Login & Access Control in Angular

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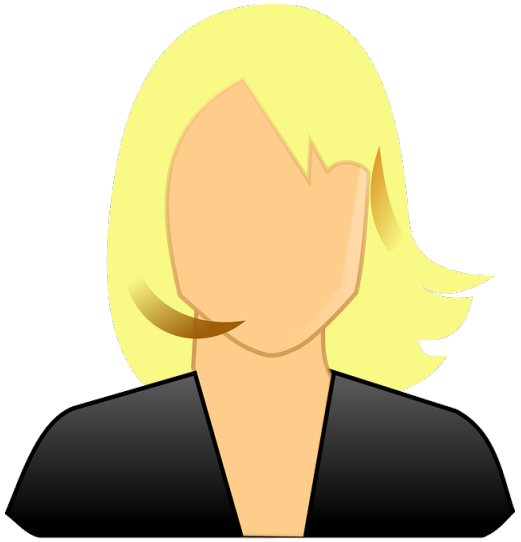
Motivation

Access to App and Backend



Requirements for Modern Apps

Service delegates to other services	Cross Origin Requests	Using existing Identity Solutions
Loosely Coupling to Identity Solution	Single Sign on/ out	Protect from XSRF

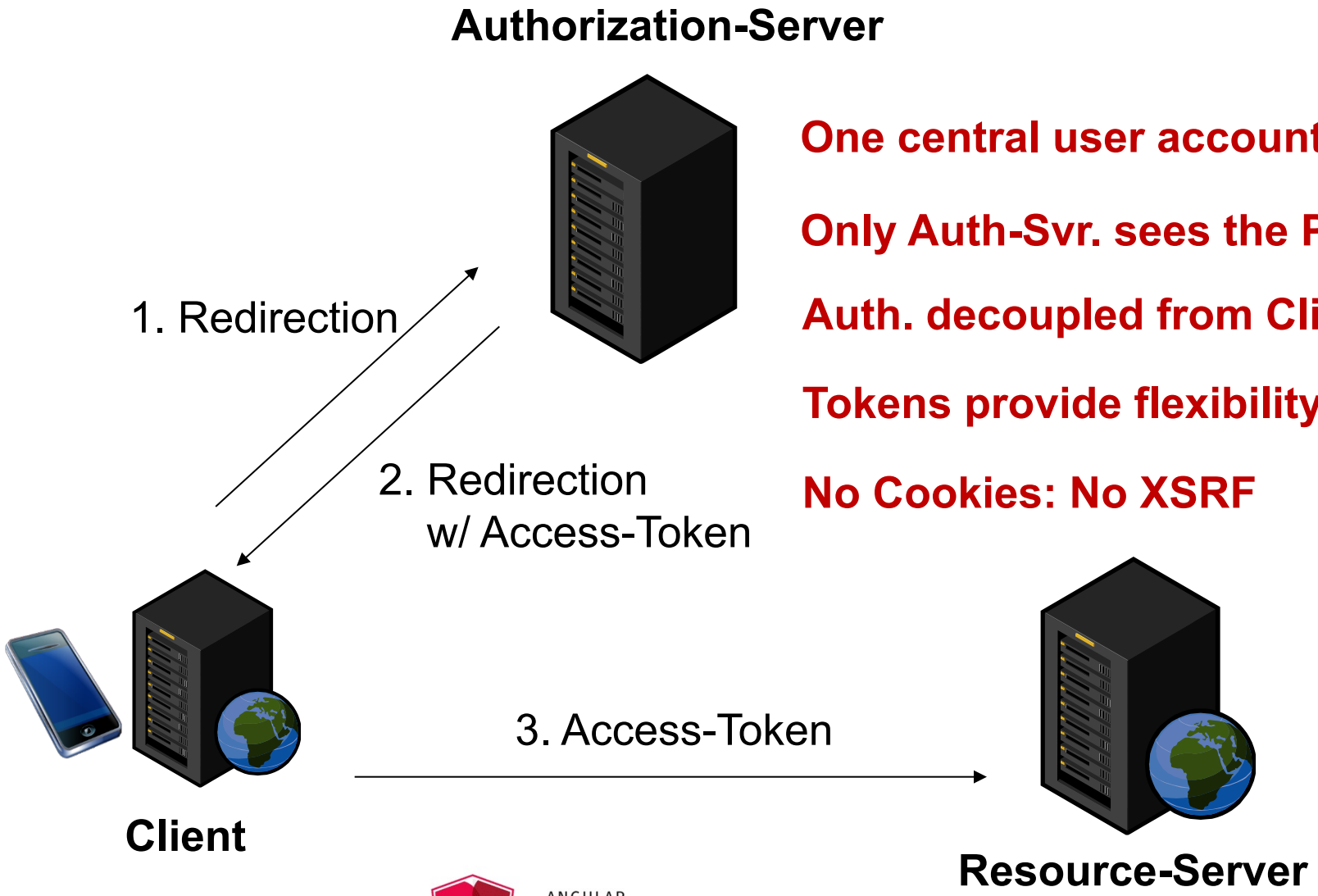
Roles

Authorization-Server

Client

Resource-Server

Flow



One central user account

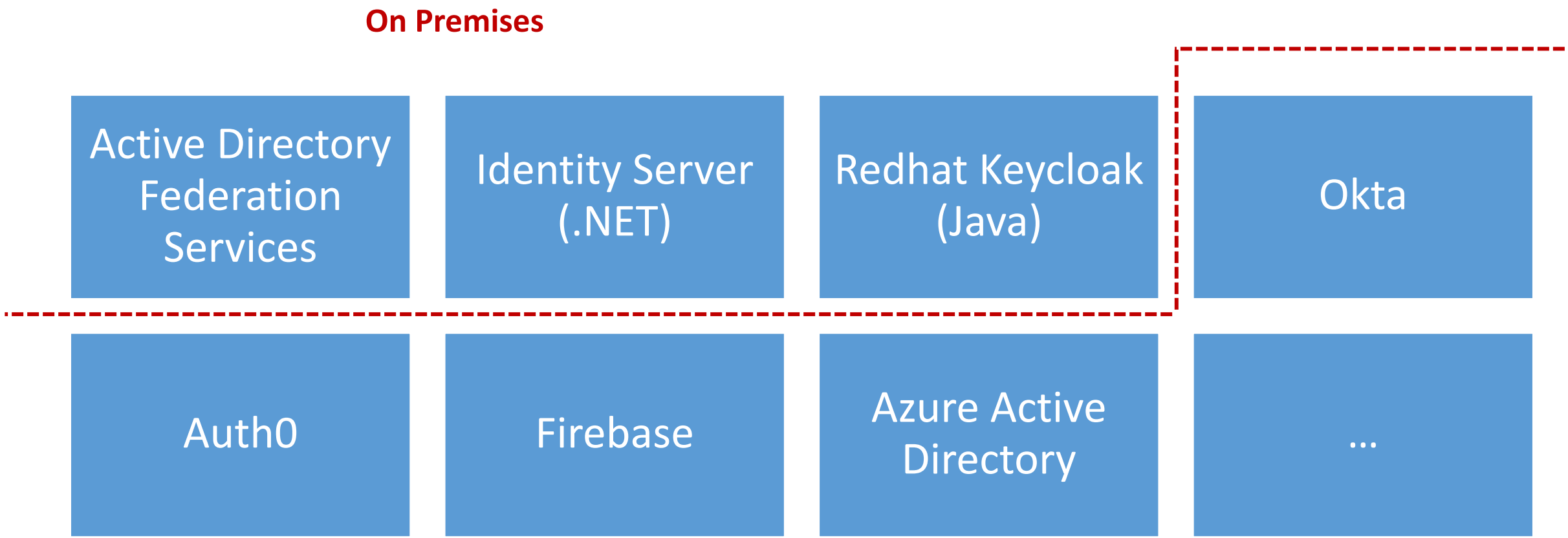
Only Auth-Svr. sees the Password

Auth. decoupled from Client

Tokens provide flexibility

No Cookies: No XSRF

Lots of Auth Server out there …

