

TRAKnet Open API

Technical Specification Document

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Overview

The TRAKnet Open APIs provide secure access to patient data through a RESTful implementation based on the STU 3 (3.0.1) version of the Fast Healthcare Interoperability Resources - FHIR for developers.

TRAKnet Open API uses FHIR standard for interoperability. Fast Healthcare Interoperability Resources, or FHIR, is a standard way of defining an API for healthcare resources. More information can be found at the FHIR website.

Security

TRAKnet Open API uses OAuth 2.0 for security and the trusted connection is built over SSL using HTTPS. This means that when making calls to any FHIR resource with the TRAKnet Open API, you must pass a token. This token is passed in the Authorization Header to identify the client.

To obtain a Bearer token, you must call an Authorization Server. The authorization server typically exposes a single endpoint:

Token: used to obtain the Bearer token

To obtain a Username and Password please contact to generate a token please contact support@nemohealth.com. Once, the email is received allow 5 business days for our internal team to validate the request and respond with credentials.

When sending a request please include (If any of the required fields cannot be provided please explain why instead):
First Name (Required)
Last Name (Required)
Company Name (Required)
Email (Required)
Direct Phone Number (Required)
Company Phone Number (Required)
Company Website (Required)
Practice Name
Provider Name

HTTP Request

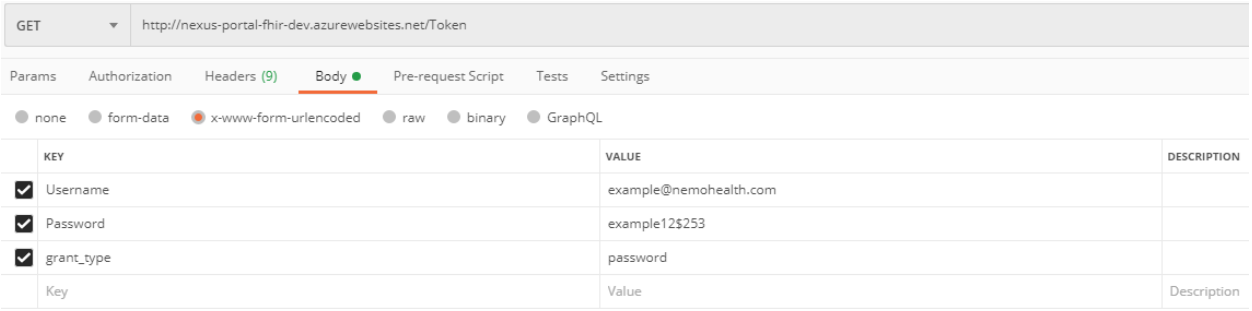
Production:
GET https://nexus-portal-fhir.azurewebsites.net/Token

Staging:

GET https://nexus-portal-fhir-dev.azurewebsites.net/Token

Parameter(Data Type = Body)	Description
Username	Resource owner username
Password	Resource owner password
grant_type	Resource grant type(default grant type is password)
Body	X-www-form-urlencoded

Example Request:



Response Parameters

Parameter	Description
token_type	Always Bearer
Scope	Always user_impersonation
expires_in	The lifetime of the access token, in seconds. Default 3600
access_token	The bearer token used in the Authorization header for subsquent requests
refresh_token	A long-lived token (14 days) used to renew expired access tokens without providing user credentials

Example Response:


```
{
    "access_token": "token for access",
    "token_type": "bearer",
    "expires_in": 1209599,
    "userName": "example@nemohealth.com",
    ".issued": "Fri, 29 May 2020 19:20:24 GMT",
    ".expires": "Fri, 12 Jun 2020 19:20:24 GMT"
}
```

