Getting Started with open.epic

Presenters

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Integrations Technical Services

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Software Developer

Learning Objectives

1. Understand Epic's standards-first approach to data exchange
2. Walk the road(map) from app concept to Go-Live
3. Strategies for successful connectivity and collaboration with customers

Agenda

01 **Data Sharing Philosophy and Design**

Overview of supported standards, our websites, and architecting your data exchange

02 **Register a Client Record**

Obtain client IDs for implementation of OAuth 2.0

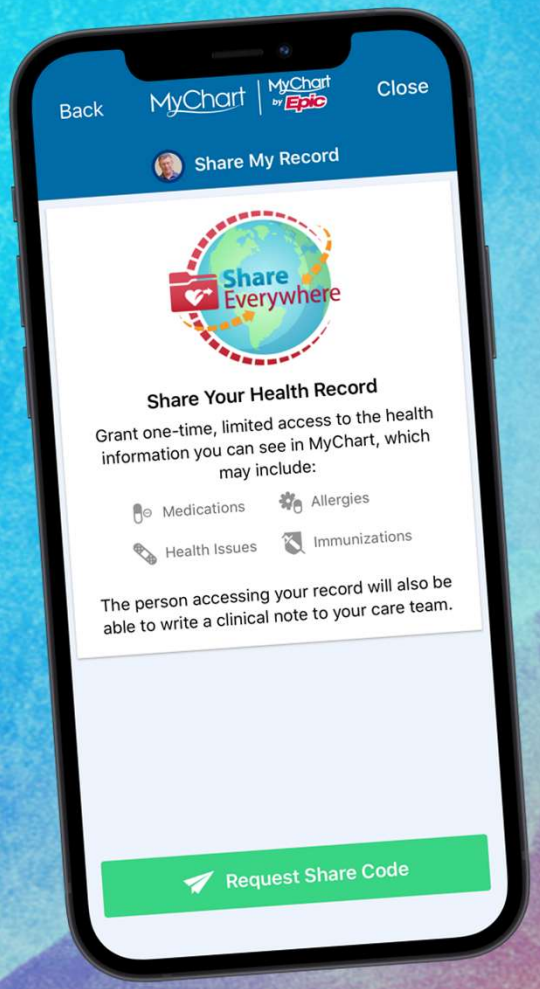
03 **Develop and Test**

Simulate app launches and connectivity by connecting to our FHIR developer sandbox

04 **Customer Implementation and Going Live**

Strategize your install project and Go Live with Epic customers

Sharing Data *with* **Patients** & **Providers**



Care Everywhere

BEST IN KLAS
Won every year of eligibility

14 million patient charts exchanged daily

>52% of exchanges are with non-Epic systems

HL7 International

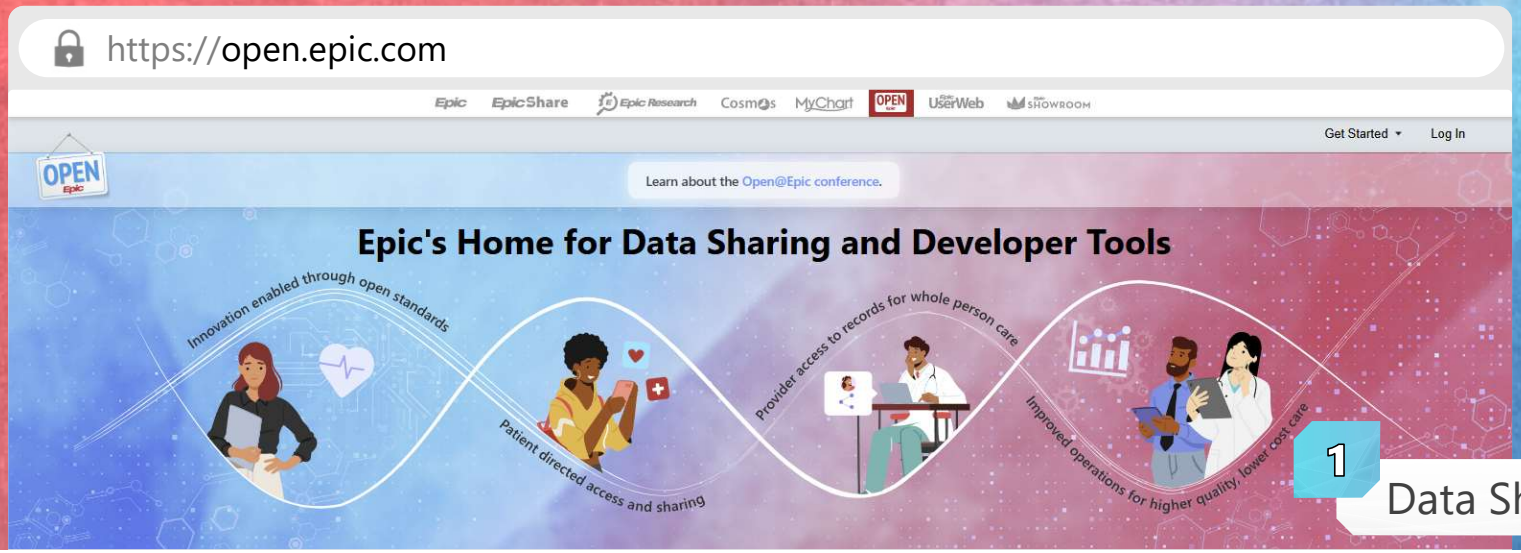
IHE INTERNATIONAL Integrating the Healthcare Enterprise