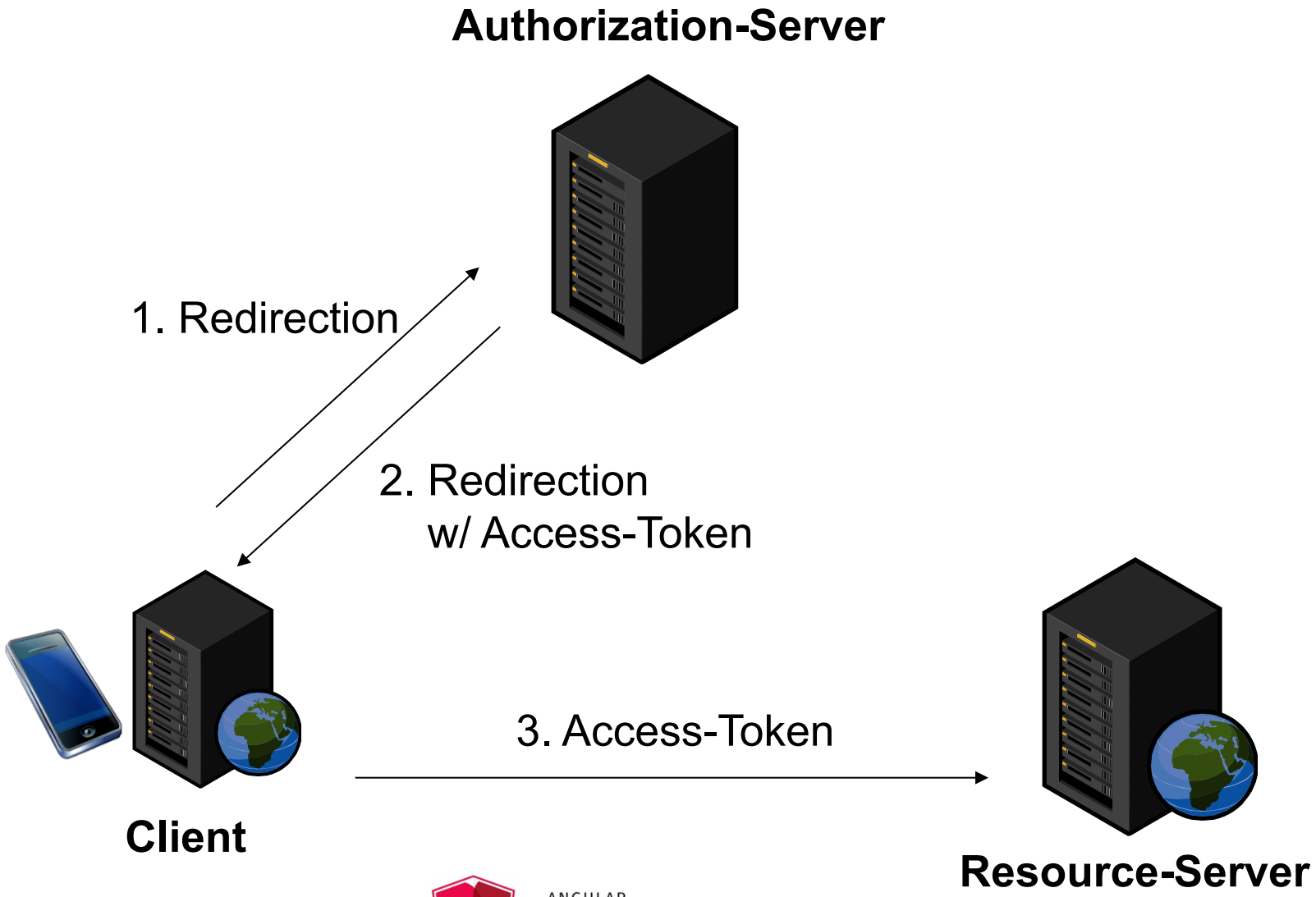


OAuth 2 and OpenId Connect

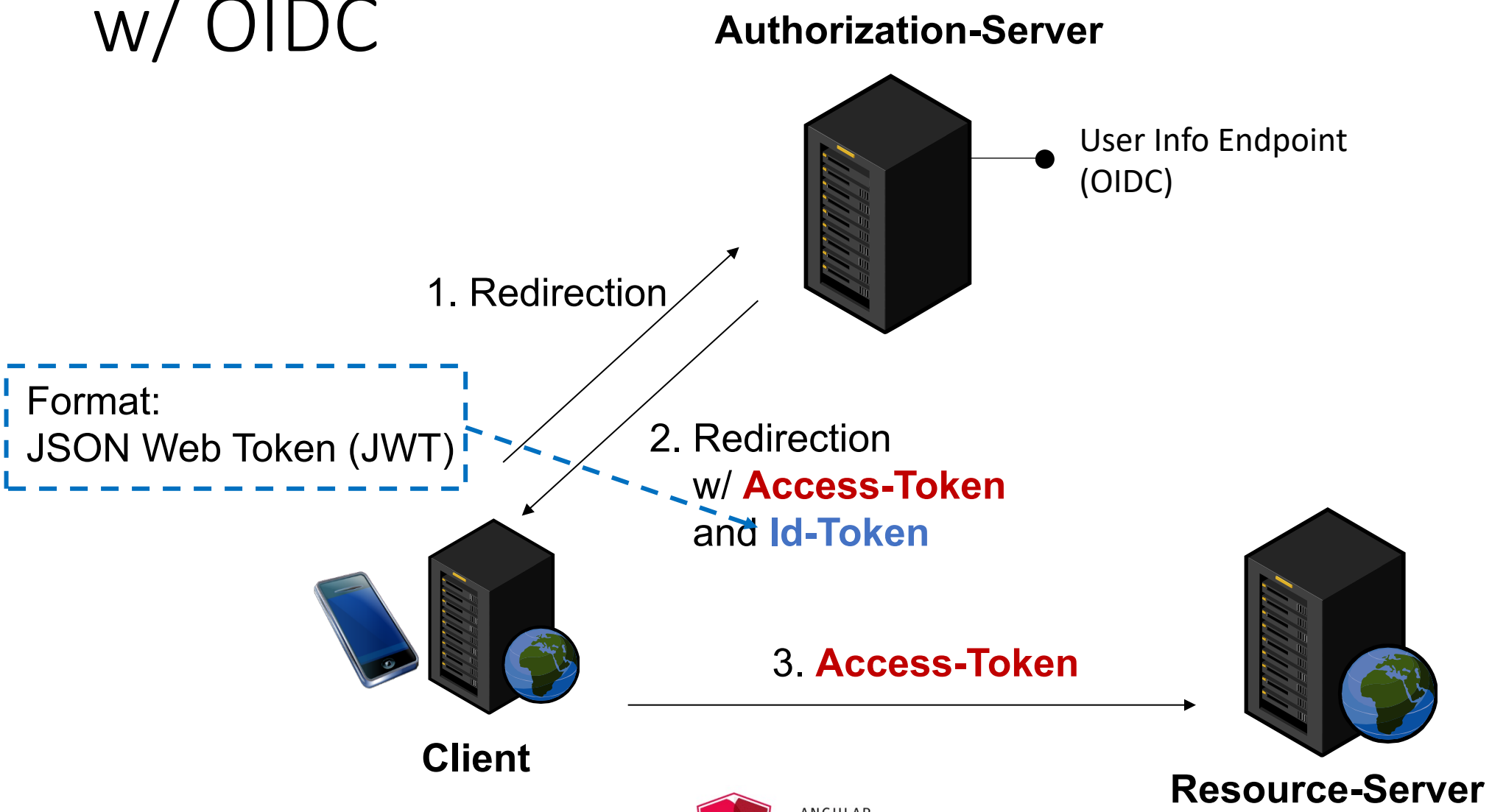
What is OAuth 2?

- Developed by Twitter and Ma.gnolia
- Protocol to delegate restricted rights
- Used by Companies like Google, Facebook, Flickr, Microsoft, Salesforce.com or Yahoo!
- Several Flows for different use cases
- Leverages HTTPS!