Element	FHIR Resource	Reference	ML
Patient	Patient	https://www.hl7.org/fhir/patient.html	5
Allergies	AllergyIntolerance	https://www.hl7.org/fhir/allergyintolerance.html	3
Medications	MedicationStatement	https://www.hl7.org/fhir/medicationstatement.html	3
Problem List	Condition	https://www.hl7.org/fhir/condition.html	3
Procedures	Procedure	https://www.hl7.org/fhir/procedure.html	3
Lab test	Observation	https://www.hl7.org/fhir/observation.html	5
Lab Results	DiagnosticReport	https://www.hl7.org/fhir/diagnosticreport.html	3
Immunization	Immunization	https://www.hl7.org/fhir/immunization.html	3
Smoking status	Observation	https://www.hl7.org/fhir/observation.html	5
Care team members	CarePlan	https://www.hl7.org/fhir/careplan.html	2
Social History	Observation	https://www.hl7.org/fhir/observation.html	5
Vital Signs	Observation	https://www.hl7.org/fhir/observation.html	5
Implantable Device list	Device	https://www.hl7.org/fhir/device.html	2
Assessment and Plan of treatment	CarePlan	https://www.hl7.org/fhir/careplan.html	2
Goal	Goal	https://www.hl7.org/fhir/goal.html	2
Health Concerns	Condition	https://www.hl7.org/fhir/condition.html	3
C-CDA	DocumentReference	https://www.hl7.org/fhir/documentreference.html	3

FHIR Resources:

API EndPoint (BASE):

Prod:

https://nexus-portal-fhir.azurewebsites.net/

Staging:

https://nexus-portal-fhir-dev.azurewebsites.net/

Header Parameters:

These parameters are used for subsequent requests

Name	Description	Additional information
Authorization	This token is used to authenticate user	Required
Content-Type	Input data format (application/json)	Required

Parameters & DataTypes

Name	Description	Type	Additional information
patientid	Unique Id for the authenticated user.	string	Required
StartDate	Start date of the request. A time component is not used when passing the start date.	date	[Optional]., ex., 2015-11-14, 11/14/2015
EndDate	End date of the request. A time component is not used when passing the end date.	date	[Optional] ex., 2015-11-14, 11/14/2015

Patient (When searching for a specific patient without an ID it is recommended to use their email)	Example: https://nexus-portal-fhir-dev.azurewebsites.net/oauthfhir/6451/Pati Example2: https://nexus-portal-fhir-dev.azurewebsites.net/oauthfhir/6451/Pati
Open API controller used for retrieving all patient data.	
API	**Description**
https://<<Base_URL>>/oauthfhir/{practiceid}/PatientDetails?identifier=<<patientid>>	Return all data for patient

Assessment	
Open API for retrieving patient assessments.	
API	**Description**
https://<<Base_URL>>/oauthfhir/{practiceid}/CarePlan_Assessment?patient=<<patientid>>	Gets the list of patient assessments.

CareTeamMember	
Open API for retrieving care team members.	
API	**Description**
https://<<Base_URL>>/oauthfhir/{practiceid}/CarePlan?patient=<<patientid>>	Gets the list of care team members for a patient's encounters

ClinicalDocument	
Open API controller used for retrieving all patient data.	
API	**Description**
https://<<Base_URL>>/oauthfhir/{practiceid}/Report/GetReports/<<patientid>>	Return Export Summary

Goal	
Open API for retrieving patient goals.	

API	Description
https://<<Base_URL>>/oauthfhir/{practiceid}/Goal?patient=<<patientid>>	Gets the list of patient goals.
HealthConcern	
Open API for retrieving health concerns.	
API	Description
https://<<Base_URL>>/oauthfhir/{practiceid}/Condition_HealthConcern?patient=<<patientid>>	Gets the list of patient health concerns.

Immunization	
Open API for retrieving Immunizations.	
API	**Description**
https://<<Base_URL>>/oauthfhir/{practiceid}/Immunization?patient=<<patientid>>	Gets the list of patient immunizations.

LabResult	
Open API for retrieving lab results.	
API	**Description**
https://<<Base_URL>>/oauthFHIR/{practiceid}/DiagnosticReport?patient=<<patientid>>	Gets the list of patient lab results.

