

*Open Dental Software*

# **FHIR Interface Specification**

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**September 21, 2016**

# Open Dental FHIR Specification

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# Open Dental FHIR Specification

## About Open Dental FHIR

As of version 16.3, Open Dental has a RESTful API service that conforms to the FHIR standard defined by <https://www.hl7.org/fhir>. This FHIR service can be used to look up patient demographics and appointments and to find openings where appointments can be scheduled. For a detailed, technical description of Open Dental FHIR's capabilities, see the Conformance Statement in Appendix A.

## Testing Environment

Open Dental hosts a test server for developers to play with FHIR. The base URL is <http://50.201.161.45:56015/opendental.fhir>. The Conformance Statement on this server gives a detailed, technical description of Open Dental's FHIR capabilities. These three headers must be included in requests sent to this server:

Content-Type: application/json  
Authorization: FHIRAPIKey apikey=Ztx2c32DxX0kIEA5  
Accept: application/json

A browser extension or other software is necessary to send request headers. Keep in mind that while this test server does not require HTTPS, Open Dental FHIR in a live production environment must use HTTPS.

## Setting Up FHIR

One specific computer will need to be designated as the FHIR server. This can be the same computer that holds the Open Dental database, although if high-load performance is a concern, it would be more efficient to run the FHIR service on a different computer that is on the same network as the Open Dental database server.

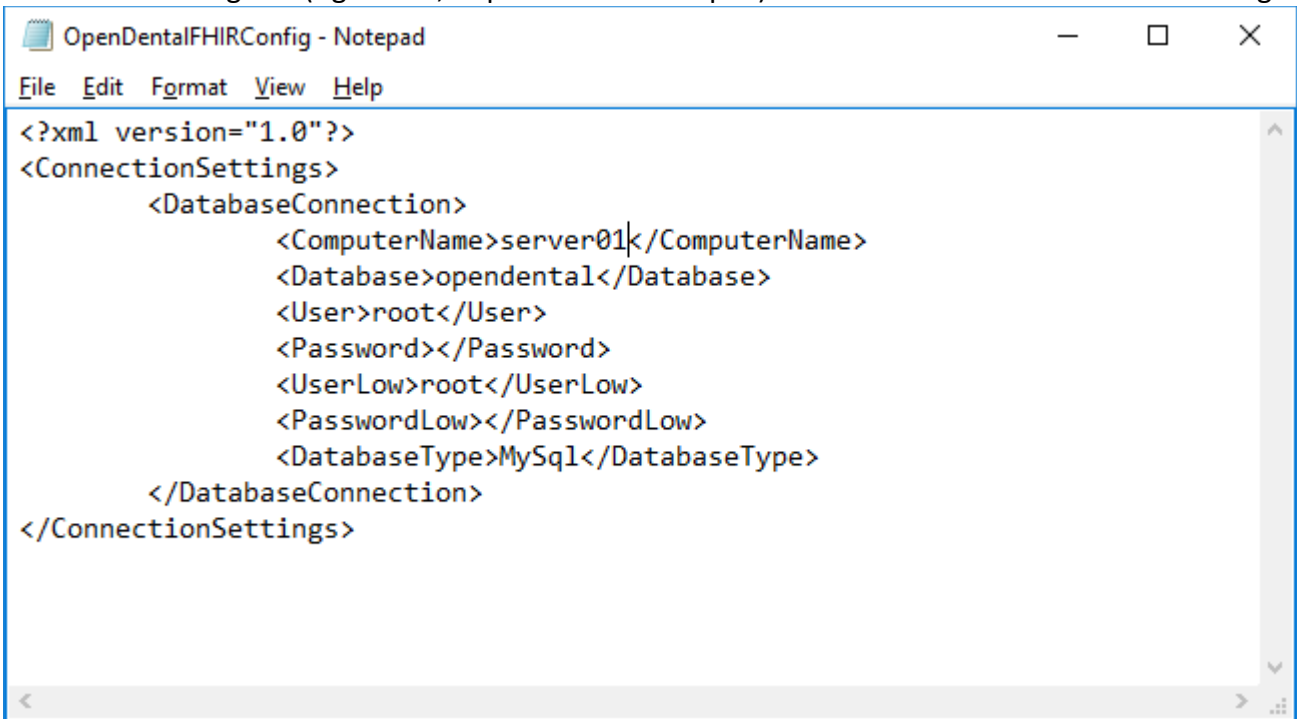
## Installation Steps

Performed directly on the FHIR server, possibly through remote desktop. Be sure you are logged in as an administrative user.