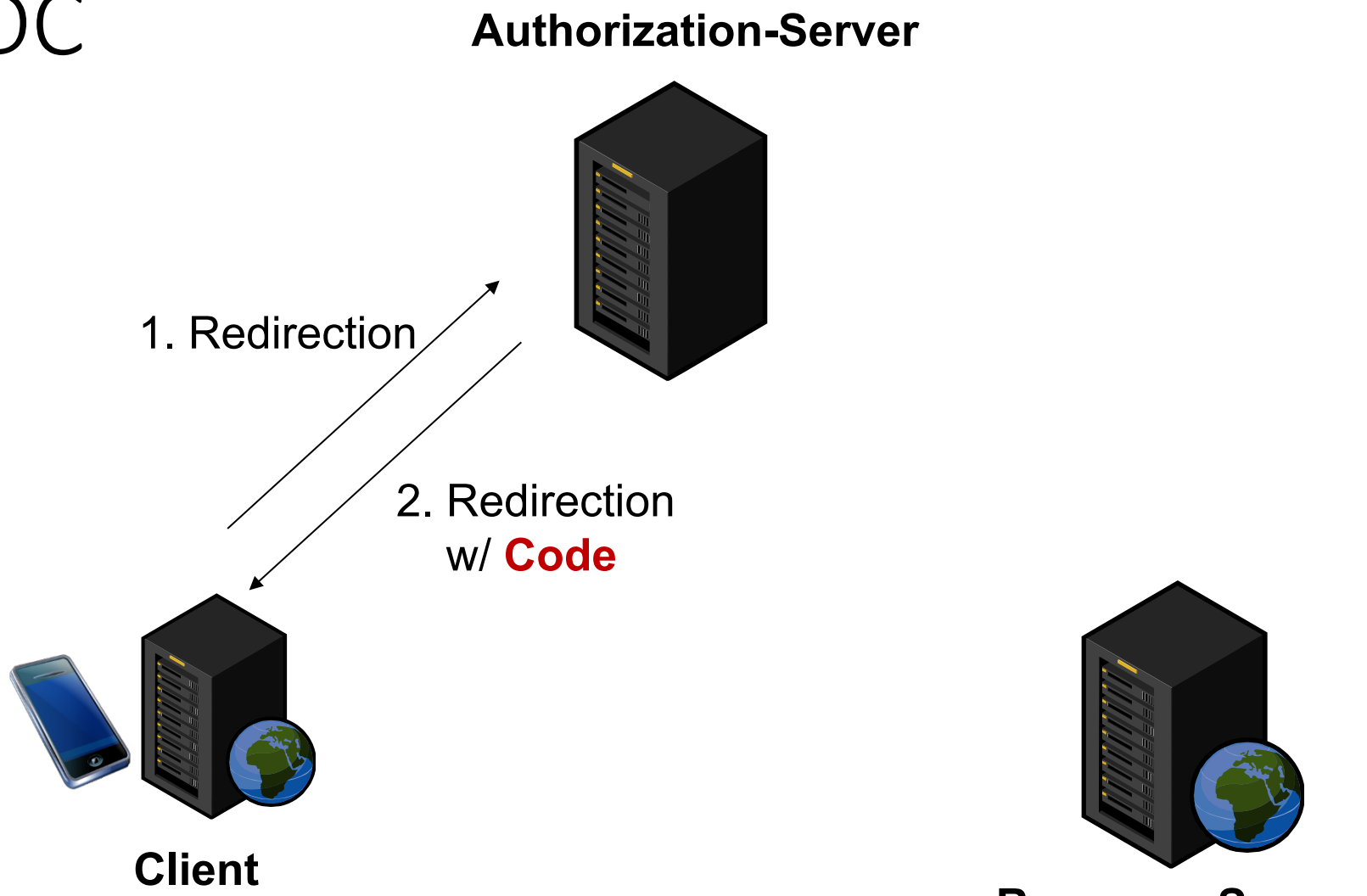
Implicit Flow for SPA



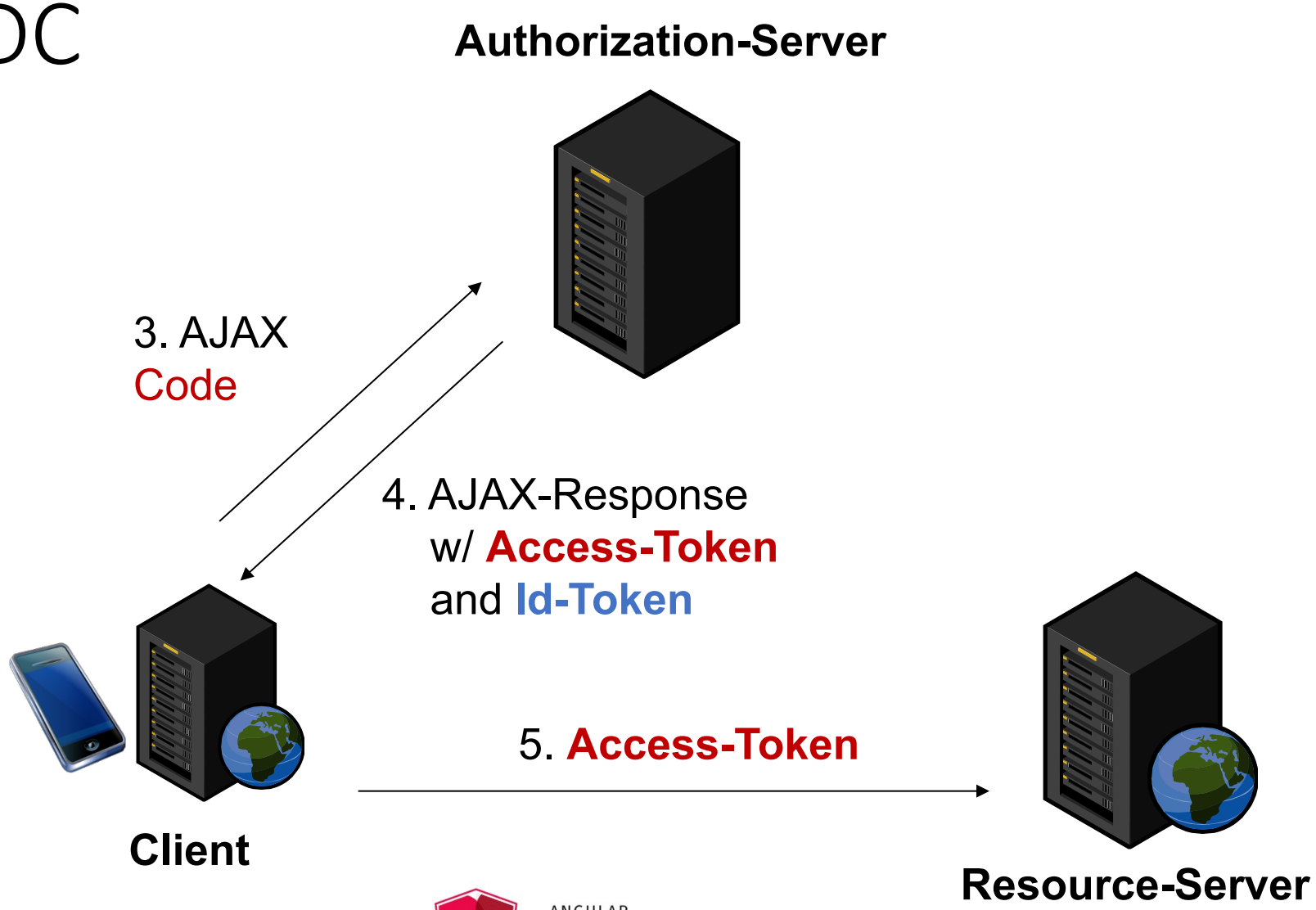
Implicit Flow w/ OIDC