LabTest	
Open API for retrieving lab tests.	
API	**Description**
https://<<Base_URL>>/oauthFHIR/{practiceid}/DiagnosticReport?patient=<<patientid>>	Gets the list of patient lab tests.

Medication	
Open API for retrieving medications.	
API	**Description**
https://<<Base_URL>>/oauthfhir/{practiceid}/Medication?patient=<<patientid>>	Gets the list of patient medications.

MedicationAllergy	
Open API for retrieving medication allergies.	
API	**Description**
https://<<Base_URL>>/oauthFHIR/{practiceid}/AllergyIntolerance?patient=<<patientid>>	Gets the list of patient medication allergies.

Problem	

Open API for retrieving problems.	
API	**Description**
https://<<Base_URL>>/oauthFHIR/{practiceid}/Condition?patient=<<patientid>>	Gets the list of patient problems.
Procedure	
Open API for retrieving procedures.	
API	**Description**
https://<<Base_URL>>/oauthFHIR/{practiceid}/Procedure?patient=<<patientid>>	Gets the list of patient procedures.

SmokingStatus	
Open API for retrieving smoking status.	
API	**Description**
https://<<Base_URL>>/oauthfhir/{practiceid}/Observation_SmokingStatus?patient=<<patientid>>	Get the list of patient smoking statuses.

TreatmentPlan	
Open API for retrieving treatment plans.	
API	**Description**
https://<<Base_URL>>/oauthFHIR/{practiceid}/CarePlan_PlanofTreatment?patient=<<patientid>>	Gets the list of patient treatment plans.

UniqueDeviceIdentifier	
Open API for retrieving unique device identifiers.	
API	**Description**
https://<<Base_URL>>/oauthfhir/{practiceid}/Device?patient=<<patientid>>	Gets the list of patient unique device identifiers.

VitalSign	
Open API for retrieving vital signs.	
API	**Description**
https://<<Base_URL>>/oauthFHIR/{practiceid}/Observation_Vitals?patient=<<patientid>>	Gets the list of patient vital signs.

Error Handling:

All response objects contain base error handler properties. These properties can be verified when the response is received.

Name	Description	Type	Additional information
Success	Represents the success of the call.	Boolean	Required

ErrorMessage	If the success property is false, the ErrorMessage property will contain error text, otherwise it will be null.	string	[Optional]
ErrorType	If the success property is false the ErrorType property will contain the text of the type of error that has occurred, otherwise it will be null.	string	[Optional]

Response Code:

200 – Successful Request
400 – Bad Request
401 – Unauthorized
403 - An unexpected error has occurred
404 – Requested resource cannot be found
500 - Internal Server Error

Samples:

Patient Response:


```
[
  {
    "Patient": {
      "Identifier": [
        {
          "ValueElement": {
            "Value": "1538b509-f76b-4df7-b3b2-1d659e957a0a"
          }
        }
      ],
      "Name": [
        {
          "TextElement": {
            "Value": "Alice Jones Newman"
          },
          "FamilyElement": [
            {
              "Value": "Newman"
            }
          ],
          "GivenElement": [
            {
              "Value": "Alice Jones"
            }
          ],
          "Period": {
            "StartElement": {
              "Value": "07/01/2015 00:53:34"
```

```
        }
      }
    }
  ],
  "Telecom": [
    {
      "ValueElement": {
        "Value": "venkateshwarlu@nalashaa.com"
      }
    }
  ],
  "BirthDateElement": {
    "Value": "5/1/1970 12:00:00 AM"
  },
  "Address": [
    {
      "TextElement": {
        "Value": "1357"
      },
      "LineElement": [
        {
          "Value": "Amber Dr"
        }
      ],
      "CityElement": {
        "Value": "Beaverton"
      },
      "StateElement": {
        "Value": "OR"
      },
      "PostalCodeElement": {
        "Value": "97006"
      },
      "CountryElement": {
        "Value": "US"
      }
    }
  ],
  "MaritalStatus": {
    "TextElement": {
      "Value": "U"
    }
  },
  "Contact": [
    {
      "Relationship": [
        {
          "TextElement": {
            "Value": "92b97ab4-c272-4e6a-80b8-e4d129ecd978"
          }
```

```
    }
  ],
  "Name": {
    "TextElement": {
      "Value": "MaryJo P Bach"
    },
    "FamilyElement": [
      {
        "Value": "Bach"
      }
    ],
    "GivenElement": [
      {
        "Value": "MaryJo"
      }
    ],
    "PrefixElement": [
      {
        "Value": "MaryJo"
      }
    ]
  },
  "Telecom": [
    {
      "ValueElement": {
        "Value": "123456789"
      }
    },
    {
      "ValueElement": {
        "Value": "123456789"
      }
    }
  ],
  "Address": {
    "TextElement": {
      "Value": "729 Lobster Drive"
    },
    "CityElement": {
      "Value": "Woods Hole"
    },
    "StateElement": {
      "Value": "MA"
    },
    "PostalCodeElement": {
      "Value": "02543"
    }
  },
  "Organization": {
    "ReferenceElement": {
```

```
                "Value": "92b97ab4-c272-4e6a-80b8-e4d129ecd978"
              }
            }
          }
        ],
        "Communication": [
          {
            "Language": {
              "TextElement": {
                "Value": "en"
              }
            }
          }
        ]
      }
    }
]
```


