



# NextGen Office® Patient FHIR API Developer Guide for NextGen® Office

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## *Purpose of this document*

This document is written for developers building client applications that connect to the NextGen Office YourHealthFile Patient API. These client applications give patients access to their health records in the application of their choosing, outside of access via YourHealthFile.com.

This document covers the following:

1. How to register as a client application and gain access credentials
2. A detailed walk-through of using the NextGen Office YourHealthFile Patient API

# *How to register your client application to access NextGen Office YourHealthFile Patient API*

Send an email to [nextgen-office-api@nextgen.com](mailto:nextgen-office-api@nextgen.com) with the following information:

- Contact e-mail address
- Organization name
- Organization description
- Client application name
- Client application use-case description
- OAuth Callback URL
- The NextGen Office API team will issue client credentials and/or request additional information.

## *Detailed walk-through of using the NextGen Office YourHealthFile Patient API*

The following instructions are from an internal validation of the NextGen Office YourHealthFile Patient Access API.

These instructions exercise API authentication & data retrieval process as would a 3<sup>rd</sup> Party Developer whose application Callback URL had been registered by NextGen Office and had subsequently been issued the requisite application credentials (i.e., client ID & client secret) and test patient credentials (i.e., NextGen Office YourHealthFile Patient API username & password).

- **Grant Type** : Authorization Code (With PKCE)
- **Callback URL**: <https://oauth.pstmn.io/v1/callback>
- **Authorization URL**: <https://idp-prod.prod.ngo.nextgenaws.net/auth/realms/nextgen/protocol/openid-connect/auth?aud=https://fhir.meditouchehr.com/api/fhir>

- **Access Token URL:** <https://idp-prod.prod.ngo.nextgenaws.net/auth/realms/nextgen/protocol/openid-connect/token>
- **Test Client ID:** yourHealthFile
- **Test Client Secret:** P2uCnXestgMxmLWnlUXNDO8u98qPa4NZ
- **Code Challenge Method:** SHA-256
- **Code Verifier:** {RANDOM\_STRING\_WITH 43 TO 128 CHARS}
- **Scope :** {Add Allowed scopes}
- **State :** Blank
- **Client Authentication:** Send as Basic Auth header

Note: Include aud parameter "<https://fhir.meditouchehr.com/api/fhir>" in fhir-endpoint.

- **Test Patient's NextGen Office YourHealthFile Patient API Credentials:**
  - UN: AutomationhFBy
  - PW: afh49yGy

## Validation Process Steps

The steps below can be performed either manually with a tool like **curl** or using **Postman** that automates steps like OAuth token generation.

Once we fill the Above authorization data we can generate authorization code by launching the URL generated in the Browser.

### 1. Open Authorize URL in Browser:

The expected Authorize URL components are:

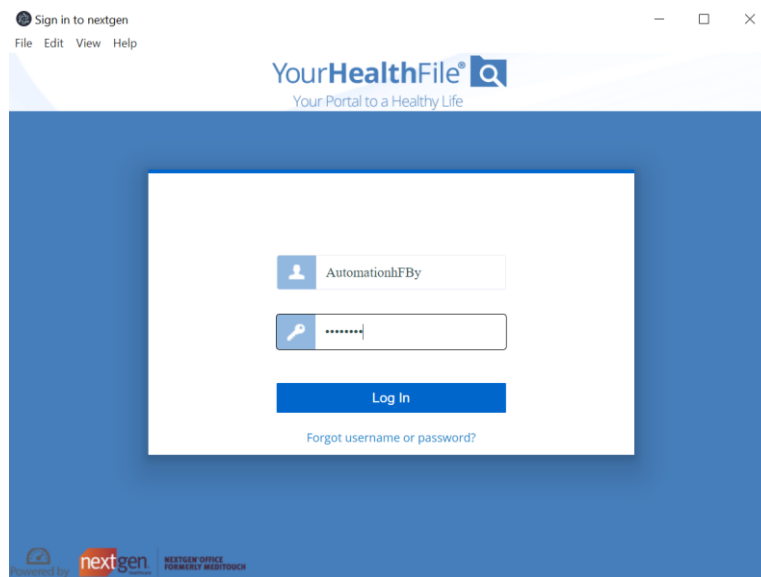
- a. **Endpoint:** <https://idp-prod.prod.ngo.nextgenaws.net/auth/realms/nextgen/protocol/openid-connect/auth?aud=https://fhir.meditouchehr.com/api/fhir>
- b. **Parameters:**
  - i. response\_type=code
  - ii. client\_id={CLIENT\_ID\_ASSIGNED\_TO\_DEVELOPER}
  - iii. redirect Uri={APP\_REDIRECT\_URL}
  - iv. scope={APP\_REDIRECT\_SCOPE}
  - v. Code Verifier={RANDOM\_STRING\_WITH 43 TO 128 CHARS}
  - vi. code challenge method=SHA-256

