OAUTH: AUTHENTICATION PIGGYBACK

Because we all trust Google, right?

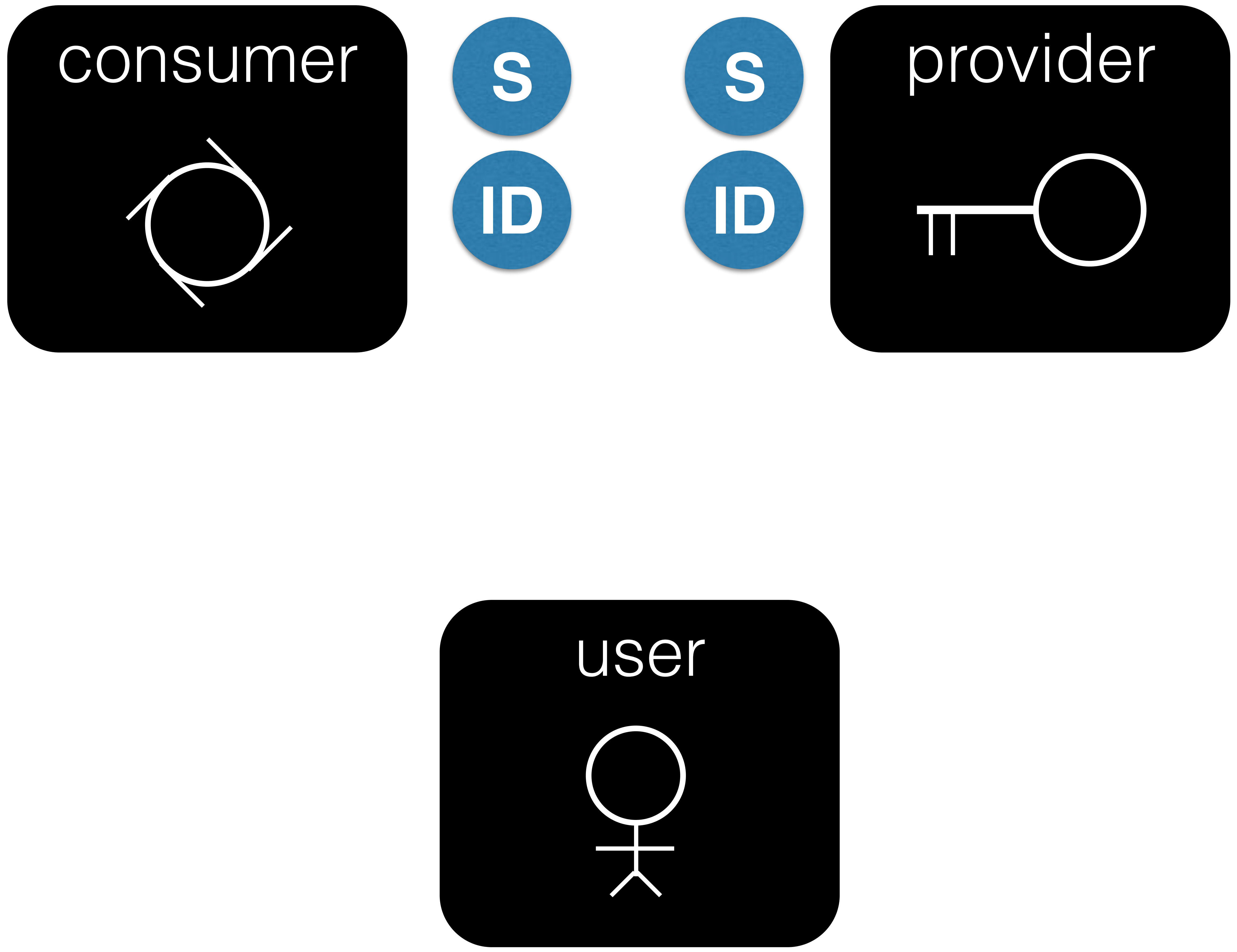
OAUTH

Standard protocol for auth piggybacking

Your Application	**User**	**3rd Party Authority**
“consumer”	“user”	“provider”