Allergy Response:


```
[
  {
    "AssertedDate": "5/10/1980 12:00:00 AM",
    "Code": {
      "Coding": [
        {
          "SystemElement": {
            "Value": "SNOMED CT"
          },
          "VersionElement": {
            "Value": "2.16.840.1.113883.6.96"
          },
          "CodeElement": {
            "Value": "7980"
          },
          "DisplayElement": {
            "Value": "Penicillin G"
          }
        }
      ]
    },
    "Reaction": [
      {
        "Substance": {
          "Coding": [
            {
              "SystemElement": {
                "Value": "RXNorm"
```

```
                },
                "VersionElement": {
                  "Value": "2.16.840.1.113883.6.88"
                },
                "DisplayElement": {
                  "Value": "Hives"
                }
              }
            ]
          }
        }
      ],
      "AllergyIntolerance": {
        "Identifier": [
          {
            "ValueElement": {
              "Value": "5456c88f-98bf-44e6-8ed5-604290bf3eda"
            }
          }
        ],
        "Recorder": {
          "ReferenceElement": {
            "Value": "b2047d90-5167-4762-9596-d432c2b22844"
          }
        },
        "LastOccurenceElement": {
          "Value": "5/10/1980 12:00:00 AM"
        }
      },
      "OnSetDateTime": "9/26/2017 12:50:40 AM"
    },
    {
      "AssertedDate": "5/10/1980 12:00:00 AM",
      "Code": {
        "Coding": [
          {
            "SystemElement": {
              "Value": "SNOMED CT"
            },
            "VersionElement": {
              "Value": "2.16.840.1.113883.6.96"
            },
            "CodeElement": {
              "Value": "733"
            },
            "DisplayElement": {
              "Value": "Ampicillin"
            }
          }
        ]
```

```
    },
    "Reaction": [
      {
        "Substance": {
          "Coding": [
            {
              "SystemElement": {
                "Value": "RXNorm"
              },
              "VersionElement": {
                "Value": "2.16.840.1.113883.6.88"
              },
              "DisplayElement": {
                "Value": "Hives"
              }
            }
          ]
        }
      }
    ],
    "AllergyIntolerance": {
      "Identifier": [
        {
          "ValueElement": {
            "Value": "5253fe51-167b-4b41-9c92-b15eb841b387"
          }
        }
      ],
      "Recorder": {
        "ReferenceElement": {
          "Value": "b2047d90-5167-4762-9596-d432c2b22844"
        }
      },
      "LastOccurenceElement": {
        "Value": "5/10/1980 12:00:00 AM"
      }
    },
    "OnSetDateTime": "9/26/2017 12:50:09 AM"
  }
]
```


Terms & Conditions:

[Insert Link]