1. Make sure dotNet 4.5 is installed on the FHIR server.
2. Install the same version of Open Dental as in the rest of the office by running the Setup.exe from the shared A to Z folders.
3. If you install the FHIR service on one computer, but have the MySQL service and database on another computer, make sure that you can connect directly to the database from the FHIR server.
4. On the FHIR server, open Open Dental and log on as any user. This will ensure that the configuration file is created on that computer.

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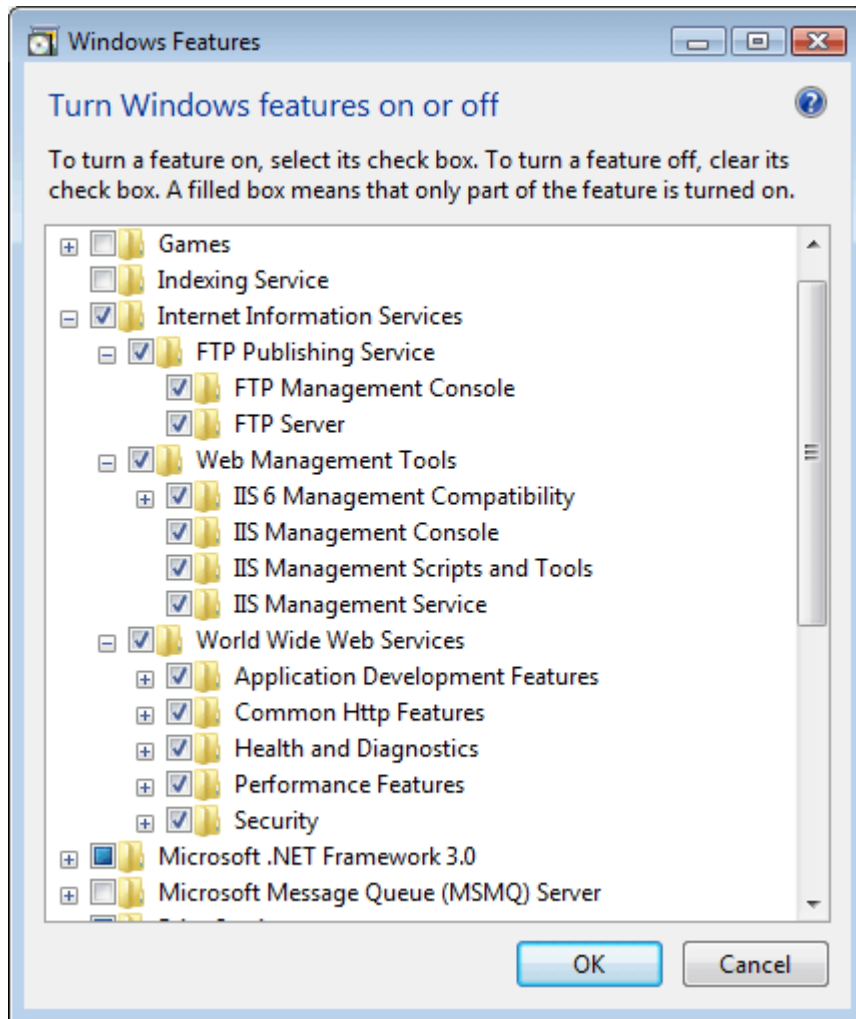
5. Look in your Open Dental application folder for a folder titled OpenDentalFHIR. Edit the file OpenDentalFHIRConfig.xml (right click, "Open with..." Notepad) to set the database connection settings.



```
<?xml version="1.0"?>
<ConnectionSettings>
  <DatabaseConnection>
    <ComputerName>server01</ComputerName>
    <Database>opendental</Database>
    <User>root</User>
    <Password></Password>
    <UserLow>root</UserLow>
    <PasswordLow></PasswordLow>
    <DatabaseType>MySql</DatabaseType>
  </DatabaseConnection>
</ConnectionSettings>
```

6. (If your FHIR server has Windows Server Web as an operating system, then skip this step.) Turn on more of your IIS features in Windows. In the Control Panel, select Programs and Features (aka Add/Remove Programs). At the upper left, select Turn Windows Features on or off.