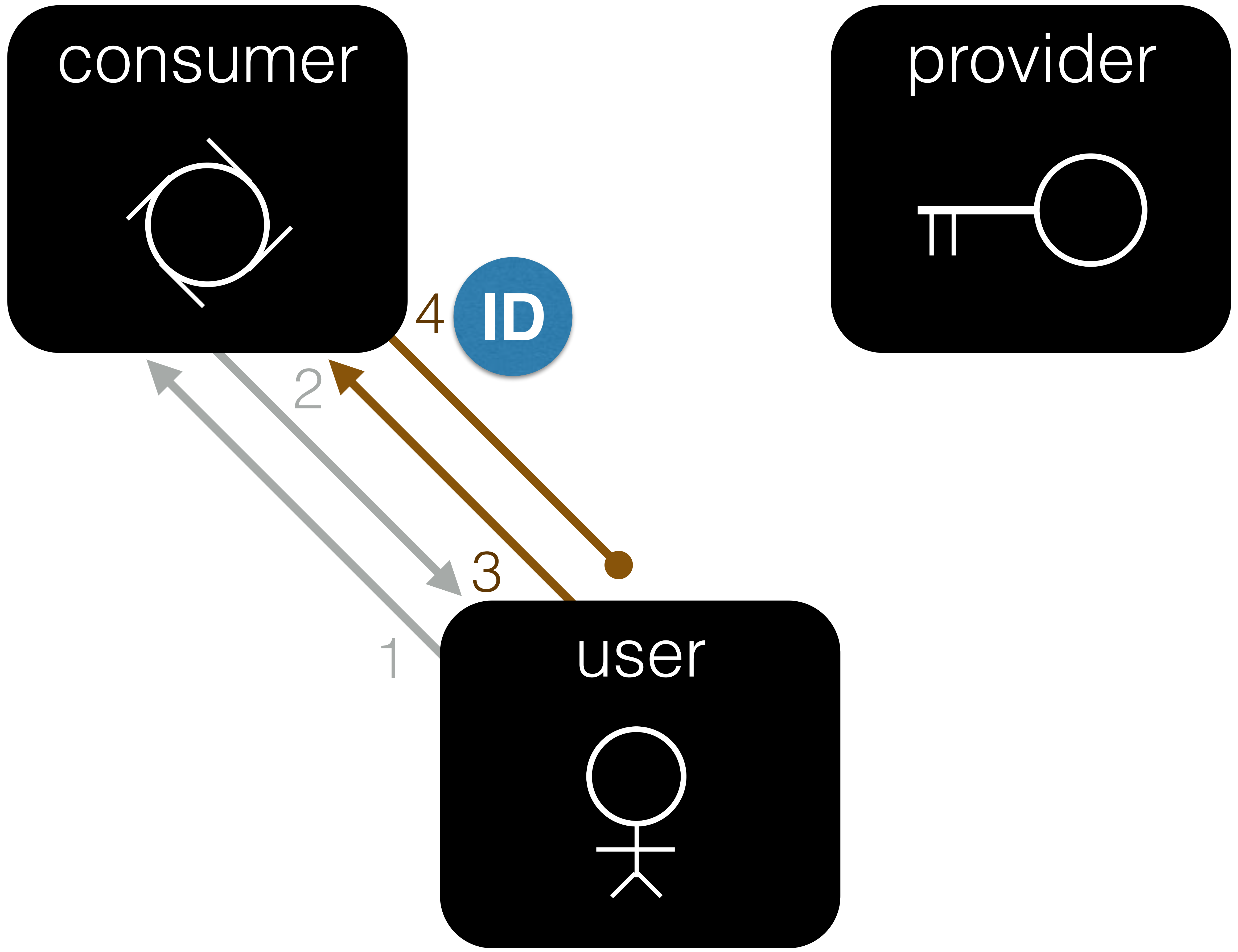
OAUTH - PREP

- Consumer app has a registered dev account with the provider.
- Provider gives consumer a public client ID and private client Secret.
- Both services hold on to these credentials so the consumer can prove who it is to the provider.