1 Data Sharing Design

Generalize *to* **Benefit More** *with* **Industry Standards**

OPEN Epic

500+ FHIR APIs



1 Data Sharing Design

Interfaces

+368 billion

interface messages annually

+55,000

active interfaces

+2,600

vendors

open.epic.com

Paths Epic Provides *for* Third Parties *to* Connect

available on open.epic.com

500+ FHIR APIs
for USCDI requirements and much more

180+ standards-based interfaces
including HL7, DICOM, ASC X12, and more

150+ Epic-created public APIs
for scenarios where there was no standard

Data Exchange Tutorial

https://open.epic.com/DesignOverview

Epic | EpicShare | Epic Research | Cosmos | MyChart | OPEN | UserWeb | SHOWROOM

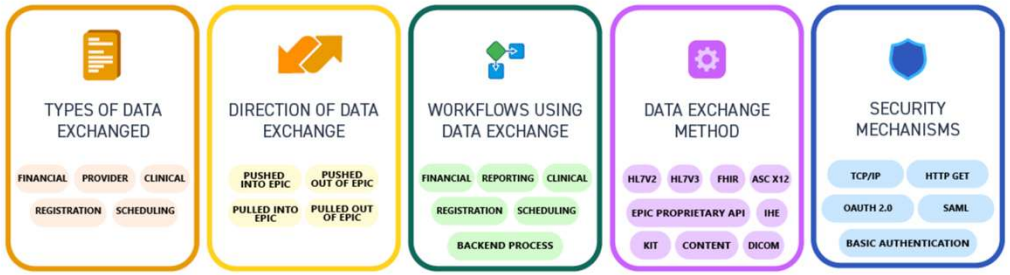
Get Started | Log In

Design Overview

Epic supports a wide variety of data exchange technologies. This guide provides an overview of design considerations and the different ways to plan your connection to organizations using Epic.

What Should I Consider When Designing My Data Exchange?

Due to the vast breadth of standards and types of APIs and interfaces a developer may wish to use, there are many factors to consider whe determining the best way for you to exchange data with Epic. The sections below cover the most common considerations when designing a connection, while the Case Studies section toward the end of this document provides examples for applying these considerations to some sample scenarios.

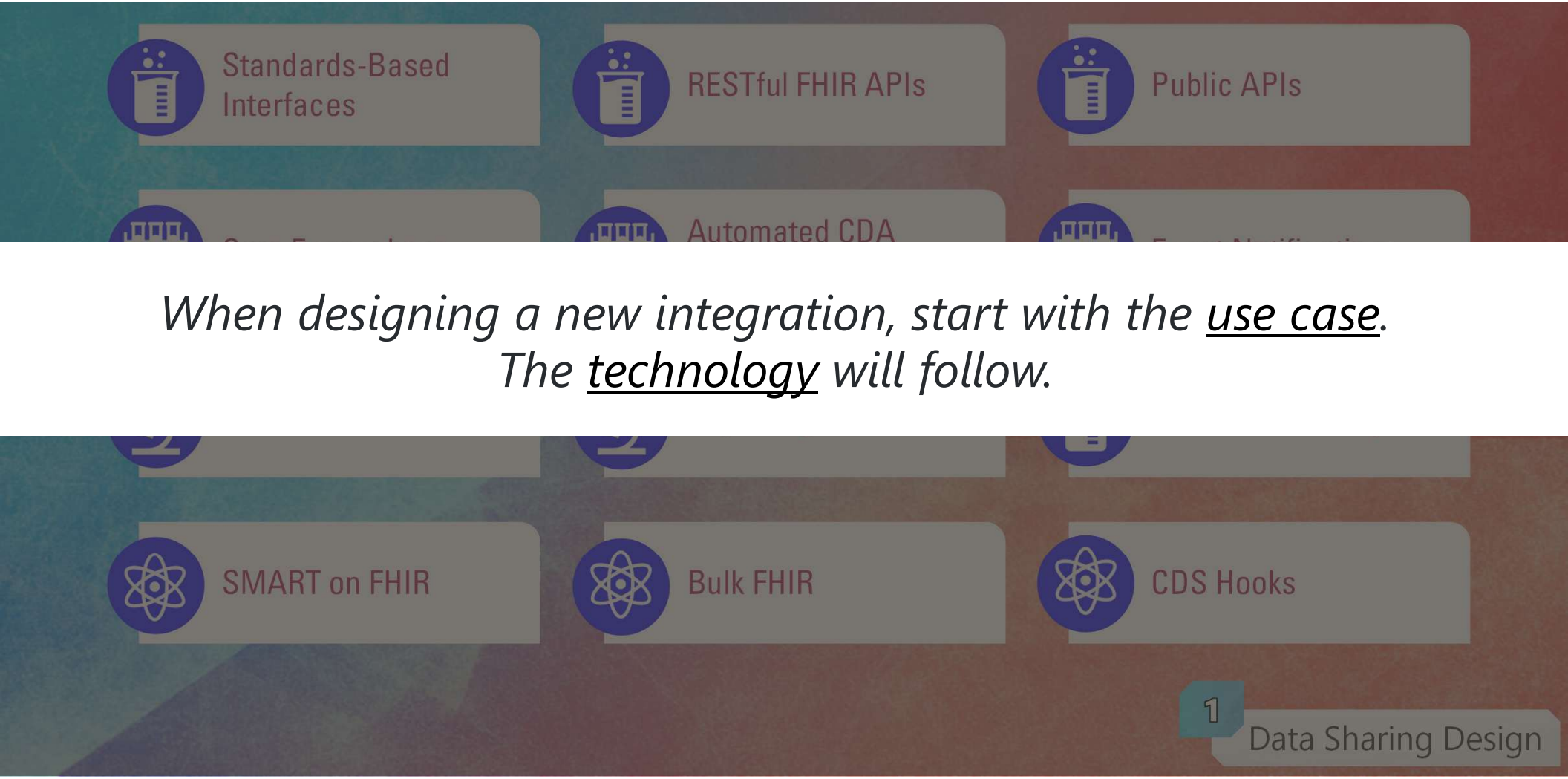


Types of Data to Exchange

Before you begin designing your connection, you must first understand what data you plan to exchange with Epic. Start by defining the discrete types of data your app will work with, and define a scope for the level of detail required within that data set. For example, you may need to exchange medication information. You should then more specifically define data elements you need within that data type, such as dosage information, RxNorm codes, etc.