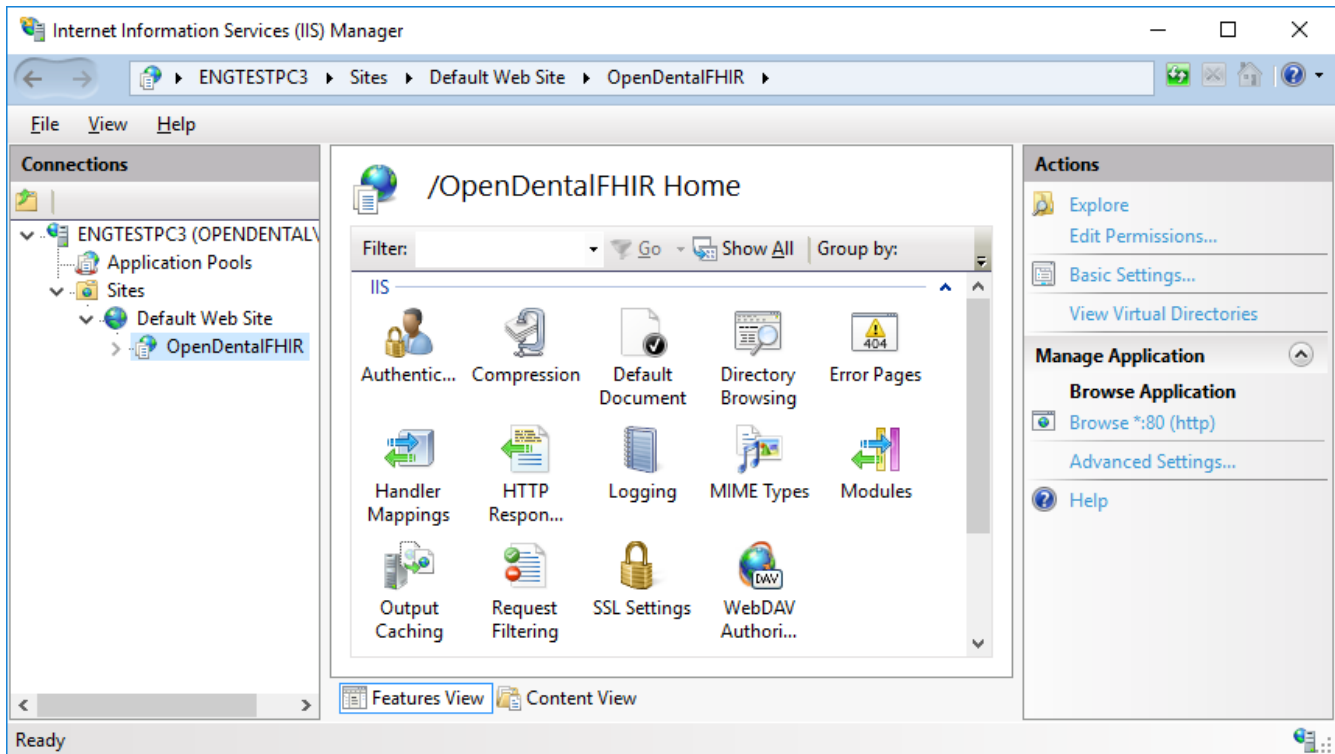
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Turn on all the IIS features. In the screenshot above, the IIS folder has been expanded to show those features. If you are a power user, you can selectively only turn on the IIS features that you think will be needed.