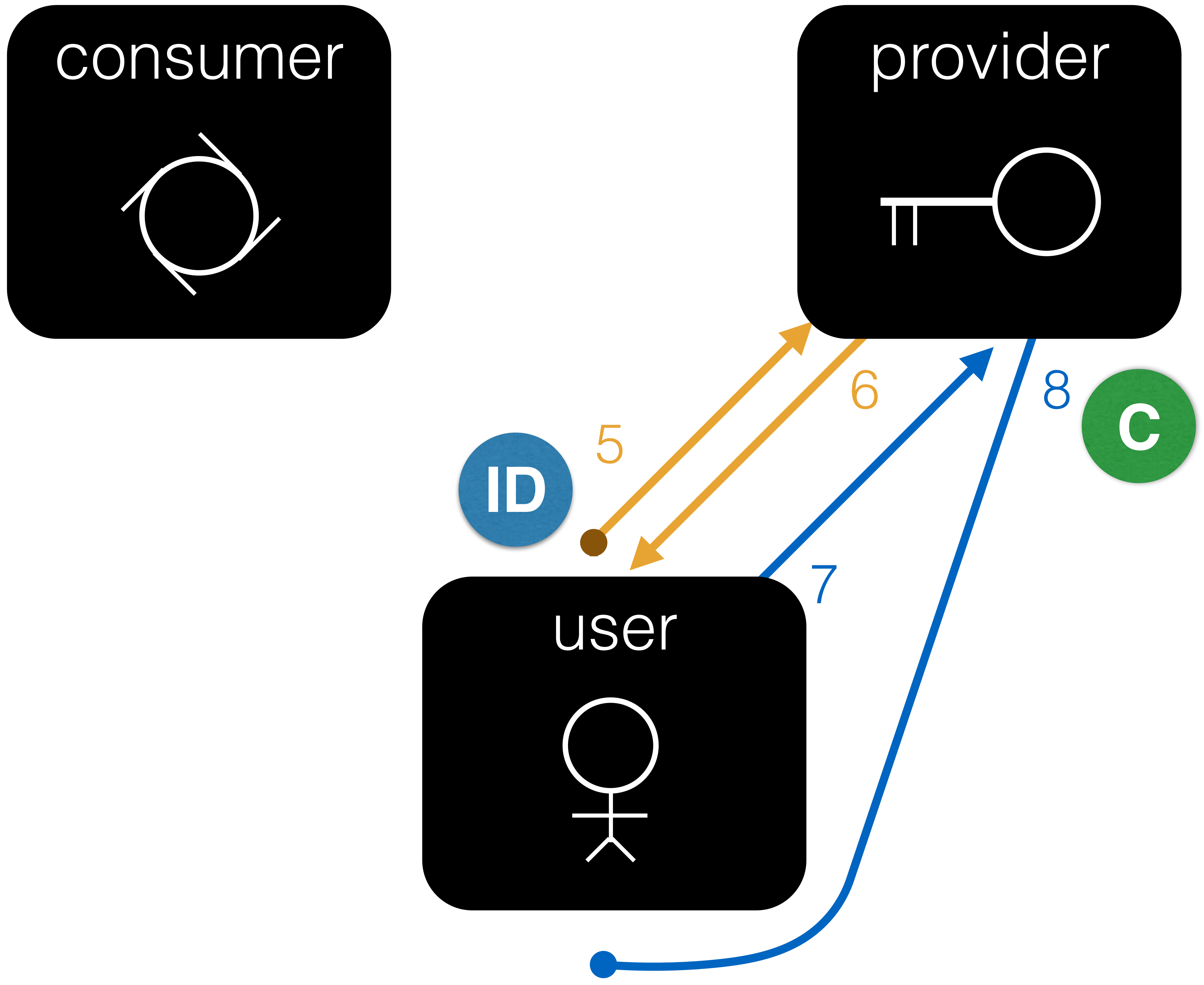
OAUTH - PETITION

1. Request: load login
2. Response: rendered login
3. Request: login through provider
4. Response: redirect to provider



http://provider.com/oauth/authorize?client_id=123&callback_url=consumer.com/confirm&scope=read