1 Data Sharing Design

Data Exchange Tutorial



When designing a new integration, start with the use case.
The technology will follow.

Common Interfaces & Use Cases

HL7® International

- Appointment Scheduling
- Blood Transfusions
- Financial Transactions
- Flowsheet and Device Data
- Inventory/Supply Management
- Medication Administrations
- Orders and Results
- Patient Administration
- Referral Management
- Surgical Scheduling/Tracking
- Transcriptions/Documents
- Vaccine Administrations

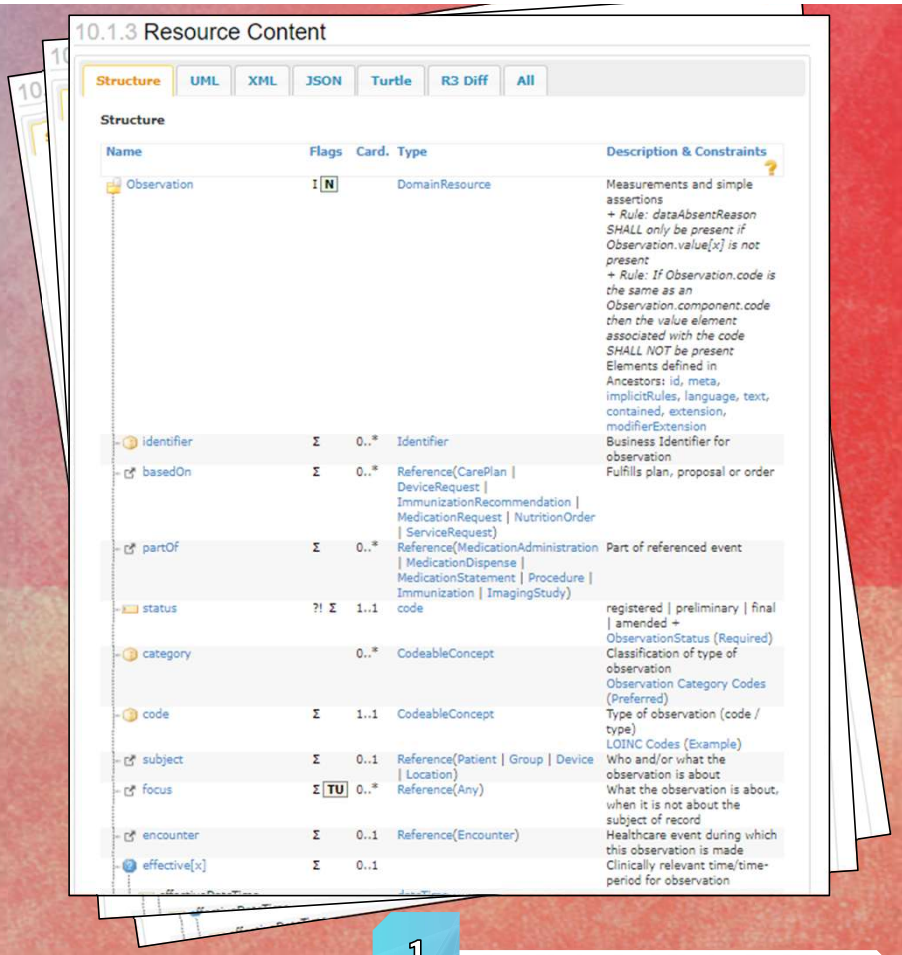
FHIR APIs & Use Cases

FHIR®

Fast Healthcare Interoperability Resource

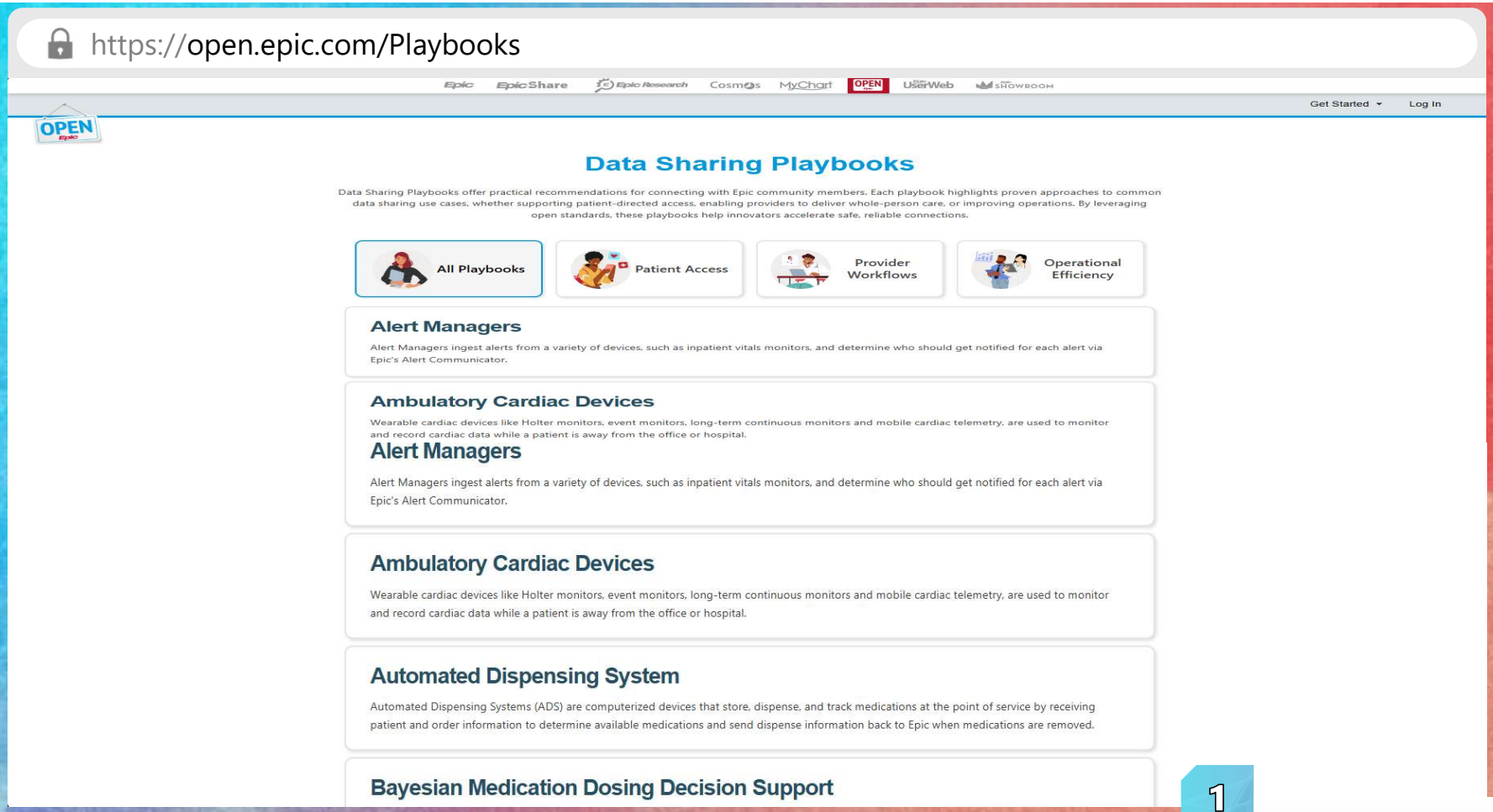
138 billion messages

in the past year



1 Data Sharing Design

Data Sharing Playbooks



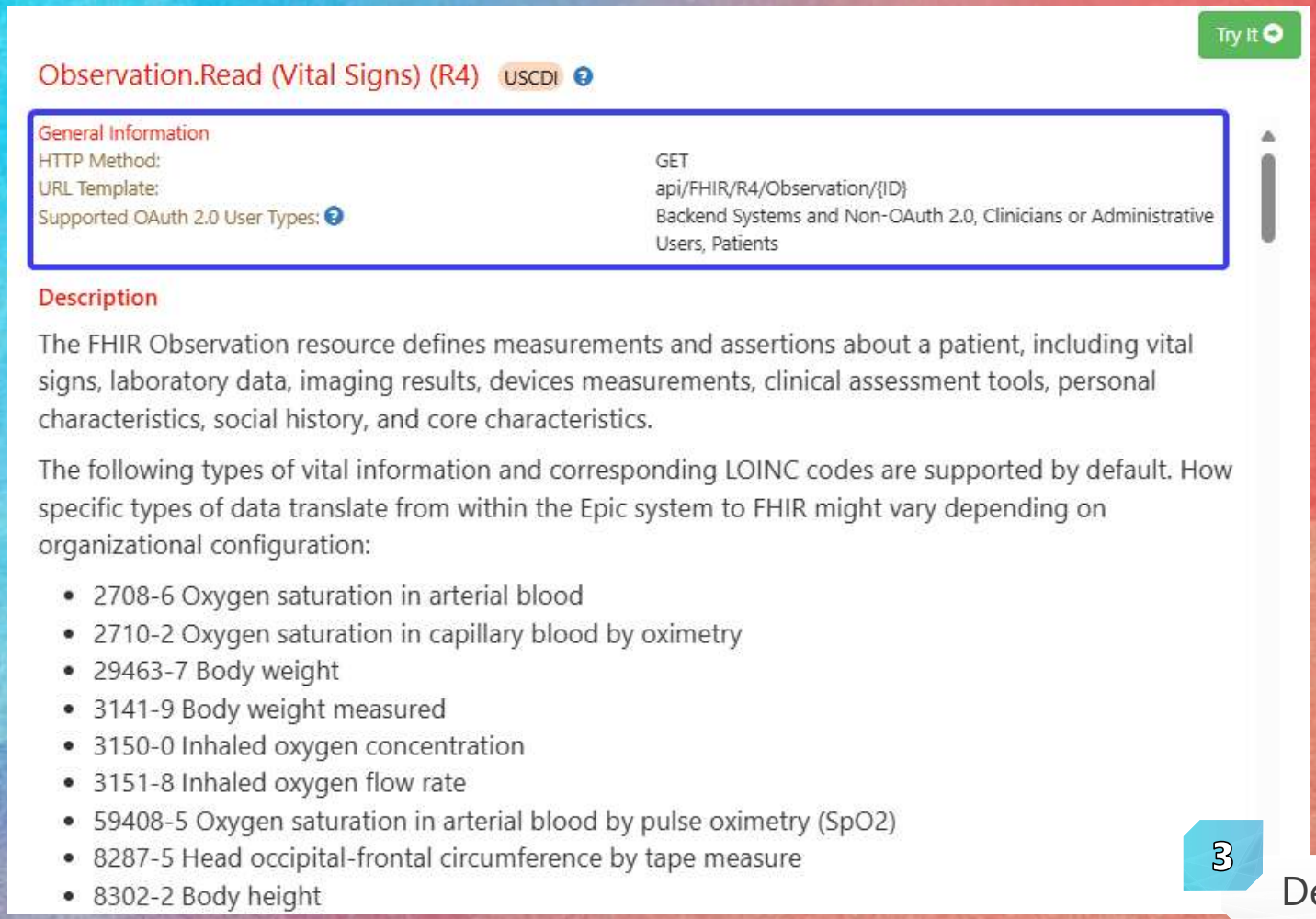
Develop & Test

Building FHIR API Calls / Structure

Observation . Read (Vital Signs) (R4)

"Resource" "Action" "Subresource" "Version"

