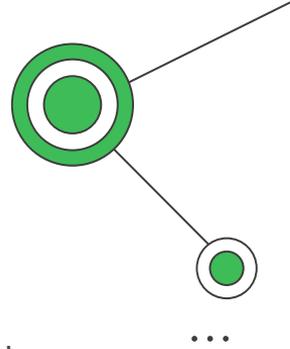
02

Vision





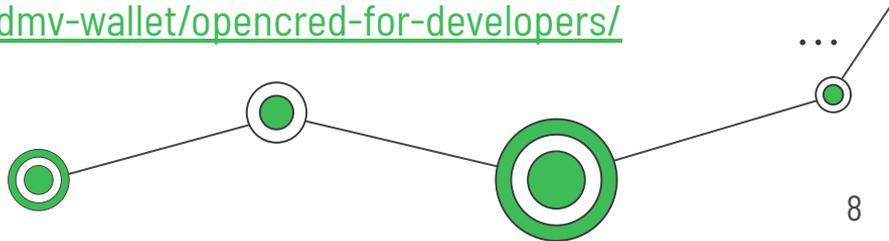
OpenCred Vision



Out of the box software to support verifying any digital credential format, over any protocol.

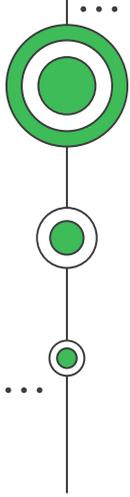
- Data Models: Verifiable Credentials Data Model v1.1, eventually VCDM v2.0, mDL
- Securing Mechanisms: VC-JWT v1.1, Data Integrity, eventually mDL
- Protocols: CHAPI, VC API, OID4VP, eventually DC API
- DID Methods: did:key, did:web, did:jwk, eventually external resolver support

Learn more here: <https://www.dmv.ca.gov/portal/ca-dmv-wallet/opencred-for-developers/>

