

## Authentication

The authentication is done using basic http authentication. The received token has an expiration returned in the expires\_in property of the response. After this time has passed, the client will need to re-authenticate with the server.

### End Point: /zf2/oauth

#### HTTP Header:

Name	Value
Accept	*/*
Authorization	Basic: <a href="#">Coded_Credentials</a>

#### Request Parameters:

Name	Value
grant_type	client_credentials

- Success Response:
  - HTTP Code: 200
  - Content:
 

```
{
    "access_token": "99f44edf5264a4682657e5cf2c9256f9fa00ddaa",
    "expires_in": 3600,
    "token_type": "Bearer",
    "scope": null
}
```
- Error Response::
  - Code: HTTP/1.1 400 invalid\_request/invalid\_client
  - Content:
 

```
{
    "type": "http://www.w3.org/Protocols/rfc2616/rfc2616-sec10.html",
    "title": "Unauthorized",
    "status": 401,
    "detail": "Reason for error"
}
```

### Authorization Header:

A valid access token, received after authentication, will need to be sent with every request in order to validate user. If the token is not sent or has expired, the server will respond with a 401 UNAUTHORIZED. To do this, simply add this to the request headers:

**HTTP Header:**

Name	Value
Authorization	Bearer: <access_token>

## General API

Unless noted otherwise, the following apply to all API requests:

- API Type: RESTful
- Method Supported: GET
- Required Headers
  - Authorization - Please see Authorization Header section
- Required Parameters
  - Filters - Please see Result Filtering sections
- Optional Parameters
  - Columns - Please see Columns Filtering sections
- Response Format: JSON
  - 📌 **Note:** “null” or empty fields will not be returned. If a field is missing from a data collection “null” is implied.
- Success Response
  - HTTP Code: 200
  - Content: JSON Payload
- Error Responses
  - Unauthorized
    - Code: 401 Unauthorized
    - Content:
 

```
{
                "type": "http://www.w3.org/Protocols/rfc2616/rfc2616-sec10.html",
                "title": "Unauthorized",
                "status": 401,
                "detail": "Reason for error"}
              
```
  - All standard RESTful API HTTP status codes

## Filtering

### Result Filtering

Foothold Technology uses a powerful filtering mechanism where the client can filter very easily by sending in a JSON array of filters. These filters go after the API url and use the parameter “filter” for example.

```
zf2/api/client?filter=<json_array>
```

In this example the json\_array could be something like [{"field":"dob", "type":"eq", "value":"1990-01-01"}]

The parts to each filter are:

Name	Description
field	This is the field to be filtered, the options available depend on the service endpoint used. They are the properties of the endpoint.
type	This is the filter to be used: <ul style="list-style-type: none"> <li>● eq = equals</li> <li>● neq = not equals</li> <li>● gt = greater</li> <li>● gte = greater or equal</li> <li>● lt = less</li> <li>● lte = less or equal</li> <li>● in = in this requires value to be a JSON array</li> <li>● notin = not in</li> <li>● isnull = is null</li> <li>● isnotnull = is not null</li> <li>● like = like requires %</li> <li>● notlike = not like</li> </ul>
value	The value the filter should use, isnull and isnotnull do not require this property.

### Column Filtering

Sometimes it is desired to only return a subset of the properties available. This is done by including this filter. To do this simply add it on as a request parameter.

```
zf2/api/client?columns=<json_array>
```

The json\_array is simply a list of columns desired [“firstname”, “lastname”]

### Summary:

The above two filters can be combined and extended for more accurate filtering

```
zf2/api/client?filter=[{"field":"dob", "type":"gt", "value":"1990-01-01"}, {"field":"genderIdentity", "type":"eq", "value":"Male"}]&columns=[“firstname”, “lastname”, “dob”, “socsecnum”]
```

The above would return only first name, last name, date of birth and social security number of all clients that were Male and born after January 1, 1990.

## Client Lookup: /zf2/api/client[:id]

### Response Parameters

Name	Data Type	Description
id	Integer	AWARDS Client ID (Primary Key)
personalid	String	AWARDS Personal ID
firstname	String	First Name
lastname	String	Last Name
dob	DateTime	Date of Birth
socsecnum	String	Social Security Number
race	String/Array	Race
cdcRace	Array	CDC Race Code
ethnicity	String/Array	Ethnicity
cdcEthnicity	String	CDC Ethnicity Code
sexAtBirth	String	Sex at Birth
sexAtBirthHL7	String	HL7 Sex at Birth Code
genderIdentity	String	Gender Identity
nativelanguage	String	Preferred Language
nativelanguage_iso	String	Preferred Language ISO Code