OAUTH - USER AUTHENTICATION

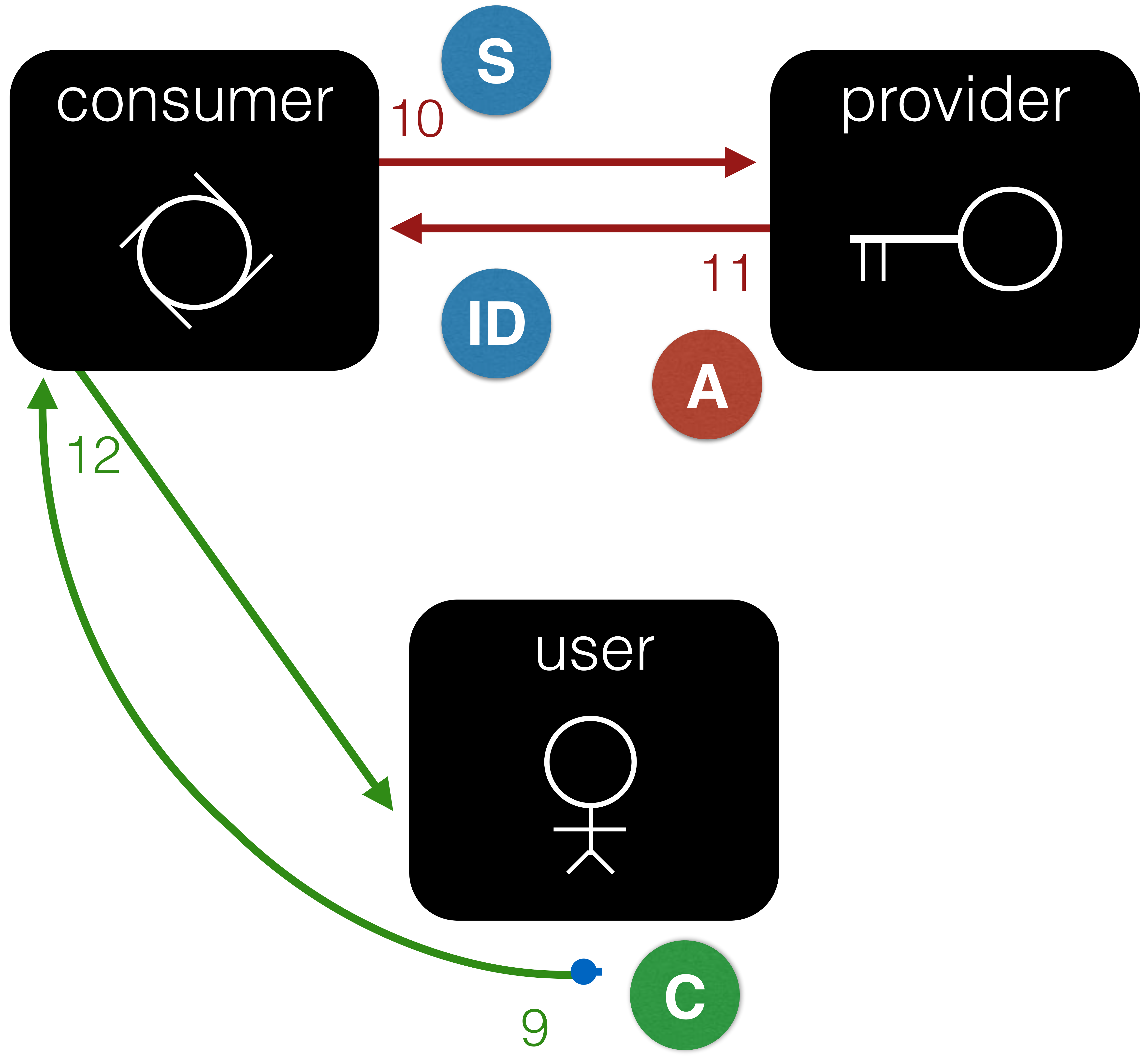


5. Request: load login
6. Response: rendered login
7. Request: login to provider
8. Response: redirect callback URL

http://consumer.com/confirm?authcode=789
http://provider.com/oauth/authorize?client_id=123&callback_url=consumer.com/confirm&scope=read