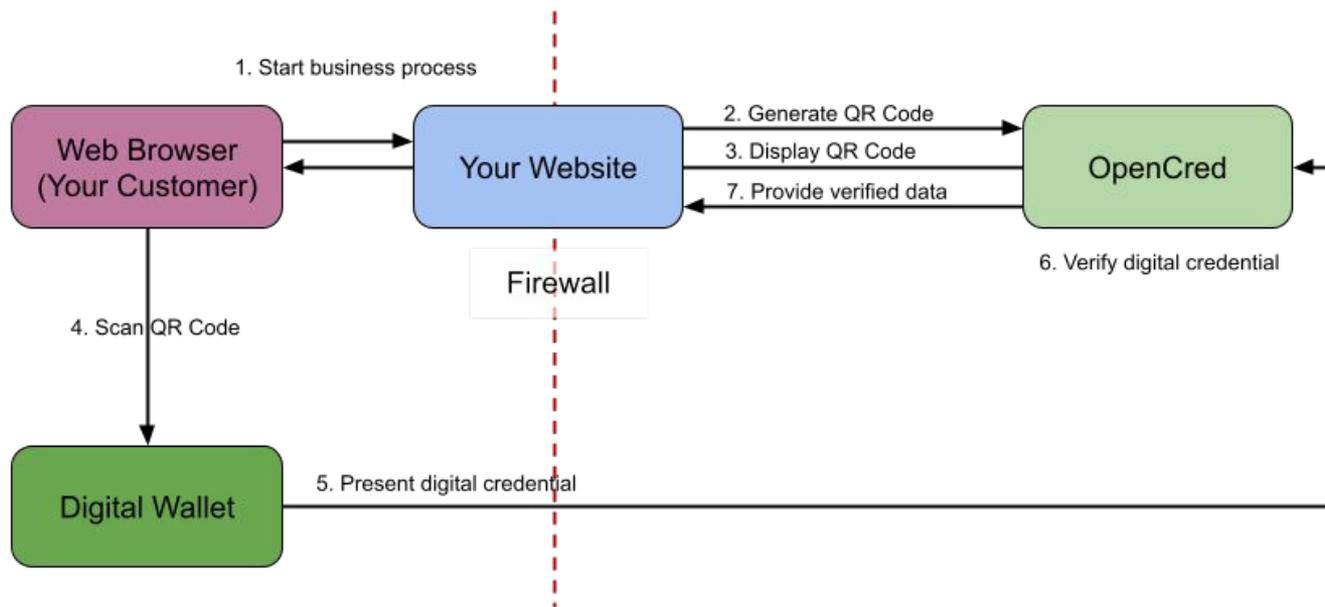


03

How it Works



How OpenCred Works



OpenCred UI – Step 1

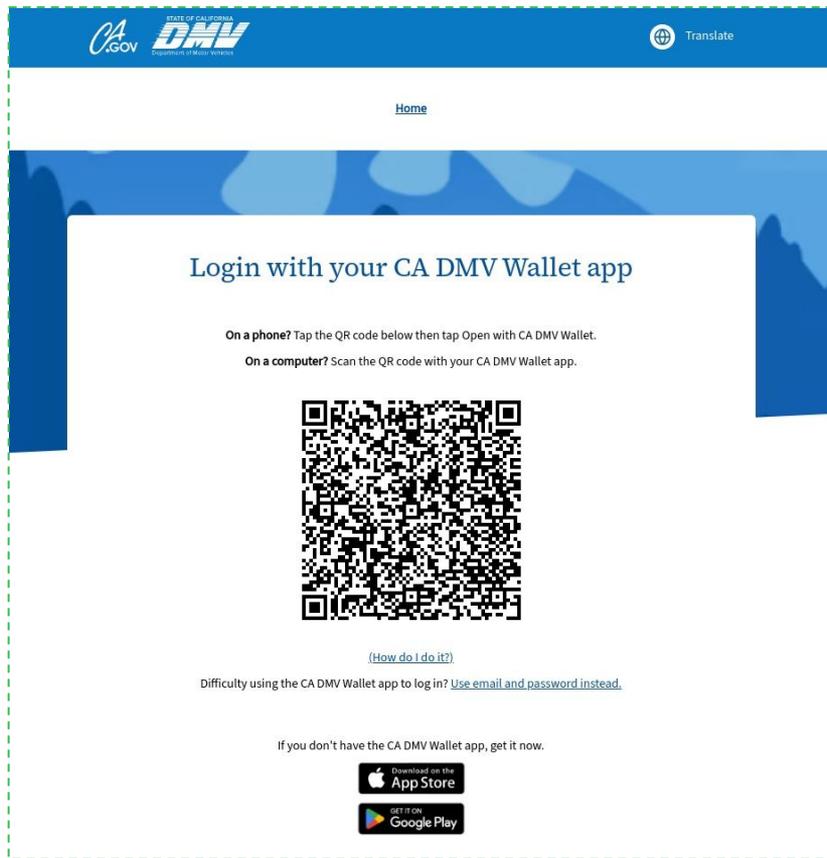
OR



[Log in with CA DMV Wallet App](#)

No password needed

OpenCred UI - Step 2



The screenshot shows the CA DMV website's login page for the CA DMV Wallet app. The header includes the CA.GOV logo, the STATE OF CALIFORNIA DMV logo, and a Translate button. A Home link is visible below the header. The main content area features a large QR code and instructions for logging in. At the bottom, there are links for help and app download instructions.

CA.GOV STATE OF CALIFORNIA DMV
TRANSPORTATION & INFRASTRUCTURE

Translate

[Home](#)

Login with your CA DMV Wallet app

On a phone? Tap the QR code below then tap Open with CA DMV Wallet.

On a computer? Scan the QR code with your CA DMV Wallet app.



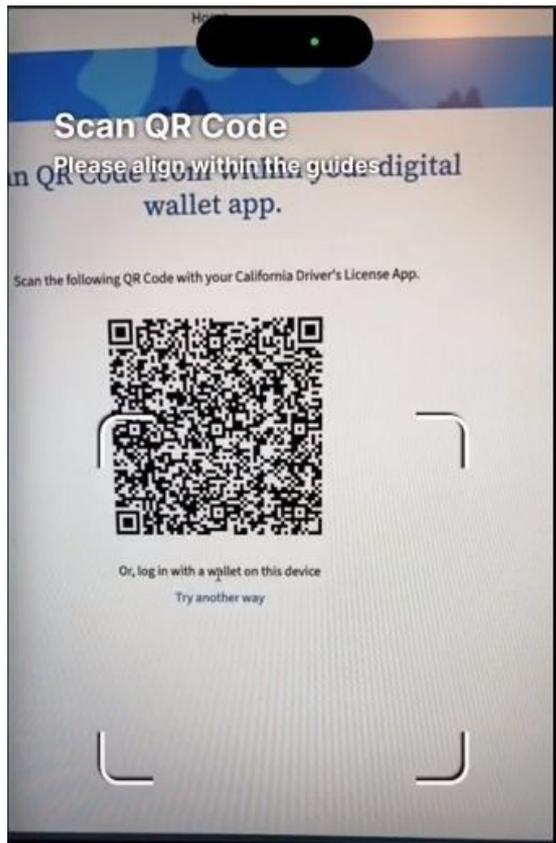
[\(How do I do it?\)](#)