## Vital Signs: /zf2/api/vitalsign[:id]

### Response Parameters

Name	Data Type	Description
id	Integer	Record ID (Primary Key)
client	Client Object	Client
examDate	DateTime	Exam Date
examTime	DateTime	Exam Time
height	Numeric	Height

weight	Numeric	Weight
bloodPressure	String	Blood Pressure
smokingStatus	String	Smoking Status
smokingCode	String	Smoking Status Code (SNOMED CT® US)
baseline	Boolean	Baseline
bmi	Numeric	BMI
hipCircumference	Numeric	Hip Circumference
waistCircumference	Numeric	Waist Circumference
temperature	Numeric	Temperature (°F)
respiratoryRate	Numeric	Respiration
pulseOx	Numeric	Pulse Ox (%)
inhaledOxyConc	Numeric	Inhaled Oxygen
glucose	Numeric	Glucose (mg/dl)
heartRate	Numeric	Heart Rate

## Diagnoses: /zf2/api/diagnosis[:id]

### Response Parameters

Name	Data Type	Description
id	Integer	Record ID (Primary Key)
client	Client Object	Client
diagnosisDate	DateTime	Diagnosis Date
onsetDate	DateTime	Onset Date
resolutionDate	DateTime	End Date
condition	String	Condition
code	String	Code
comments	Text	Comments
diagnostician	Employee Object	Diagnosed By
snomed	String	SNOMED CT® US Code
icd9	String	ICD-9 Code
icd10	String	ICD-10 Code
dsm4	String	DSM-4 Code

dsm5	String	DSM-5 Code
programOrders	Array Object	Program Order Level

## Medications: /zf2/api/medication[:id]

### Response Parameters

Name	Data Type	Description
id	Integer	Record ID (Primary Key)
client	Client Object	Client
name	String	Medication Name
startDate	DateTime	Start Date
endDate	DateTime	End Date
dosage	String	Dosage
doctor	String	Prescribing Physician
doctorPhone	String	Prescribing Physician Phone Number
scriptRefills	Integer	# Refills
route	String	Route
strength	Numeric	Strength
strengthUnit	String	Strength Unit
sig	String	SIG
rxNorm	String	RxNorm

## Allergies: /zf2/api/allergy[:id]

### Response Parameters

Name	Data Type	Description
id	Integer	Record ID (Primary Key)
client	Client Object	Client
onsetDate	DateTime	Onset Date
inactiveDate	DateTime	Inactive Date
typedId	String	Type Code (SNOMED CT® US)

substance	String	Substance
reaction	String	Reaction
severity	String	Severity
status	Boolean	Status (Active/Inactive)
rxnorm	String	RxNorm

## Laboratory Orders: /zf2/api/laborder[:id]

### Response Parameters

Name	Data Type	Description
id	Integer	Record ID (Primary Key)
client	Client Object	Client
testType	String	Test Name
activeDate	DateTime	Order Date
inactiveDate	DateTime	Inactive Date
status	String	Status
priority	String	Priority
comments	String	Comments
placerGroupNumber	String	Placer Group Number
placerOrderNumber	String	Placer Order Number
fillerOrderNumber	String	Filler Order Number
provider	String	Ordering Provider
clinicalInformation	String	Relevant Clinical Information
hl7ResultStatusId	Integer	Result Status (HL70123)
reportDate	DateTime	Date of Report/Status Change
reportTime	DateTime	Time of Report/Status Change
hl7SpecimenSourceId	Integer	Specimen Type (HL70487)
hl7hl7SpecimenActionCodeId	Integer	Specimen Action Code (HL70065)
hl7SpecimenRejectReasonId	Integer	Specimen Reject Reason (HL70490)
hl7SpecimenConditionId	Integer	Condition/Disposition of Specimen (HL70493)
cpt	String	CPT® Code

loinc	String	LOINC Code
snomed	String	SNOMED CT® US Code
program	String	Program

## Diagnostic Tests: /zf2/api/diag-test[:id]

**Required Filter:** {"field":"formType","type":"eq","value":"diagnostic"}

### Response Parameters

Name	Data Type	Description
id	Integer	Record ID (Primary Key)
client	Client Object	Client
labororderid	Integer	Lab Order ID (Foreign Key)
testdate	DateTime	Date Reported
testtime	DateTime	Time Reported
testtype	String	Test Name
testresult	String	Results
units	String	Unit of Measure
testpositive	String	Positive?
verifydate	DateTime	Date Verified
verifyhow	String	Method Verified
verifiedby	Integer	Verified By
dateaccurate	String	Exact Date
comments	String	Comments
hl7abnormalflagid	Integer	Abnormal Flag (HL70078)
hl7resultstatusid	Integer	Results Status (HL70085)
loinc	String	LOINC Code
cpt	String	CPT® Code
snomed	String	Specimen Reject Reason (HL70490)