Note: Include aud parameter <https://fhir.meditouchehr.com/api/fhir>" in fhir-endpoint

Example Authorize URL Launched by 3<sup>rd</sup> Party App:  
App

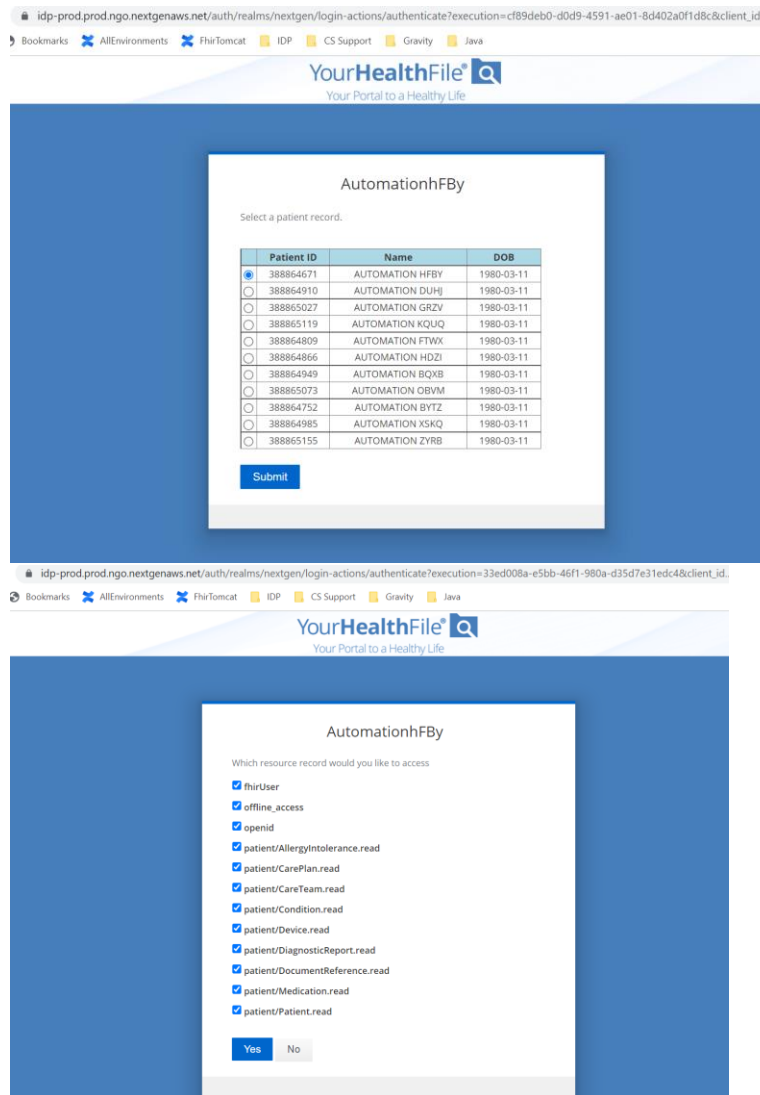
[https://idp-prod.prod.ngo.nextgenaws.net/auth/realms/nextgen/protocol/openid-connect/auth?&aud=https://fhir.meditouchehr.com/api/fhir&response\\_type=code&client\\_id=yourHealthFile&scope=openid%20patient%2FMedication.read%20patient%2FCondition.read%20patient%2FPatient.read%20offline\\_access%20patient%2FAllergyIntolerance.read%20fhirUser%20patient%2FCareTeam.read%20patient%2FDevice.read%20launch%2Fpatient%20patient%2FDiagnosticReport.read%20patient%2FCarePlan.read%20patient%2FDocumentReference.read&redirect\\_uri=https%3A%2F%2Foauth.pstmn.io%2Fv1%2Fcallback&code\\_challenge=aXlhsuyOvsg282Uf4ItfGM6BnStnKKX\\_kLyEbSWyud0&code\\_challenge\\_method=S256](https://idp-prod.prod.ngo.nextgenaws.net/auth/realms/nextgen/protocol/openid-connect/auth?&aud=https://fhir.meditouchehr.com/api/fhir&response_type=code&client_id=yourHealthFile&scope=openid%20patient%2FMedication.read%20patient%2FCondition.read%20patient%2FPatient.read%20offline_access%20patient%2FAllergyIntolerance.read%20fhirUser%20patient%2FCareTeam.read%20patient%2FDevice.read%20launch%2Fpatient%20patient%2FDiagnosticReport.read%20patient%2FCarePlan.read%20patient%2FDocumentReference.read&redirect_uri=https%3A%2F%2Foauth.pstmn.io%2Fv1%2Fcallback&code_challenge=aXlhsuyOvsg282Uf4ItfGM6BnStnKKX_kLyEbSWyud0&code_challenge_method=S256)