Difficulty using the CA DMV Wallet app to log in? [Use email and password instead.](#)

If you don't have the CA DMV Wallet app, get it now.

Download on the App Store

GET IT ON Google Play



OpenCred UI – Step 3

The screenshot displays the MyDMV website interface. At the top, there is a blue navigation bar with the CA.GOV logo, the State of California DMV logo, and icons for REAL ID, Online Services, Translate, and a user profile. A search bar is located on the right side of the navigation bar. Below the navigation bar, there is a horizontal menu with dropdown arrows for Vehicle Registration, Driver's License & ID Cards, Vehicle Industry Services, Driver Education & Safety, Appointments, and Locations. The main content area features the MyDMV logo and a message: "If things look a little different around here, it's because we're making great changes to give you a faster, easier, more personalized DMV experience." Below this message, there are two columns of service recommendations. The left column is titled "Level Up Your Experience" and lists three bullet points: "View all your vehicle information in one place", "Get registration status at a glance", and "Manage your communication preferences". A blue button labeled "Get the New Experience" is positioned below the list. The right column is titled "Looking For Your Industry Services Account Access?" and lists three bullet points: "Occupational Licensing", "Employer Pull Notice", and "Driver Safety". A blue button labeled "Yes, take me there" is positioned below the list.

CA.GOV STATE OF CALIFORNIA DMV

★ REAL ID Online Services Translate B Search here... →

Vehicle Registration ▾ Driver's License & ID Cards ▾ Vehicle Industry Services ▾ Driver Education & Safety ▾ Appointments Locations

Home MyDMV

MYDMV

If things look a little different around here, it's because we're making great changes to give you a faster, easier, more personalized DMV experience.

Level Up Your Experience

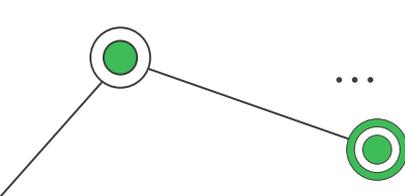
- View all your vehicle information in one place
- Get registration status at a glance
- Manage your communication preferences

Get the New Experience

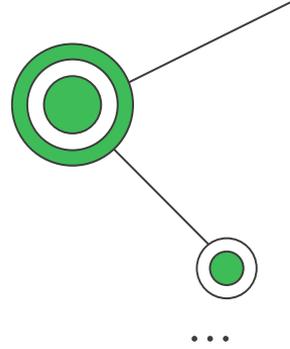
Looking For Your Industry Services Account Access?

- Occupational Licensing
- Employer Pull Notice
- Driver Safety

Yes, take me there



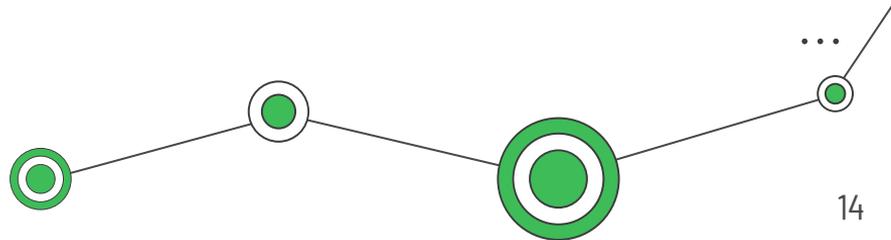
OpenCred Operational Modes

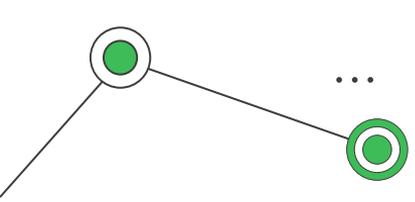


OpenCred has two distinct modes in which it can operate:

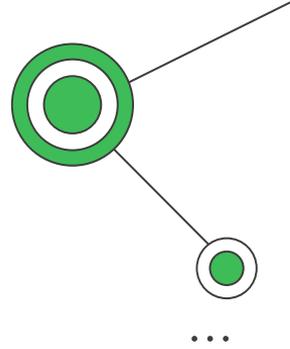
- As an OpenID Connect Provider - use this if you already use OpenID to do login.
- As an HTTP API - use this if you want to control the login experience.