http://provider.com/oauth/token?client_id=123&client_secret=911&authcode=789

OAUTH - APP AUTHENTICATION

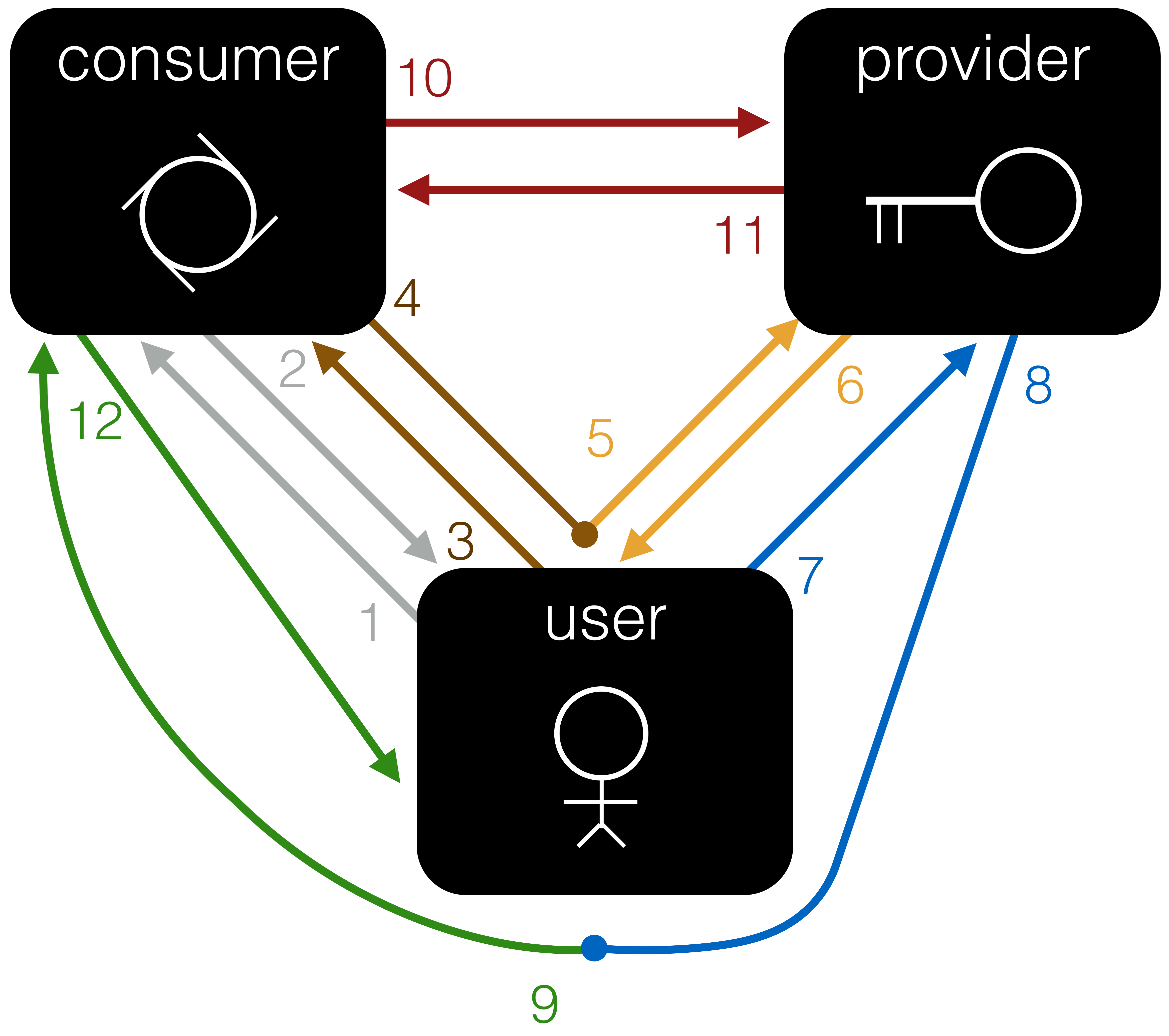


9. Request: callback URL
10. Request: authorization
11. Response: access token
12. Response: yay!

http://consumer.com/confirm?authcode=789

OAUTH - ALL OF IT

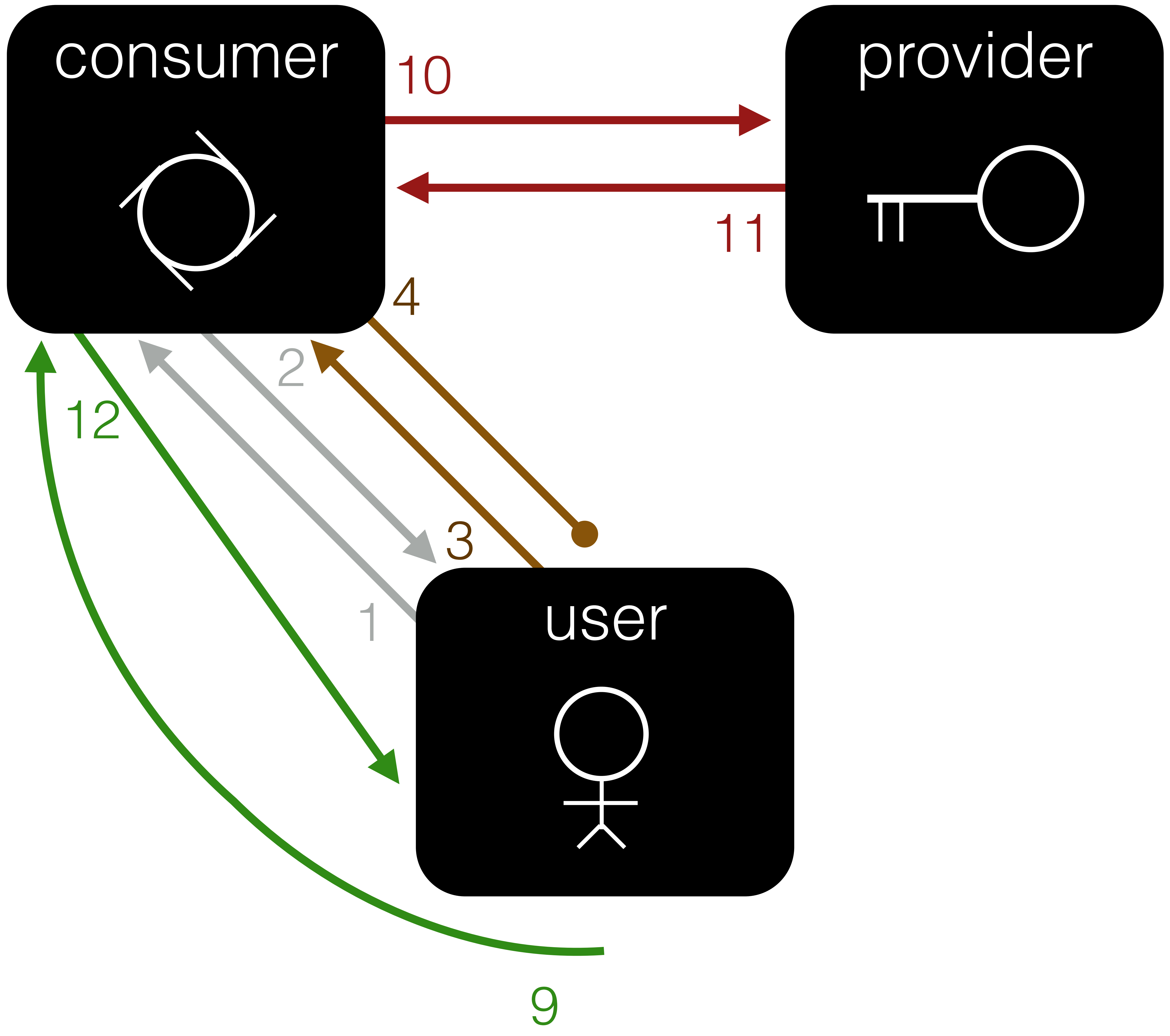
1. Request (user to app): load login page
2. Response (app to user): rendered login page
3. Request (user to app): allow app to use provider as me [user petitions app for a special contract to allow the app to do certain things on the user's behalf]
4. Response (app to user): redirect to provider login, passing along (to provider) an app id, a success "callback URL", and a permissions "contract" [app transfers this petition to provider]
5. Request (implicit, user to provider): load login page
6. Response (provider to user): rendered login page
7. Request (user to provider): login to provider [the user signs the contract]
8. Response (provider to user): on success, redirect to callback URL, passing along a new temporary code [the provider approves the user's signature]
9. Request (implicit, user to app): initiate callback
10. Request (app to provider): request for authorization given temporary code and app secret key [the app signs the contract]
11. Response (provider to app): on success, passes back an access token [the provider approves the app's signature and puts the contract into effect]
12. Response (app to user): we're good to go!



