



Week 5: Security

## Unit 1: Security Basics

# Security Basics

## Authentication and authorization

### Authentication

- Answers the question ***who you are***  
(identity of the user)

### Authorization

- Answers the question ***what you are allowed to do***  
(which operations on which resources)

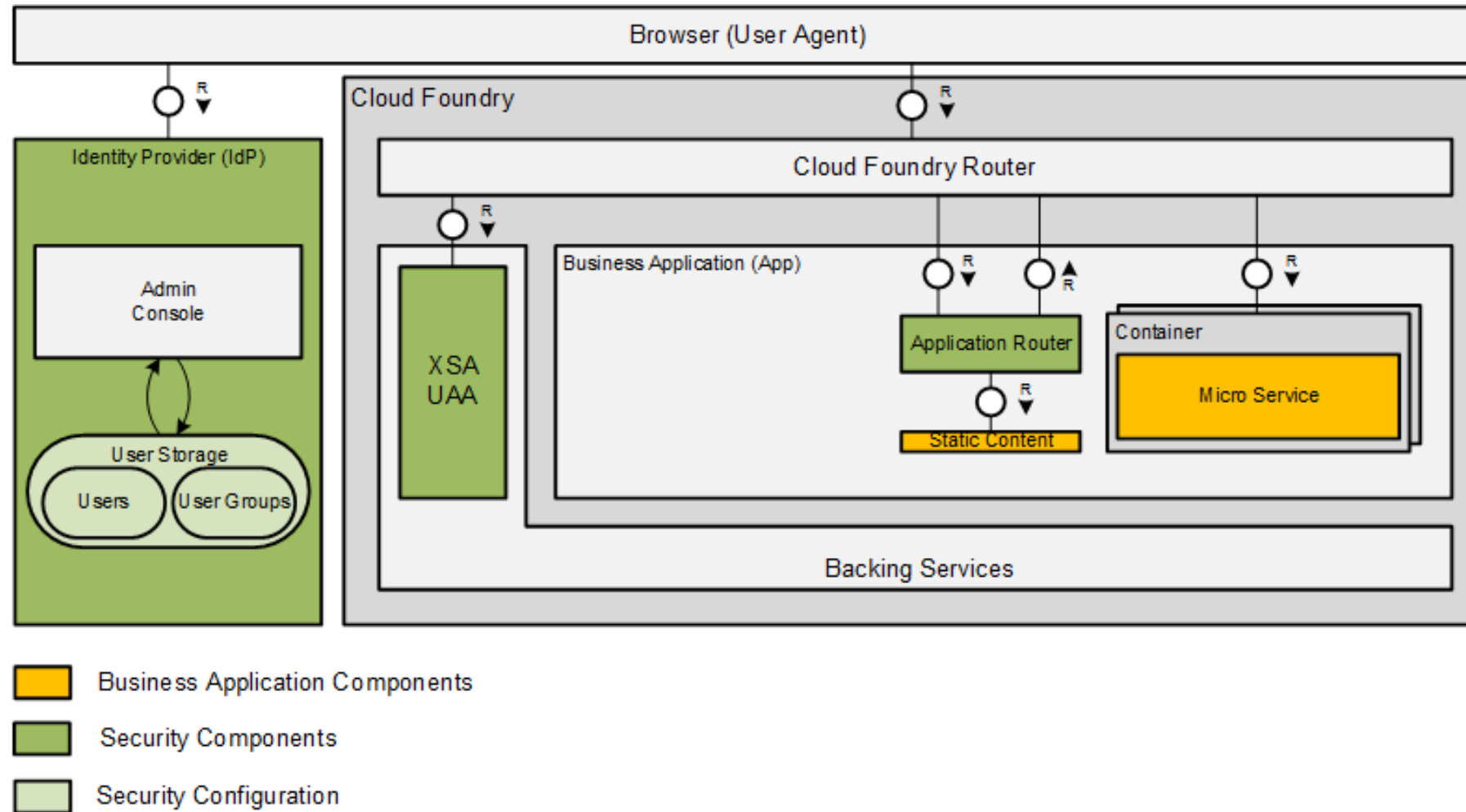
### Authorization depends on authentication

- Only ***authenticated*** users can be ***authorized***  
(to access a resource)



# Security Basics

## Authentication – Security architecture



# Security Basics

## Authentication – IdP and UAA

### SAML 2 IdP: Identity Provider

- Authenticates business users
- Manages user data and user groups
- Issues SAML 2 assertions about a users' identity and assigned user groups