## Procedures: /api/procedure[:id]

### Response Parameters

Name	Data Type	Description
id	Integer	Record ID (Primary Key)
client	Client Object	Client
proceduredat	DateTime	Procedure Date
starttime	DateTime	Start Time
endtime	DateTime	End Time
procedure	String	Procedure
performedat	String	Location
performedby	Employee Object	Performed By
comments	String	Comments
negationreasoncode	String	Negation Reason
snomed	String	SNOMED CT® US Code
cpt	String	CPT® Code
loinc	String	LOINC Code

## Contacts: /zf2/api/contact-role[:id]

### Response Parameters

Name	Data Type	Description
id	Integer	Record ID (Primary Key)
client	Client Object	Client
type	String	Type of Contact (Provider, Client)
role	String	Contact Role
contact	Contact Object	Contact Details
agency	Agency Object	Practice/Agency Details
relations	String Array	Relation
startDate	DateTime	Start Date
endDate	DateTime	End Date

consentType	String	Consent Type
consentStart	DateTime	Consent Date Signed/Not Signed
consentEnd	DateTime	Consent Expiration
careTeamMember	Boolean	Care Team Member
includeInCollateral	Boolean	Include in Collaterals
addressToUse	String	Address To Use

## Immunizations: /zf2/api/diag-test[:id]

**Required Filter:** {"field":"formType","type":"eq","value":"immunization"}

### Response Parameters

Name	Data Type	Description
id	Integer	Record ID (Primary Key)
client	Client Object	Client
testdate	DateTime	Administration Date
testtime	DateTime	Administration Time
testtype	String	Immunization Type
status	String	Status
administeredamount	String	Administered Amount
administeredunit	String	Administered Amount Unit of Measure
provider	String	Provider ID (Foreign Key)
substancereason	String	Treatment Refusal Reason
hl7refusalreasonid	String	Treatment Refusal Reason (HL7 Code)
hl7administrativesiteid	String	Site
hl7routeofadministrationid	string	Route
hl7immunizationsourceid	String	Source Type
manufacturername	String	Manufacturer Name
manufacturercode	String	Manufacturer Code
lotnumber	String	Lot Number
comments	String	Comments
cvxcode	String	CVX Code

## Implantable Devices: /zf2/api/implantable-device[:id]

### Response Parameters

Name	Data Type	Description
id	Integer	Record ID (Primary Key)
client	Client Object	Client
deviceId	String	Device Identifier (DI)
uniqueDeviceId	String	Unique Device Identifier (UDI)
issuingAgency	String	Issuing Agency
donationId	String	HCT/P DIN
companyName	String	Company Name
brandName	String	Brand Name
model	String	Model
lotNumber	String	Lot Number
serialNumber	String	Serial Number
expirationDate	DateTime	Expiration Date
manufacturingDate	DateTime	Manufactured Date
location	String	Location
implantDate	DateTime	Implant Date
endDate	DateTime	End Date
reasonForInactive	String	Reason for Inactive
gmdnPTName	String	Common Name/Description
mriCompatible	String	MRI Safety Status
hctpCode	String	HCT/P
rubberType	String	Contains Natural Latex Rubber/Dry Natural Rubber
procedure	Integer	Procedure ID (Foreign Key)

## Encounters: /zf2/api/encounter[:id]

### Response Parameters

Name	Data Type	Description
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id	Integer	Record ID (Primary Key)
client	Client Object	Client
encounterDate	DateTime	Encounter Date
startTime	DateTime	Start Time
endTime	DateTime	End Time
typeDescription	String	Encounter Type
reasonForVisit	String	Reason for Visit
reasonForReferral	String	Reason for Referral
otherProvider	String	Other Provider
provider	Provider Object	Provider
agency	Agency Object	Agency
addressToUse	String	Provider Address to Use
nextApptDate	DateTime	Next Appointment Date
assessment	String	Assessment
planOfTreatment	String	Plan of Treatment
goals	String	Goals
healthConcerns	String	Health Concerns
dischargeStatus	String	Discharge Status (SNOMED CT® US Code)
summaryOfCare	String	Summary of Care
diagnosis	Integer	Principal Diagnosis ID (Foreign Key)
primary_diagnosisid	Integer	Primary Diagnosis ID (Foreign Key)
snomed	String	SNOMED CT® US Code
cpt	String	CPT® Code
loinc	String	LOINC Code
icd10	String	ICD 10 Code
hcpcs	String	HCPCS Code

## CCDA: /zf2/api/cda

### Request Parameters

Name	Data Type	Required	Description
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Client	Integer	Yes	Client ID
startDate	DateTime	No	Start Date
endDate	DateTime	No	End Date

## Response Parameters

Name	Data Type	Description
content	String	CCDA XML Content

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## Terms of Use

Click [here](#) for the API Terms of Use.