Building FHIR API Calls / Documentation



Building FHIR API Calls / Documentation

Native Request Elements

Name	Description	Is Optional	Is Array
category (String)	Use "vital-signs" to search for vitals observations.	conditional	false
code (String)	LOINC code, CADSR code, flowsheet ID, or encoded flowsheet ID. Either this element or category must be provided. The code element value varies depending upon what is passed (for example, a flowsheet ID vs. a LOINC code). If using a flowsheet ID, the system value is different between Epic organizations, and it is also different between production and non-production environments for the same organization.	conditional	false
date (String)	The date range for when the observation was taken. For growth chart data (Epic version August 2021 and later), only the most recent observation within the timeframe is returned.	true	false
patient (String)	Reference to a patient resource the observation is about. Either this element or subject must be provided. If both are provided, they must match.	conditional	false
subject (String)	Reference to a patient resource the observation is about. Either this element or patient must be provided. If both are provided, they must match.	conditional	false

Building FHIR API Calls / Documentation

Post-filter Request Elements

Starting in the May 2024 version of Epic, the following search parameters that use a post-filtering mechanism are available. When responding to a request, the Epic FHIR server first retrieves all results that match your search (using any native search parameters you've provided), then filters down those results based on the additional post-filtered parameters you've specified.

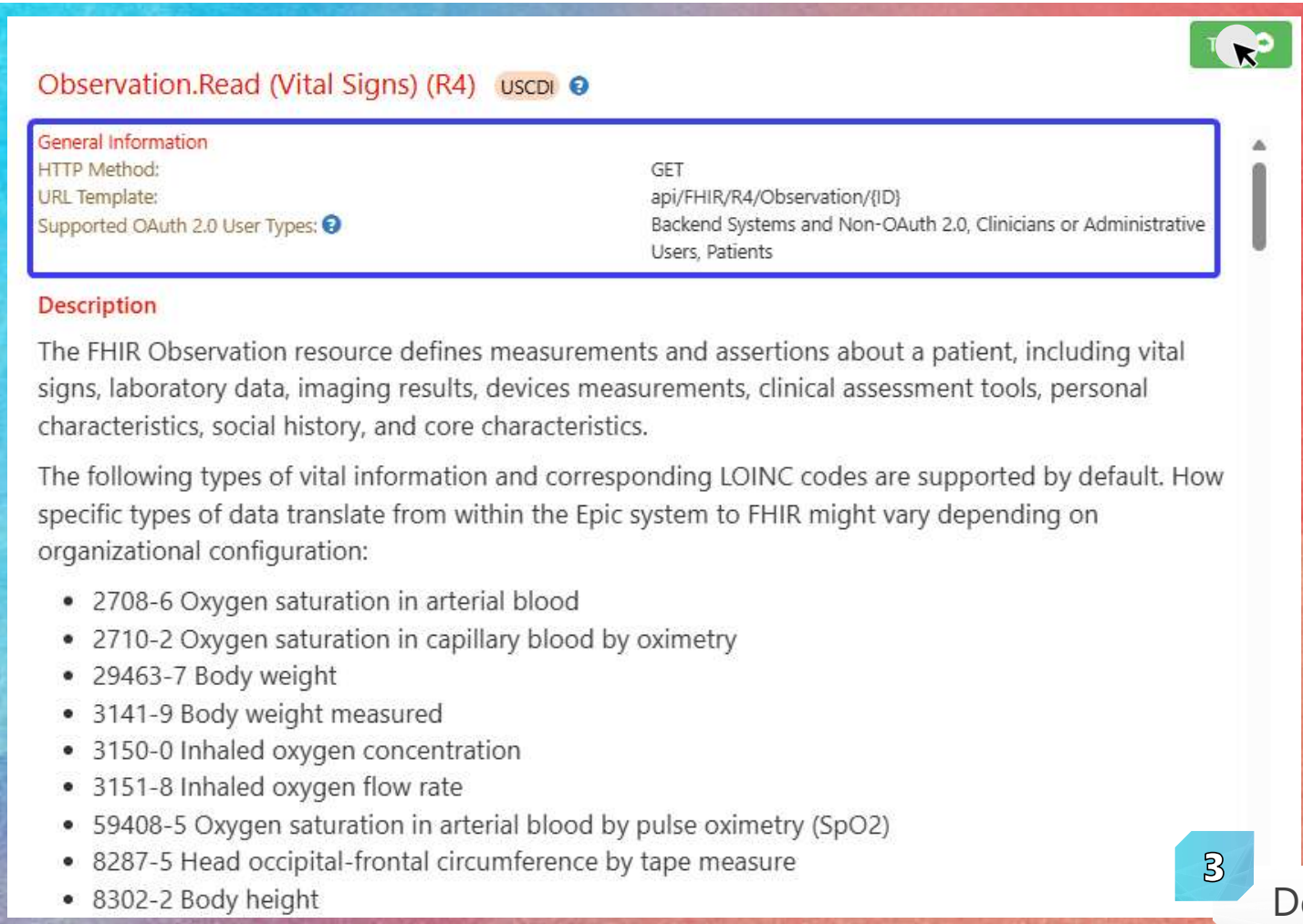
For more information about post-filter parameters and related considerations, refer to the General Considerations section of the FHIR Search Parameters document.

Name	Description	Is Optional	Is Array
based-on (String)	Unsupported	true	false
combo-code (String)	Matches to the code or component.code element in the response.	true	false
combo-data-absent-reason (String)	The reason why the expected value in the element Observation.value[x] or Observation.component.value[x] is missing.	true	false
combo-value-concept (String)	The value or component value of the observation, if that value is a CodeableConcept. Matches to valueCodeableConcept or component.valueCodeableConcept.	true	false
component-code (String)	Matches to the component.code element in the response.	true	false
component-data-absent-reason (String)	The reason why the expected value in the element Observation.component.value[x] is missing.	true	false
component-value-concept (String)	The component value of the observation, if that value is a CodeableConcept. Matches to component.valueCodeableConcept.	true	false
data-absent-reason (String)	The reason why the expected value in the element Observation.value[x] is missing.	true	false
derived-from (String)	Unsupported	true	false
device (String)	Unsupported	true	
encounter (String)	Encounter associated with this observation value, if applicable. When multiple encounters are involved, such as for growth	true	fals