OAUTH - CONSUMER ROLE

1. Request (user to app): load login page
2. Response (app to user): rendered login page
3. Request (user to app): allow app to use provider as me [user petitions app for a special contract to allow the app to do certain things on the user's behalf]
4. Response (app to user): redirect to provider login, passing along (to provider) an app id, a success "callback URL", and a permissions "contract" [app transfers this petition to provider]

9. Request (implicit, user to app): initiate callback
10. Request (app to provider): request for authorization given temporary code and app secret key [the app signs the contract]
11. Response (provider to app): on success, passes back an access token [the provider approves the app's signature and puts the contract into effect]
12. Response (app to user): we're good to go!

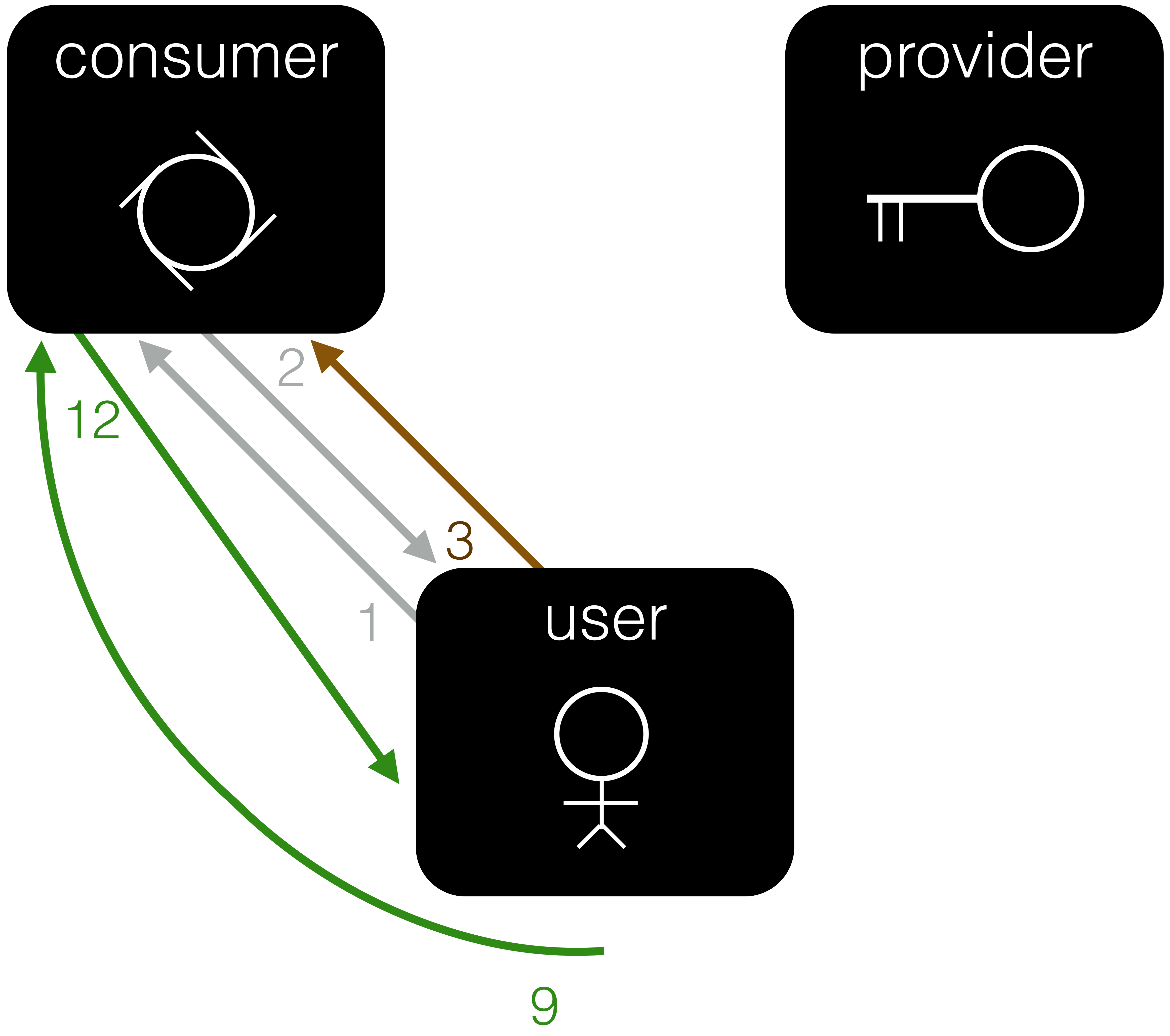


OAUTH - CONSUMER ROLE WITH PASSPORT

1. Request (user to app): load login page
2. Response (app to user): rendered login page
3. Request (user to app): allow app to use provider as me [user petitions app for a special contract to allow the app to do certain things on the user's behalf]

9. Request (implicit, user to app): initiate callback

12. Response (app to user): we're good to go!



Passport

TL;DR

- Assuming you set everything up right:
- Client can log in by requesting GET /auth/google or similar
- In routes you will now have req.user to check user info

PASSPORT INGREDIENTS

- **attach passport.session() middleware**
  - Only after express-session
- **Define how to minimally store & look up user using session**
  - passport.serializeUser / passport.deserializeUser
- **Must configure a Strategy**
  - Strategy needs a *verification callback* you write — longest part
- **passport.authenticate (in two different routes)**
  - Uses strategy
  - Slightly different call in each route

DB
SERVER
USER
PROVIDER
Passport
Express
configure a Passport strategy for facebook with a verification callback:
verification callback
(token, profile, done…)
7 f/c user via profile
give user to done
Session Store
"5"
GET api/auth/fb
passport.authenticate
using facebook strategy