**2. Patient Enters their NextGen Office YourHealthFile Patient API Credentials:**



**Note:**

This screen will display only the Master patient if there aren't any dependant patients.



3. **Authorization Code is returned in URL** upon successful authentication (Example: [https://oauth.pstmn.io/v1/callback?session\\_state=e2f5354f-0c19-40ec-bf27-9f41fe6de65b&code= {ISSUED AUTHORIZATION CODE}](https://oauth.pstmn.io/v1/callback?session_state=e2f5354f-0c19-40ec-bf27-9f41fe6de65b&code={ISSUED AUTHORIZATION CODE}))

4. **Exchange Authorization Code for Token:**

a. The expected components of the request to the access token route are:

- i. **Method:** POST
- ii. **Endpoint:** <https://idp-prod.prod.ngo.nextgenaws.net/auth/realms/nextgen/protocol/openid-connect/token>
- iii. **Authorization : Basic Auth : Enter Client ID and Client Secret**
- iv. **Headers:**

1. Content-Type=application/x-www-form-urlencoded
2. A Basic Authorization header (Authorization=Basic

{encoded string}) using a base64 encoded representation of the following string:  
`client_id:client_secret`

Authorization Header Example:

Authorization=Basic {base64\_encoded\_representation\_of\_client\_id: client\_secret}

- v. **Body:** (x-www-form-urlencoded)
  1. grant\_type=authorization\_code
  2. code= **{ISSUEDAUTHORIZATION CODE}**
  3. redirect\_uri={APP\_REDIRECT\_URL}
  4. Code Verifier={Use the same code verifier as used while generating code}

Example Request to /access token (cURL Format):

```
curl --location --request POST 'https://idp-  
prod.prod.ngo.nextgenaws.net/auth/realms/nextgen/protocol/openid-  
connect/token' \  
  
--  
header 'Authorization: Basic eW91ckhlYWx0aEZpbGU6VmpwN0RGVIJSVXI2UTU0QVVP  
S XJqSjdNQW1ZSUtOSno=' \  
  
--header 'Content-Type: application/x-www-form-urlencoded' \  
  
--data-urlencode 'grant_type=authorization_code' \  
  
--data-urlencode 'code=c8b55047-2275-4570-8a30-c56bedaf2564.6fd6bfcf-55a5-47f7-  
b067-a233e178944c.52449374-f741-427d-859f-f88ca01dbea0' \  
  
--data-urlencode 'redirect_uri=https://oauth.pstmn.io/v1/callback' \  
  
--data-  
urlencode 'code_verifier=thisisasecretciodetotesttheauthorizationofintegrationtesting'
```

b. A successful call to /access\_token will produce a response that includes:

- i. The access\_token
- ii. expires\_in.
- iii. refresh\_expires\_in;
- iv. refresh\_token
- v. token\_type

- vi. id\_token
- vii. not-before-policy
- viii. session\_state
- ix. scope
- x. resource
- xi. patient
- xii. need\_patient\_banner
- xiii. practice\_id
- xiv. smart\_style\_url
- xv. client\_type