3

Develop & Test

Building FHIR API Calls / Documentation



Observation.Read (Vital Signs) (R4) USCDI

General Information

HTTP Method:	GET
URL Template:	api/FHIR/R4/Observation/{ID}
Supported OAuth 2.0 User Types:	Backend Systems and Non-OAuth 2.0, Clinicians or Administrative Users, Patients

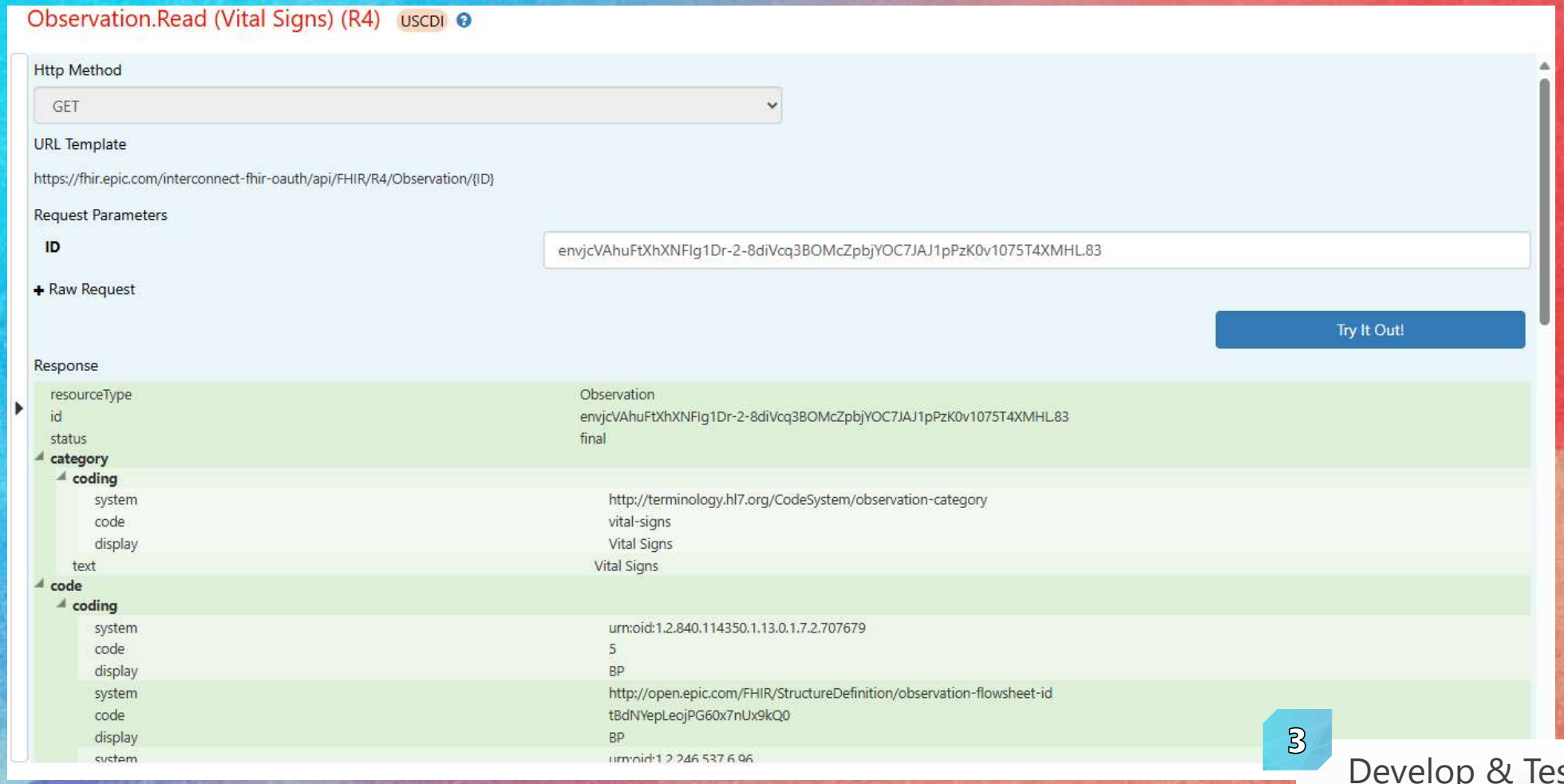
Description

The FHIR Observation resource defines measurements and assertions about a patient, including vital signs, laboratory data, imaging results, devices measurements, clinical assessment tools, personal characteristics, social history, and core characteristics.

The following types of vital information and corresponding LOINC codes are supported by default. How specific types of data translate from within the Epic system to FHIR might vary depending on organizational configuration:

- 2708-6 Oxygen saturation in arterial blood
- 2710-2 Oxygen saturation in capillary blood by oximetry
- 29463-7 Body weight
- 3141-9 Body weight measured
- 3150-0 Inhaled oxygen concentration
- 3151-8 Inhaled oxygen flow rate
- 59408-5 Oxygen saturation in arterial blood by pulse oximetry (SpO2)
- 8287-5 Head occipital-frontal circumference by tape measure
- 8302-2 Body height