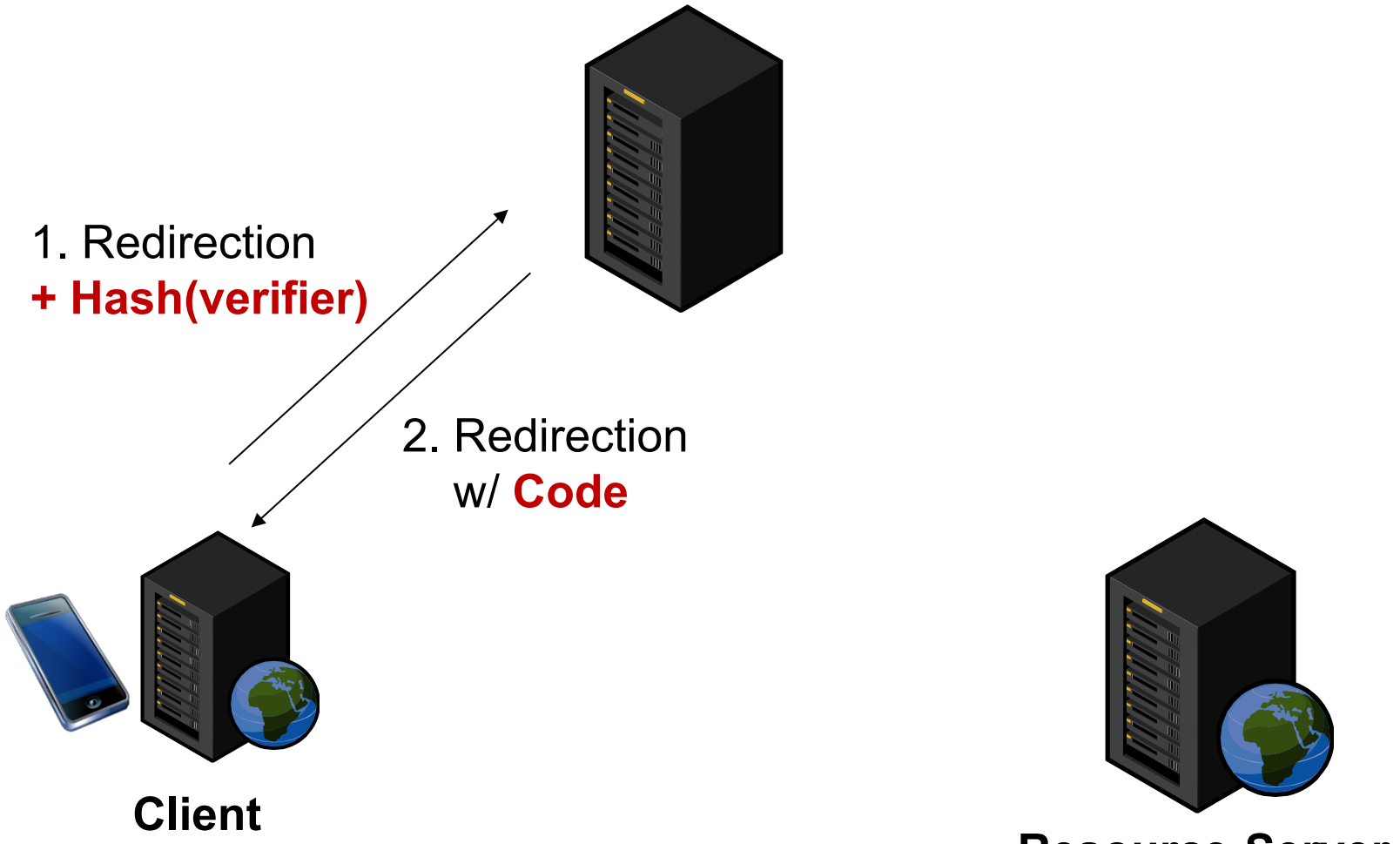
Code Flow w/ OIDC



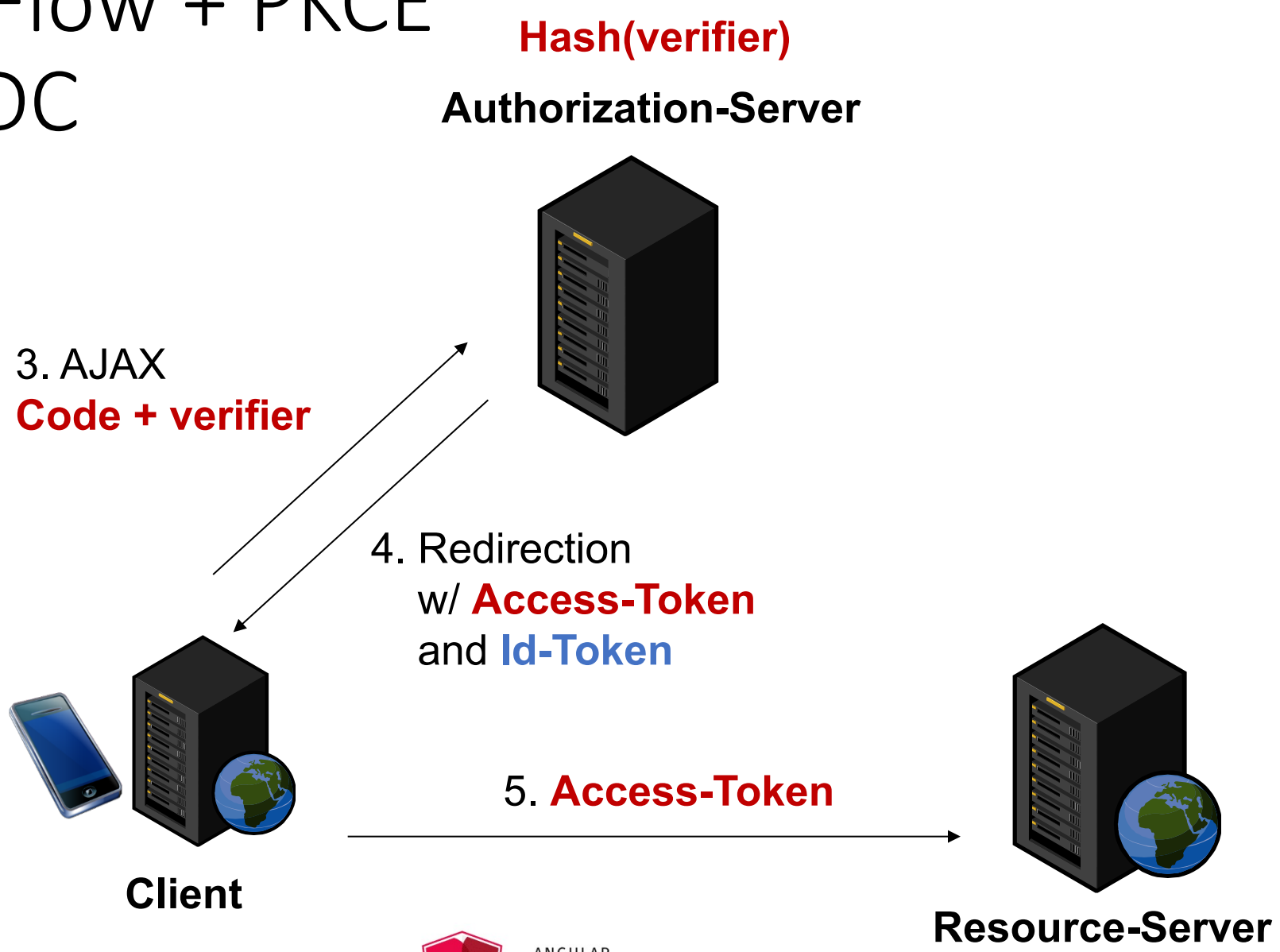
Code Flow w/ OIDC