Example Response from /access\_token

```
{
"access_token": "{access_token_value}",
"expires_in": 2700,
"refresh_expires_in": 0,
"refresh_token": "{refresh_token_value}",
"token_type": "Bearer",
"id_token": "{id_token_value}",
"not-before-policy": 1656931857,
"session_state": " 5113f956-1d90-45b1-b3ff-197533c4746b",
"scope": "{assigned_scope}",
"resource": "Person/3616708",
"patient": " 388864671 ",
"need_patient_banner": "false",
"smart_style_url": "
https://fhir.meditouchehr.com/electronic/json/api/portalSmartStyleConfig.json ",
"client_type": "STANDALONE"
}
```



## 5. Request FHIR Resource: /Patient/{id}

Using the “Reference Value” URL from the prior request, obtain FHIR resource data from the /Patient/{id} endpoint.

- a. **Method:** GET
- b. **Endpoint:** <https://fhir.meditouchehr.com/api/fhir/Patient/388865119>
- c. **Authorization: Bearer Token** :{Token generated in previous step}
- d. **Header:** An OAuth2Authorization header with a value of Bearer {access\_token}
- e. **Example Request** to /Patient/{id}:  

```
curl --location --request GET 'https://fhir.meditouchehr.com/api/fhir/Patient/388865119' \
--header 'Authorization: Bearer {access_token_value}' \
```
- f. **Response** from /Patient/{id}:

```
<Patient xmlns="http://hl7.org/fhir">
  <id value="388865119"/>
  <extension url="http://hl7.org/fhir/us/core/StructureDefinition/us-core-race">
    <extension url="ombCategory">
      <valueCoding>
        <system value="urn:oid:2.16.840.1.113883.6.238"/>
        <code value="2106-3"/>
        <display value="White"/>
      </valueCoding>
    </extension>
    <extension url="text">
      <valueString value="mixed"/>
    </extension>
  </extension>
  <extension url="http://hl7.org/fhir/us/core/StructureDefinition/us-core-ethnicity">
    <extension url="ombCategory">
      <valueCoding>
        <system value="urn:oid:2.16.840.1.113883.6.238"/>
        <code value="2135-2"/>
        <display value="Hispanic or Latino"/>
      </valueCoding>
    </extension>
    <extension url="text">
      <valueString value="Hispanic or Latino"/>
    </extension>
  </extension>
  <extension url="http://hl7.org/fhir/us/core/StructureDefinition/us-core-race">
```

```

<extension url="ombCategory">
  <valueCoding>
    <system value="urn:oid:2.16.840.1.113883.6.238"/>
    <code value="2106-3"/>
    <display value="White"/>
  </valueCoding>
</extension>
<extension url="text">
  <valueString value="mixed"/>
</extension>
</extension>
<extension url="http://hl7.org/fhir/us/core/StructureDefinition/us-core-ethnicity">
  <extension url="ombCategory">
    <valueCoding>
      <system value="urn:oid:2.16.840.1.113883.6.238"/>
      <code value="2135-2"/>
      <display value="Hispanic or Latino"/>
    </valueCoding>
  </extension>
  <extension url="text">
    <valueString value="Hispanic or Latino"/>
  </extension>
</extension>
<extension url="http://hl7.org/fhir/us/core/StructureDefinition/us-core-race">
  <extension url="ombCategory">
    <valueCoding>
      <system value="urn:oid:2.16.840.1.113883.6.238"/>
      <code value="1002-5"/>
      <display value="American Indian or Alaska Native"/>
    </valueCoding>
  </extension>
  <extension url="detailed">
    <valueCoding>
      <system value="urn:oid:2.16.840.1.113883.6.238"/>
      <code value="1490-2"/>
      <display value="Acoma"/>
    </valueCoding>
  </extension>
  <extension url="text">
    <valueString value="mixed"/>
  </extension>
</extension>
<extension url="http://hl7.org/fhir/us/core/StructureDefinition/us-core-ethnicity">
  <extension url="ombCategory">
    <valueCoding>
      <system value="urn:oid:2.16.840.1.113883.6.238"/>
      <code value="2135-2"/>
    </valueCoding>
  </extension>
</extension>