Building FHIR API Calls / Testing & Try-It Cases



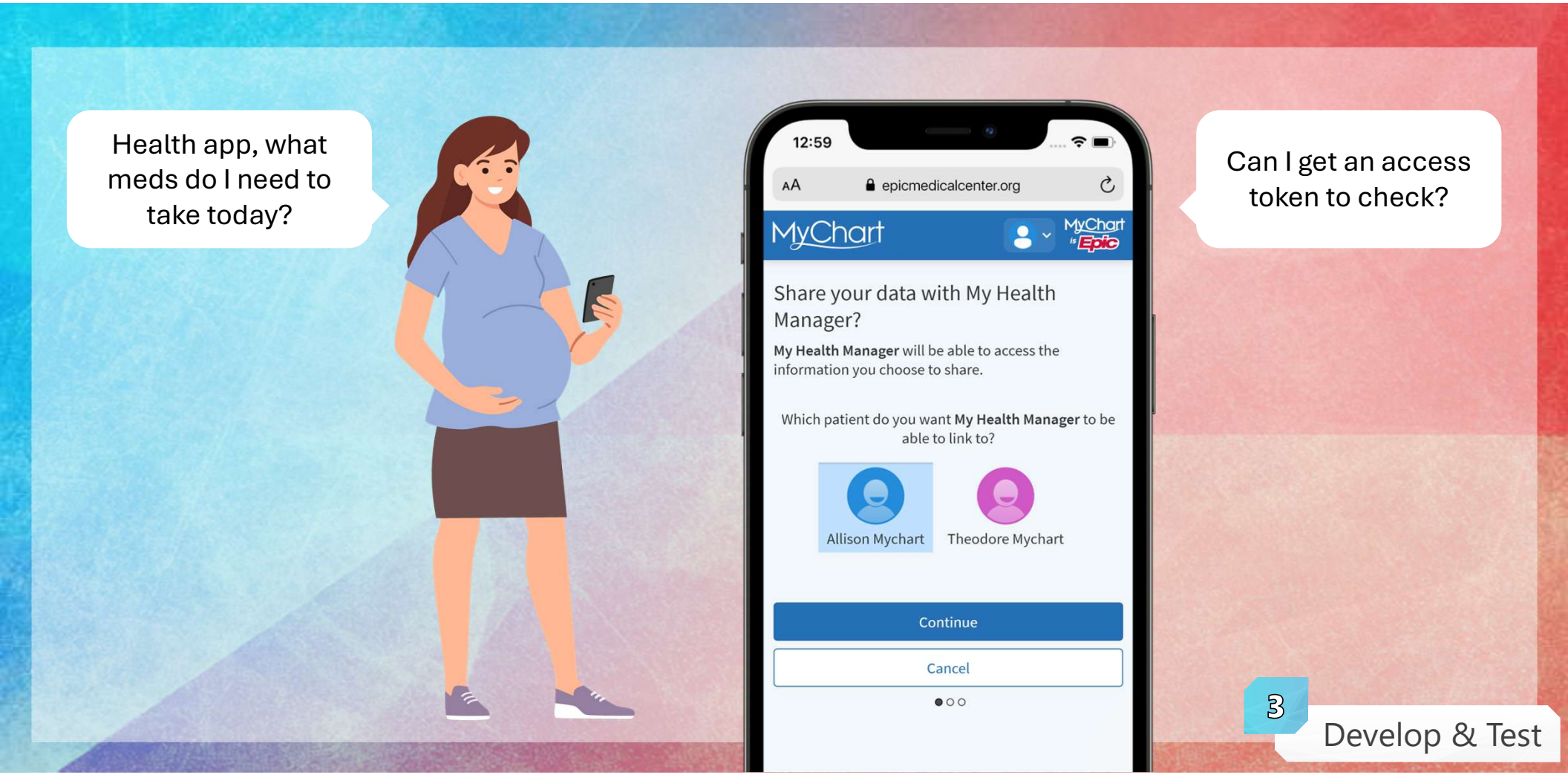
3

Develop & Test

Demo: Try It!

OAuth2 & Client Records

OAuth 2.0 in a Nutshell



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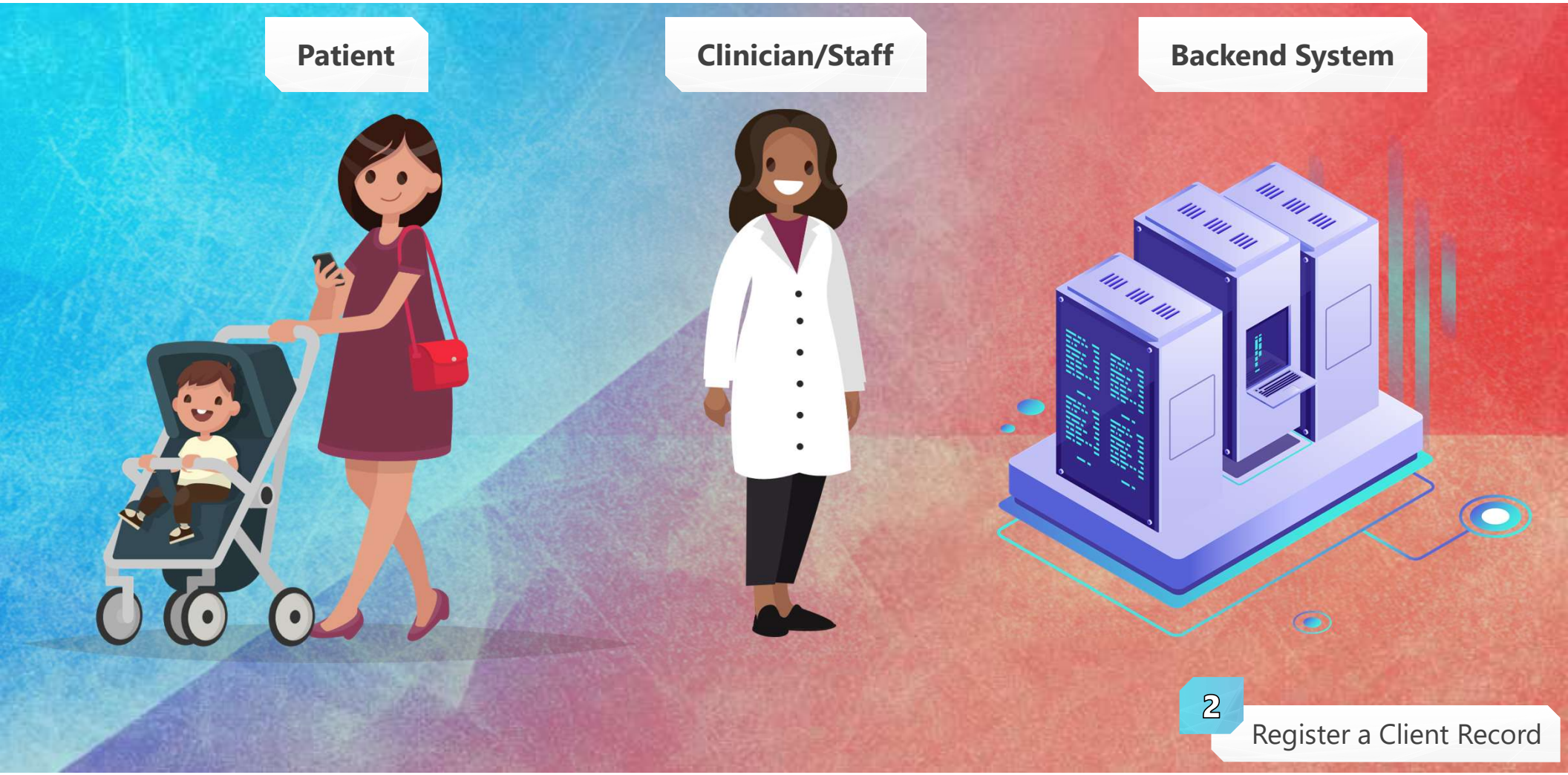
Develop & Test