Code Flow + PKCE w/ OIDC



Code Flow + PKCE w/ OIDC



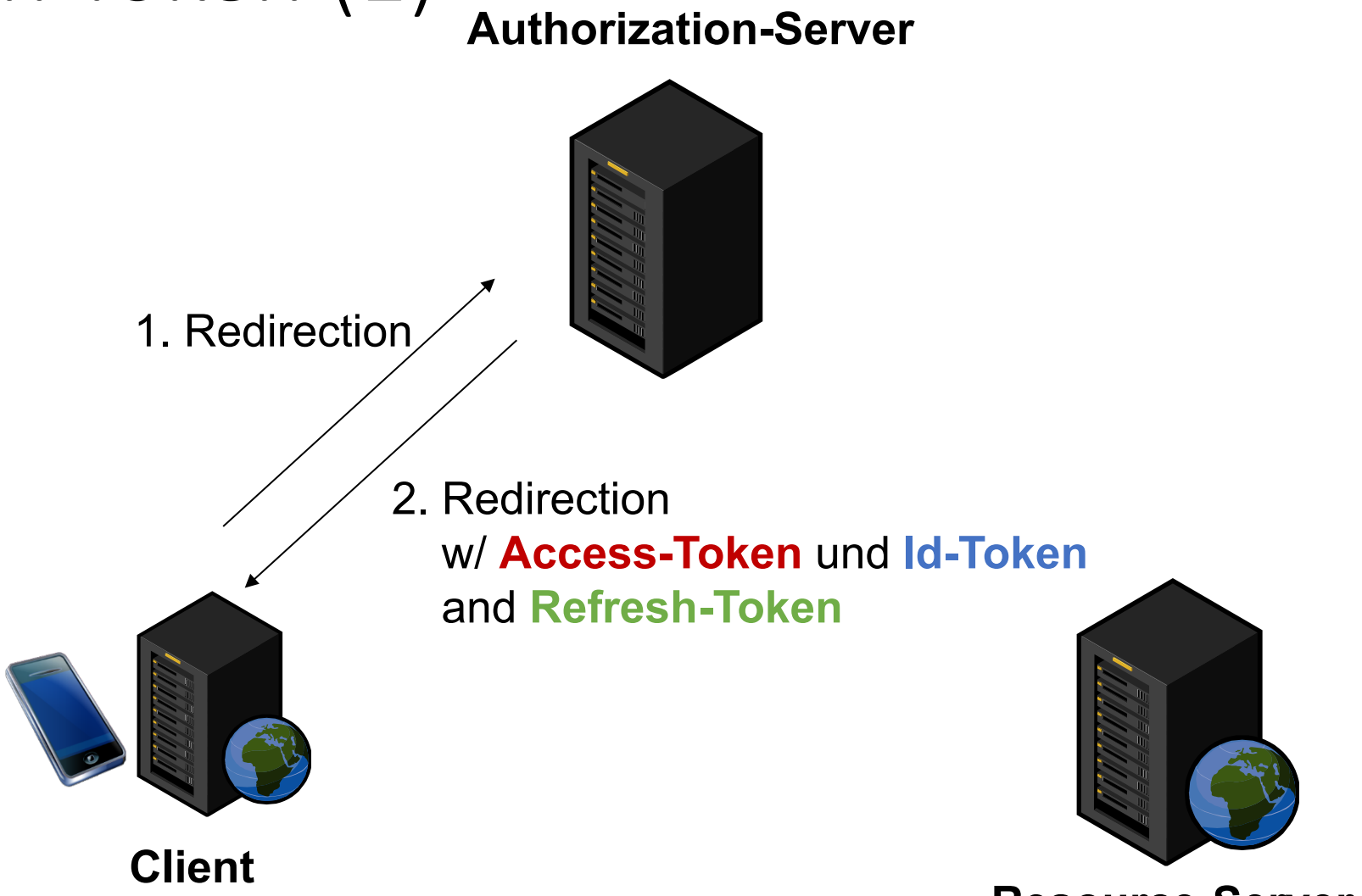
Token Refresh

Why Token Refresh?