### XS-UAA: User Account & Authentication

- Issues authorization codes and JWT tokens
- Is provided as backing service on SAP Cloud Platform: Cloud Foundry



UAA and IdP have a trusted relationship

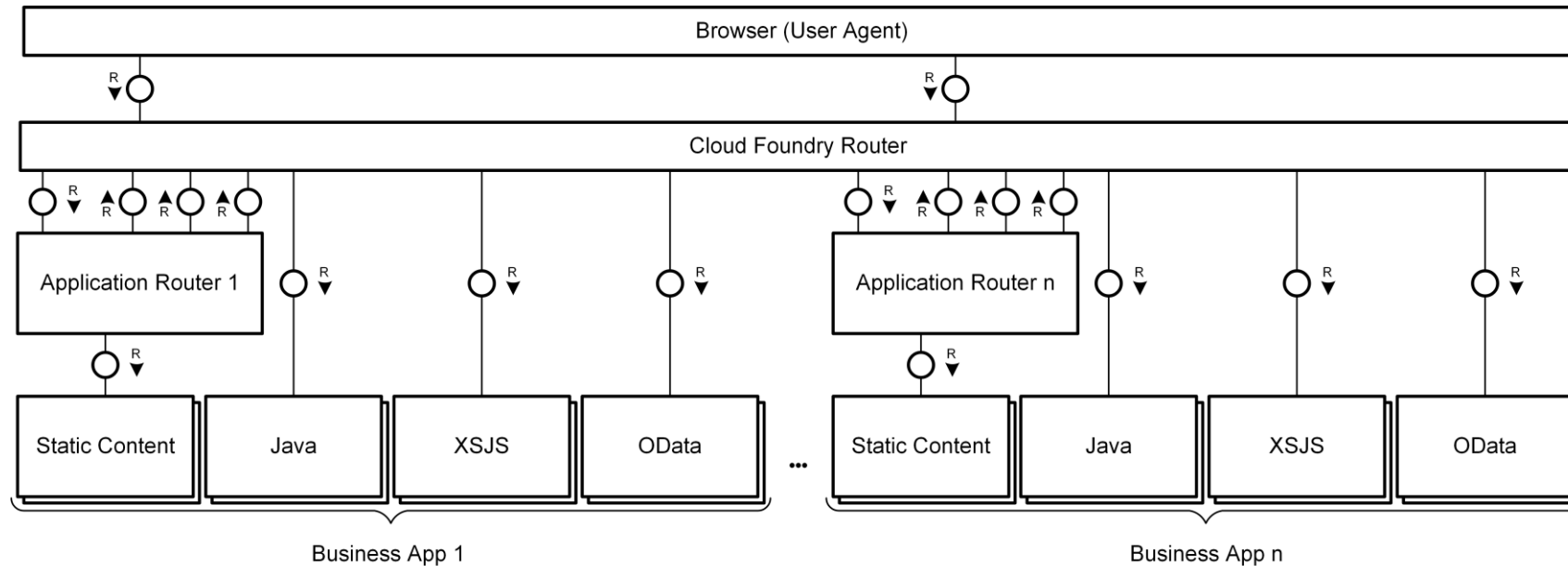
# Security Basics

Authentication – Application router, a reverse proxy