App Contexts



Demo: App Registration!

Deploying and Collaborating

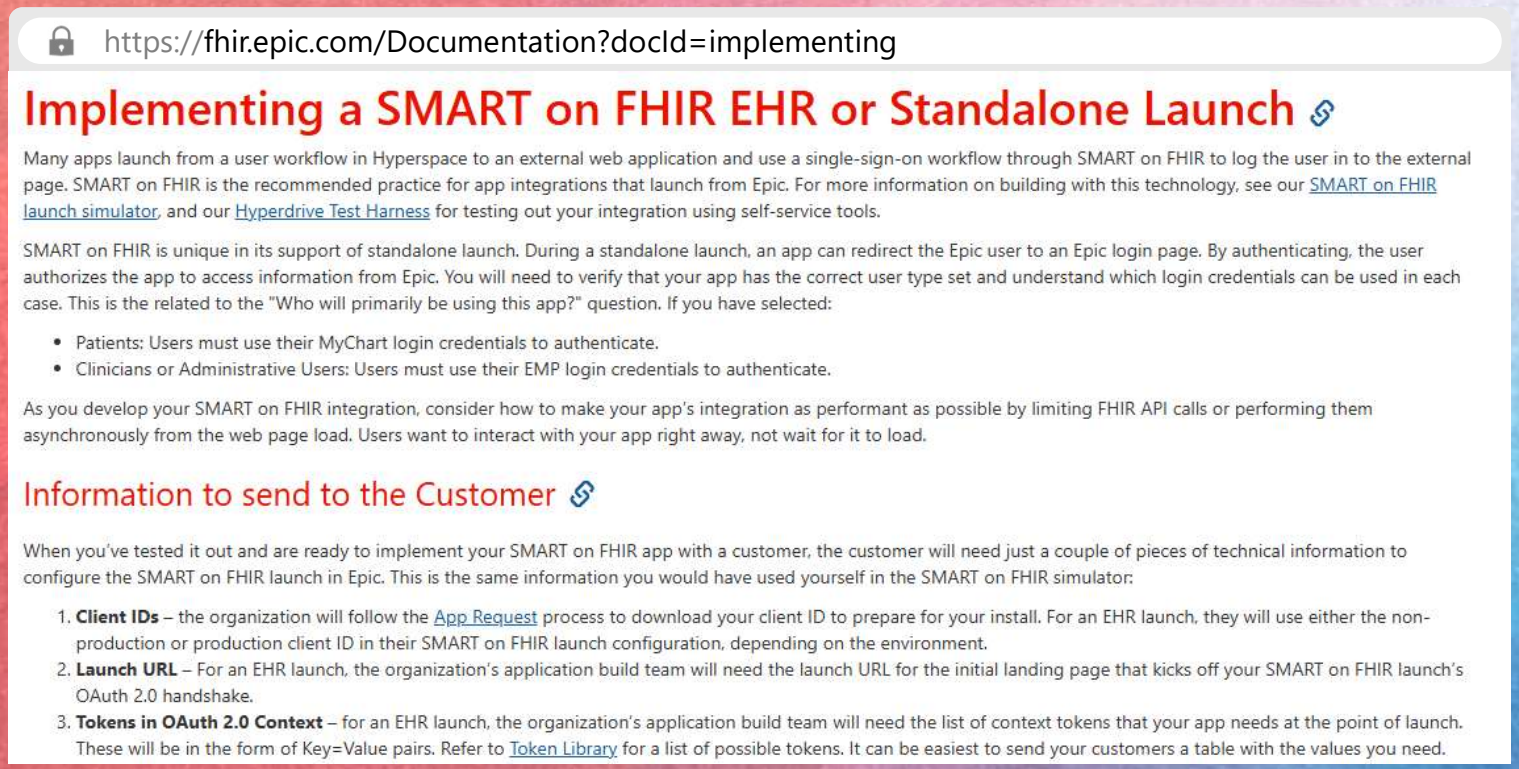
Collaboration & Project Planning

Install Tips

- Involve customer operations and IT teams early in the project
  - Customer staff can contact their Epic representatives for expert help
- Each customer has their own instance of Epic
  - Expect variation in mappable data elements, workflows, patient identity, etc.
- Reference our technology-specific app implementation briefs

Collaboration & Project Planning

- Reference our technology-specific app implementation briefs



Recap

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Recap

Let's Get Started

Step-by-Step Developer Guide

Data Sharing Playbooks

API and Interface Specifications

Need Guidance or Access

Contact Information

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Q&A