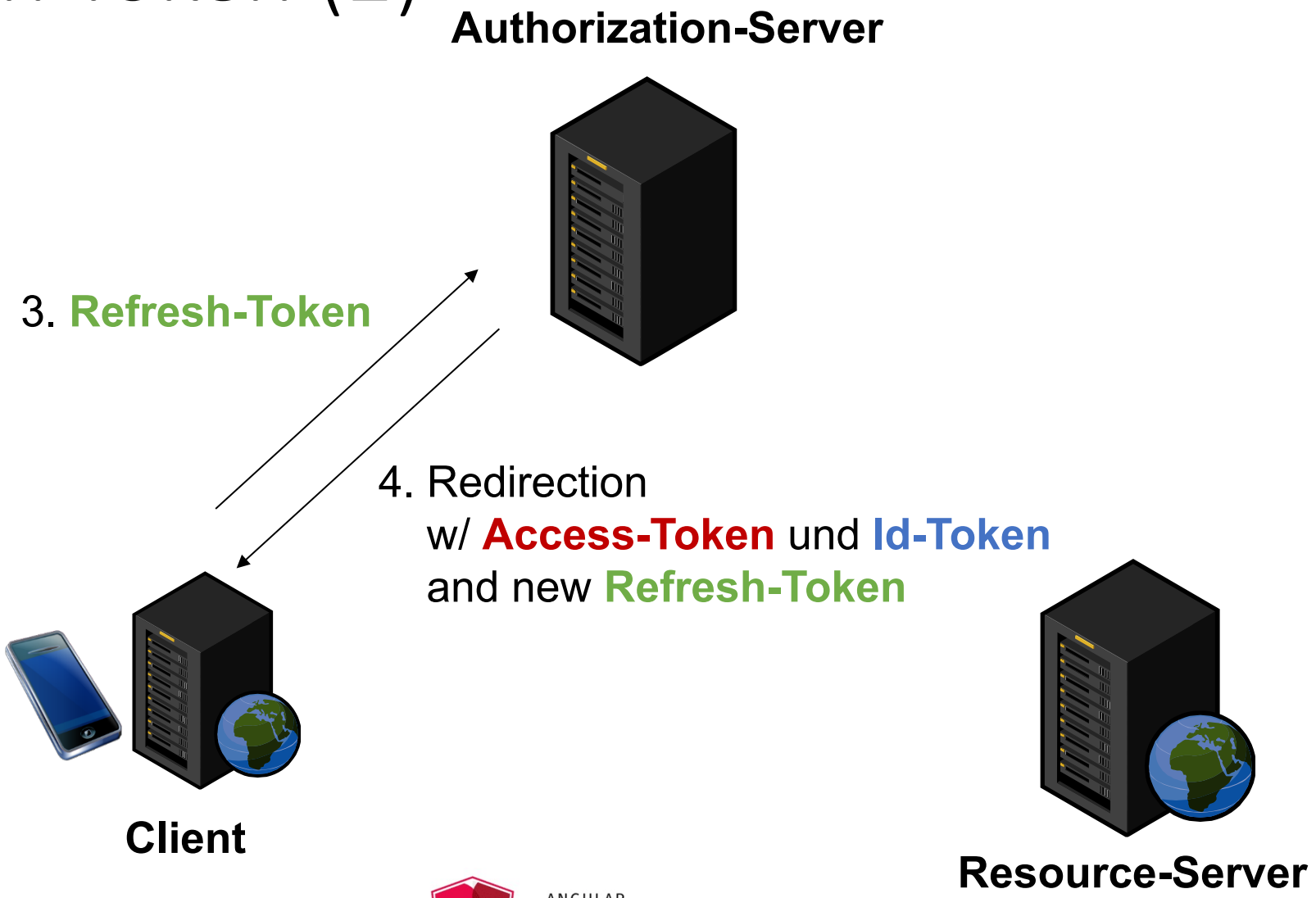
Short living Tokens increase Security

Users don't want to login over and over again

Refresh Token (1)



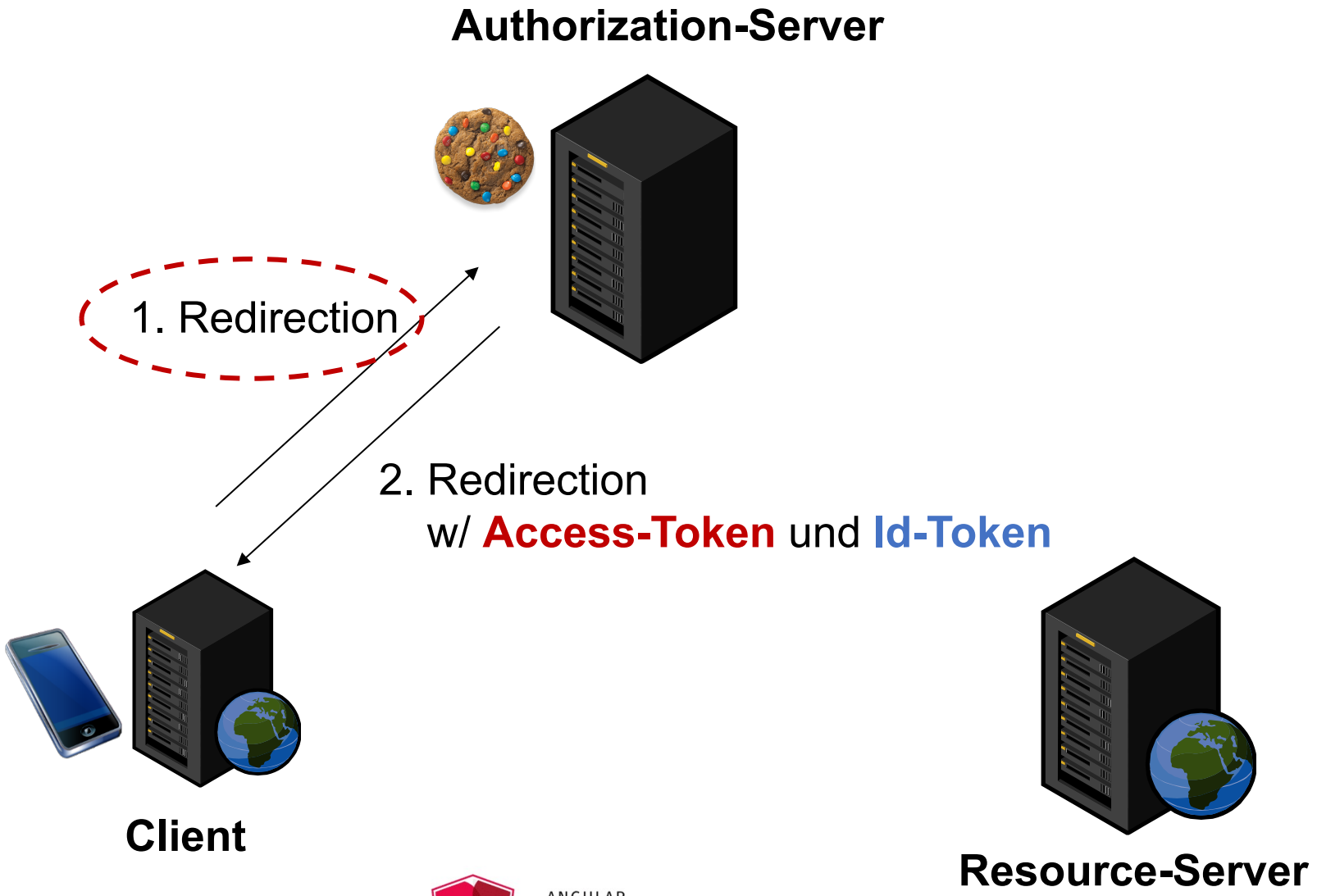
Refresh Token (2)