## One application router for each business application

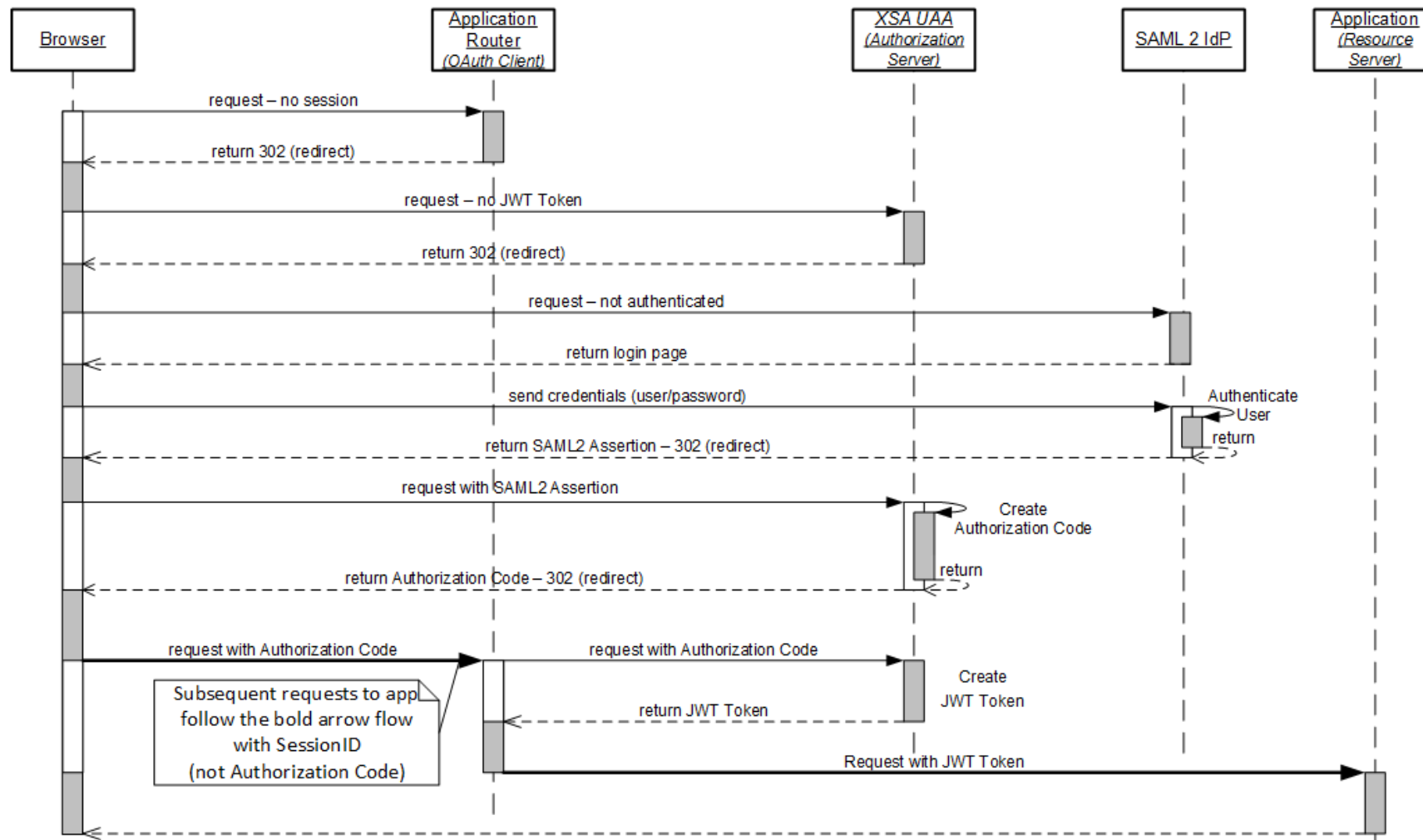
- Node.js application for central user authentication and session management
- Provides a **single entry point** for the application – satisfies the [same-origin policy](#)
- Serves static content and forwards user requests to apps

Download it  
from  
[SAP NPM  
Registry](#)