```

```

    <display value="Hispanic or Latino"/>
  </valueCoding>
</extension>
<extension url="detailed">
  <valueCoding>
    <system value="urn:oid:2.16.840.1.113883.6.238"/>
    <code value="2142-8"/>
    <display value="Balearic Islander"/>
  </valueCoding>
</extension>
<extension url="text">
  <valueString value="Hispanic or Latino"/>
</extension>
</extension>
<identifier>
  <use value="official"/>
  <type>
    <coding>
      <system value="http://hl7.org/fhir/v2/0203"/>
      <version value="1.0"/>
      <code value="MR"/>
      <display value="Medical record number"/>
    </coding>
    <text value="Unique Id for EHR"/>
  </type>
  <system value="urn:ietf:rhc:3986"/>
  <value value="urn:387851059"/>
  <assigner>
    <reference value="urn:1669658"/>
  </assigner>
</identifier>
<identifier>
  <use value="official"/>
  <type>
    <coding>
      <system value="http://hl7.org/fhir/v2/0203"/>
      <version value="1.0"/>
      <code value="MR"/>
      <display value="Medical record number"/>
    </coding>
    <text value="Unique Id for EHR"/>
  </type>
  <system value="urn:ietf:rhc:3986"/>
  <value value="urn:387851059"/>
  <assigner>
    <reference value="urn:1669658"/>
  </assigner>

```

```
</identifier>
<identifier>
  <use value="official"/>
  <type>
    <coding>
      <system value="http://hl7.org/fhir/v2/0203"/>
      <version value="1.0"/>
      <code value="MR"/>
      <display value="Medical record number"/>
    </coding>
    <text value="Unique Id for EHR"/>
  </type>
  <system value="urn:ietf:rfc:3986"/>
  <value value="urn:388865119"/>
  <assigner>
    <reference value="urn:782071"/>
  </assigner>
</identifier>
<active value="true"/>
<name>
  <family value="DOE"/>
  <given value="JOHN"/>
</name>
<name>
  <family value="DOE"/>
  <given value="JOHN"/>
</name>
<name>
  <family value="KQUQ"/>
  <given value="AUTOMATION"/>
</name>
<telecom>
  <system value="phone"/>
  <value value="1231231234"/>
</telecom>
<telecom>
  <system value="phone"/>
  <value value="1231231234"/>
</telecom>
<telecom>
  <system value="phone"/>
  <value value="3333333333"/>
</telecom>
<gender value="female"/>
<birthDate value="1980-03-11"/>
<address>
  <line value="123 MAIN ST"/>
</address>
</address>
</patient>
```

```
<city value="COSTA MESA"/>
<state value="CA"/>
<postalCode value="92623"/>
</address>
<address>
  <line value="123 MAIN ST"/>
  <city value="COSTA MESA"/>
  <state value="CA"/>
  <postalCode value="92623"/>
</address>
<address>
  <line value="33 DEL MAT"/>
  <city value="SARATOGA"/>
  <state value="CA"/>
  <postalCode value="95070"/>
</address>
<communication>
  <language>
    <coding>
      <system value="urn:ietf:bcp:47"/>
      <code value="en"/>
      <display value="English"/>
    </coding>
  </language>
  <preferred value="true"/>
</communication>
<communication>
  <language>
    <coding>
      <system value="urn:ietf:bcp:47"/>
      <code value="en"/>
      <display value="English"/>
    </coding>
  </language>
  <preferred value="true"/>
</communication>
<communication>
  <language>
    <coding>
      <system value="urn:ietf:bcp:47"/>
      <code value="en"/>
      <display value="English"/>
    </coding>
  </language>
  <preferred value="true"/>
</communication>
</Patient>
```

## 6. Request Additional FHIR Resources

Please consult the full documentation at <https://petstore.swagger.io/?url=https://hfstatic.s3.amazonaws.com/swagger/fhir-swagger.yaml> to obtain the full set of available endpoints and details for calling those additional NextGen Office Patient Access API routes using the obtained Patient {id}.

- a. **Method:** GET
- b. **Base URL + Endpoint:**  
`https://fhir.meditouchehr.com/api/fhir/{endpoint}/{id}`
- c. **Header:** An OAuth2Authorization header with a value of  
`Bearer {access_token}`