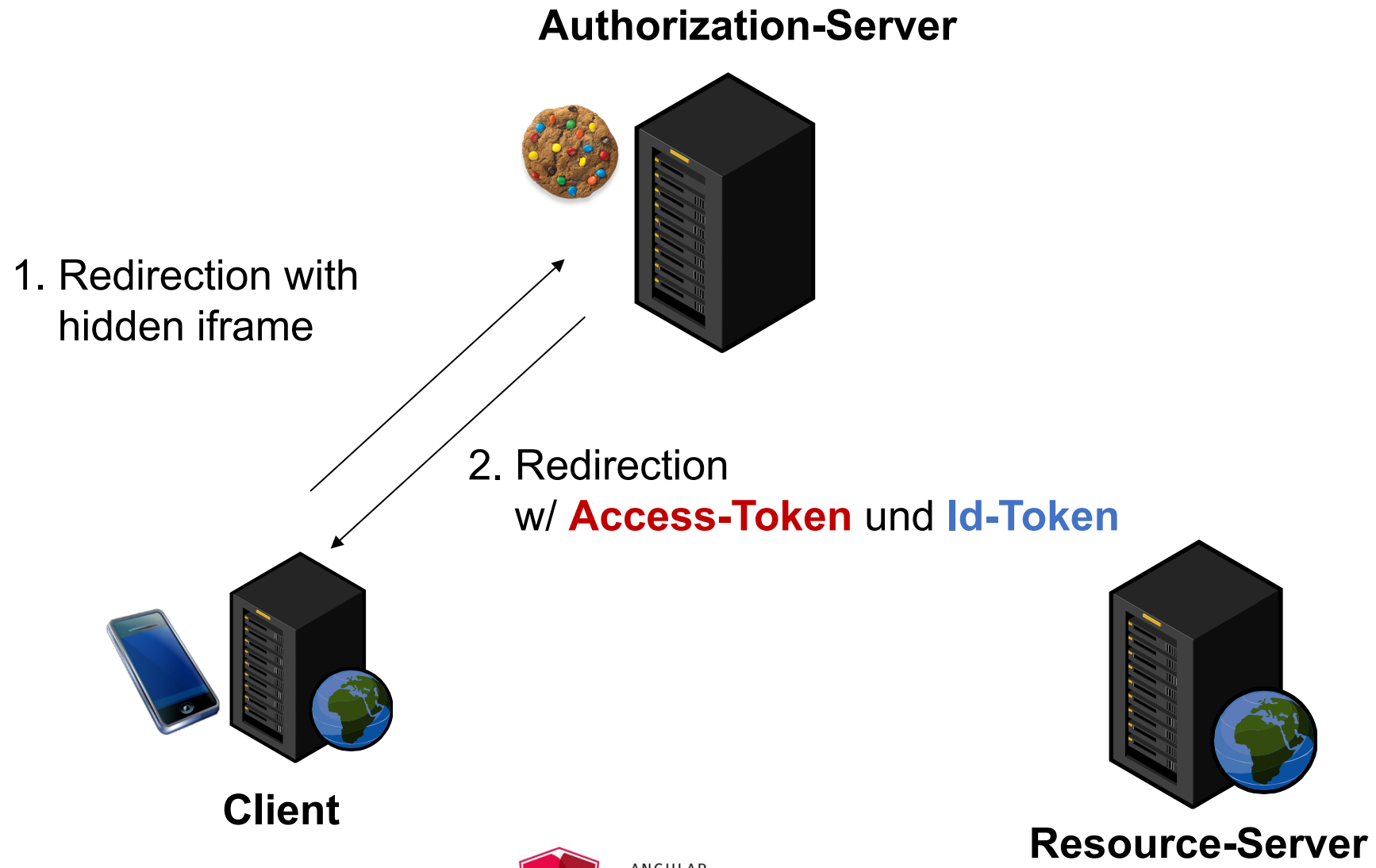
Refresh-Token and Browsers

- OAuth 2.0 Security Best Current Practice allows it under specific circumstances
- Security Audit (XSS!)
- Refresh Token needs to be one-time token
- After Refresh: Client gets new refresh token
- If used by several users: log out both
- Bind Refresh Token to session (invalidate it during logout)

Alternative: Refresh w/ Cookie



Alternative: Silent Refresh



Lab

Conclusion

Token: Flexibility, Cross Origin …

OAuth 2: Access to Service

OpenId Connect: SSO at Client

Implicit Flow

Code Flow + PKCE