# Security Basics

## Authentication flow – SAML 2 authentication with OAuth 2.0 authorization code grant





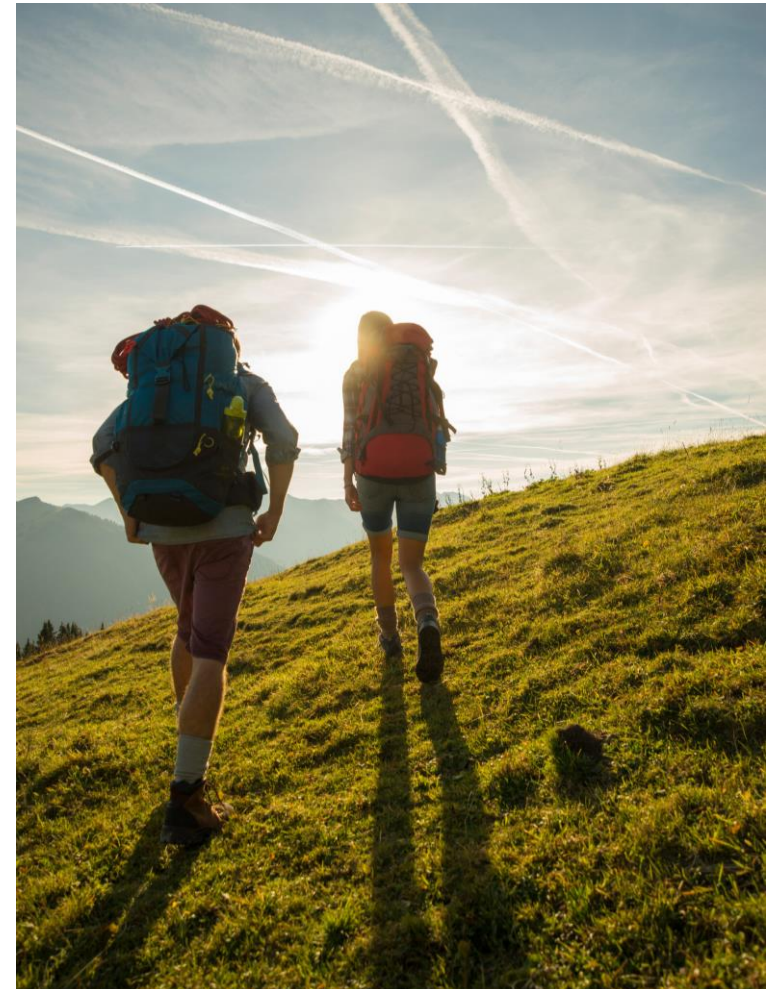
# Security Basics

## Further reading

- SAP NPM Registry: <https://npm.sap.com/>  
(to be consumed by NPM)
- [SAP NPM Registry launched:  
Making the lives of Node.js developers easier](#)
- [Same-origin policy](#)



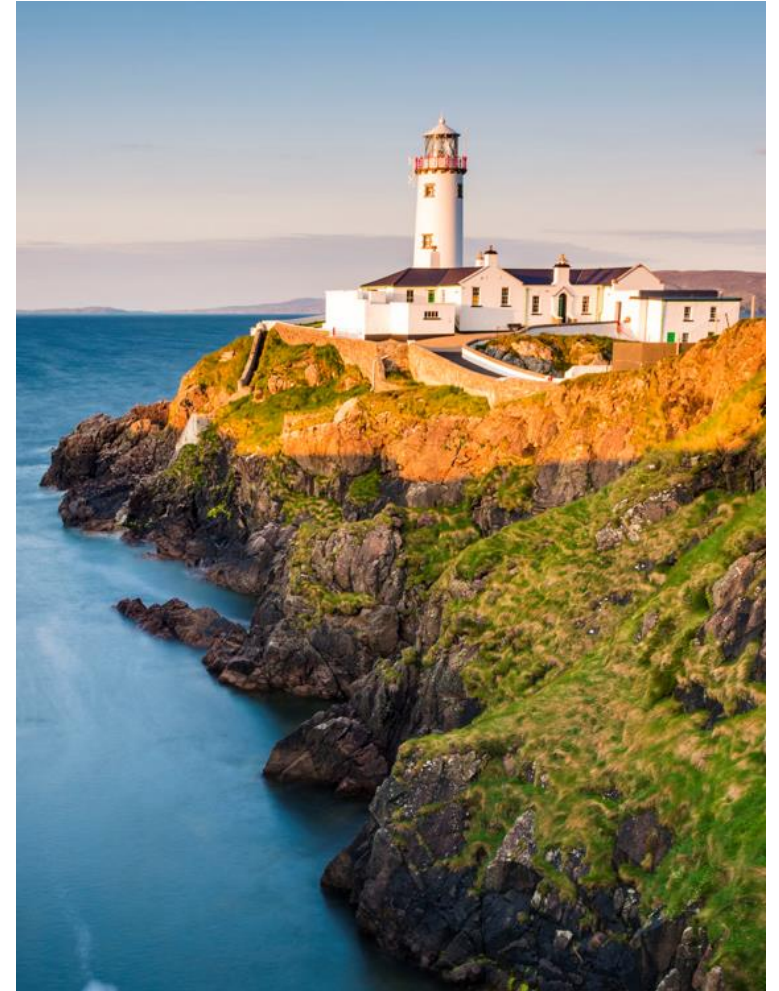
Additional Material



# Security Basics

What you've learned in this unit

- Authentication and authorization
  - What they are
  - How they relate to each other
- What the security architecture of SAP Cloud Platform in the Cloud Foundry environment looks like
- Application router
  - What it is
  - Why we use it
  - How we use it
- How the authentication flow for SAML 2 authentication with OAuth 2.0 authorization code grant works





# Thank you.

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