1
2
"I want to log into app"
"credentials, please"
"hpotter, leviOHsa"
3
"show this to app:"
T
GET
api/auth/fb/confirm
passport.authenticate
fb strategy with success /
failure redirect URLs
4
"token ok?"
5
"yep; here's user info"
6
8
10
passport.serializeUser
(user, done) =>
convert user to string id
give id to done
9
redirect
11
GET /
passport.session()
12
13
passport.deserializeUser
(id, done) =>
14
find user from string id
give user to done
15
set req.user
(any route)
use req.user as needed
16

DB
SERVER
Passport
Express
USER
PROVIDER
configure a Passport strategy for facebook with a verification callback:
verification callback (token, profile, done…)
f/c user via profile
give user to done
GET api/auth/fb
passport.authenticate
using facebook strategy
GET api/auth/fb/confirm
passport.authenticate
fb strategy with success / failure redirect URLs
Session Store
"5"
passport.serializeUser (user, done) =>
convert user to string id
give id to done
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"I want to log into app"
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"token ok?"
"yep; here's user info"
1
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11

Initial login request: use passport.authenticate in routes. Token / profile will be passed into verification callback. Find / create user in DB based on profile info. Passport stores ID in session for easy future lookup, then tells client to redirect to the "success" URL.

DB
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USER
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Passport
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Session Store
"5"
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GET /
passport.session()
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passport.deserializeUser
(id, done) =>
14
find user from string id
give user to done
15
set req.user
(any route)
use req.user as needed
16

All subsequent requests (while session persists):

Passport.session middleware calls deserializeUser

User ID is fetched from session store

ID is used to retrieve user from DB

User is attached to req.user

Routes can now use req.user