More details on these two modes are here: <https://github.com/stateofca/opencred>



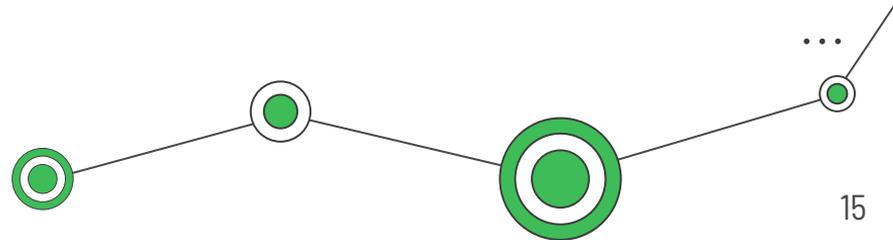


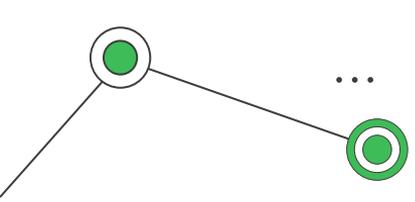
OpenCred Features



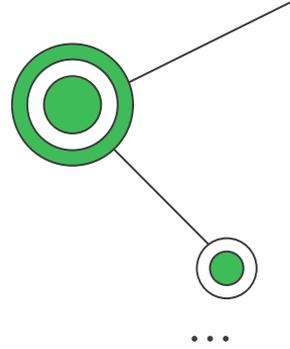
OpenCred has a number of useful features:

- Docker-based deployment to popular on-premise, hybrid, and cloud environments such as Amazon Web Services, Google Cloud Platform, and Microsoft Azure.
- Horizontal scaling to support tens of millions of verifications per day.
- Internationalization support to support multiple languages.
- Storage of historical DID Documents to enable auditing (next release)





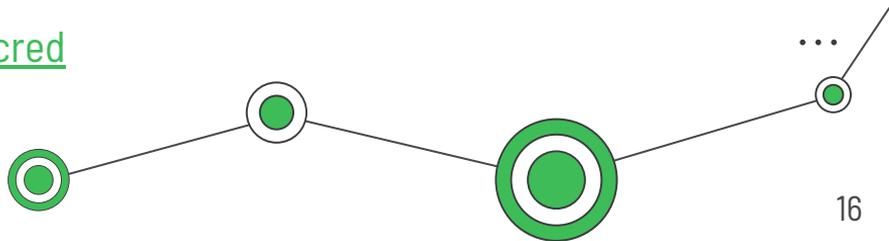
OpenCred Features

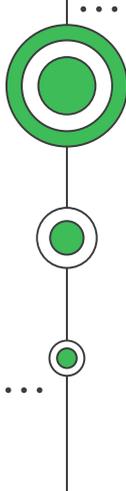


OpenCred has a number of useful features:

- Open digital wallet selection support through the Credential Handler API (CHAPI)
- Presentation protocol support for Verifiable Credential Exchanges API (VC API) and OpenID for Verifiable Presentation (OID4VP).
- Native/local verifier support that is not dependent on any external services.
- Remote/external verifier support using either the Verifiable Credential Verification API (VC API) or Microsoft Entra

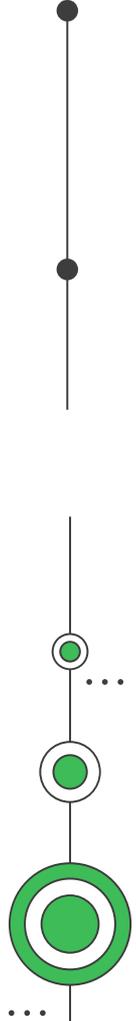
Learn more here: <https://github.com/stateofca/opencred>





04

Discussion



Discussion

Do you have any questions?

public-credentials@w3.org

<https://w3c-ccg.github.io/>

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