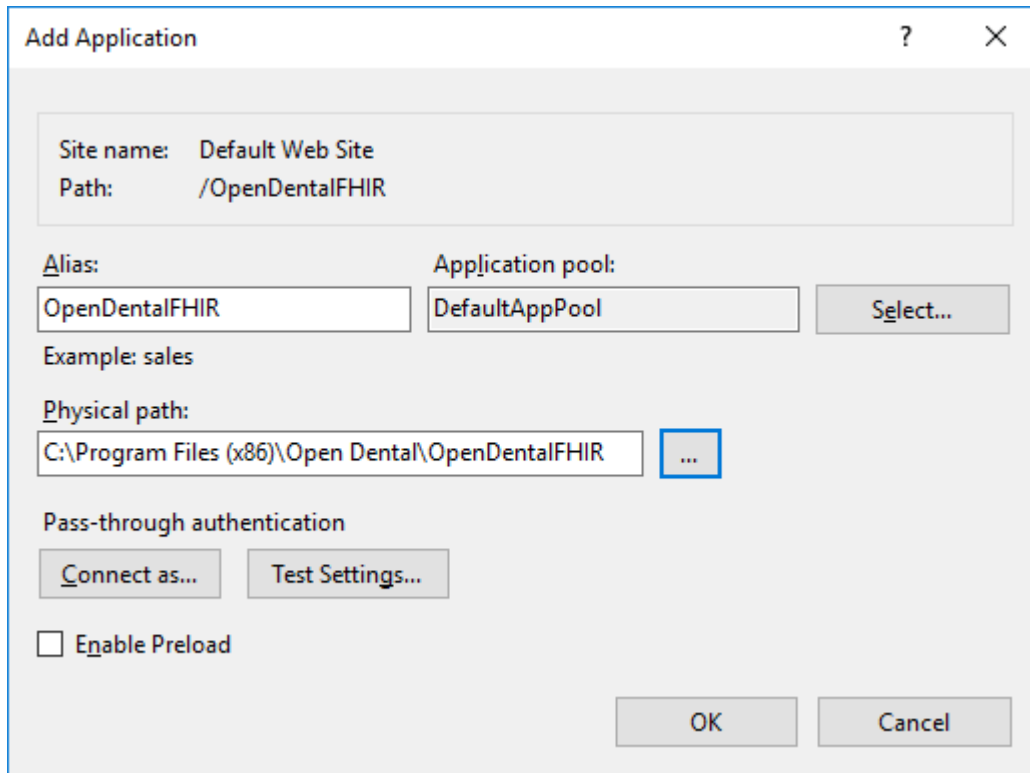
7. Open your IIS Manager. Expand your connections and your sites.

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8. Right click on Default Web Site, and Add Application. If the Default Web Site does not yet exist, you must create it first and point it to c:\inetpub\wwwroot.

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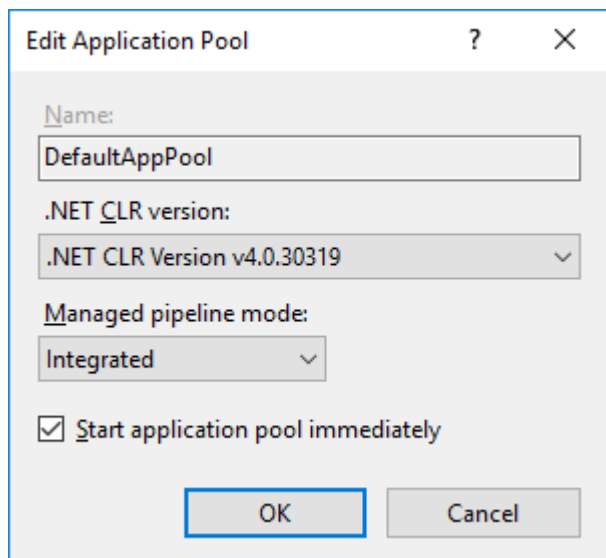


The 'Add Application' dialog box is used to configure a new application. It contains the following fields and controls:

- Site name:** Default Web Site
- Path:** /OpenDentalFHIR
- Alias:** OpenDentalFHIR
- Application pool:** DefaultAppPool (with a 'Select...' button)
- Example:** sales
- Physical path:** C:\Program Files (x86)\Open Dental\OpenDentalFHIR (with a browse button '...')
- Pass-through authentication:** Includes 'Connect as...' and 'Test Settings...' buttons.
- Enable Preload:** An unchecked checkbox.
- Buttons:** 'OK' and 'Cancel' at the bottom right.

Fill out the information as above, and click OK.

9. Edit the DefaultAppPool and make sure it is set to use .NET Framework v4.0 rather than 2.0.

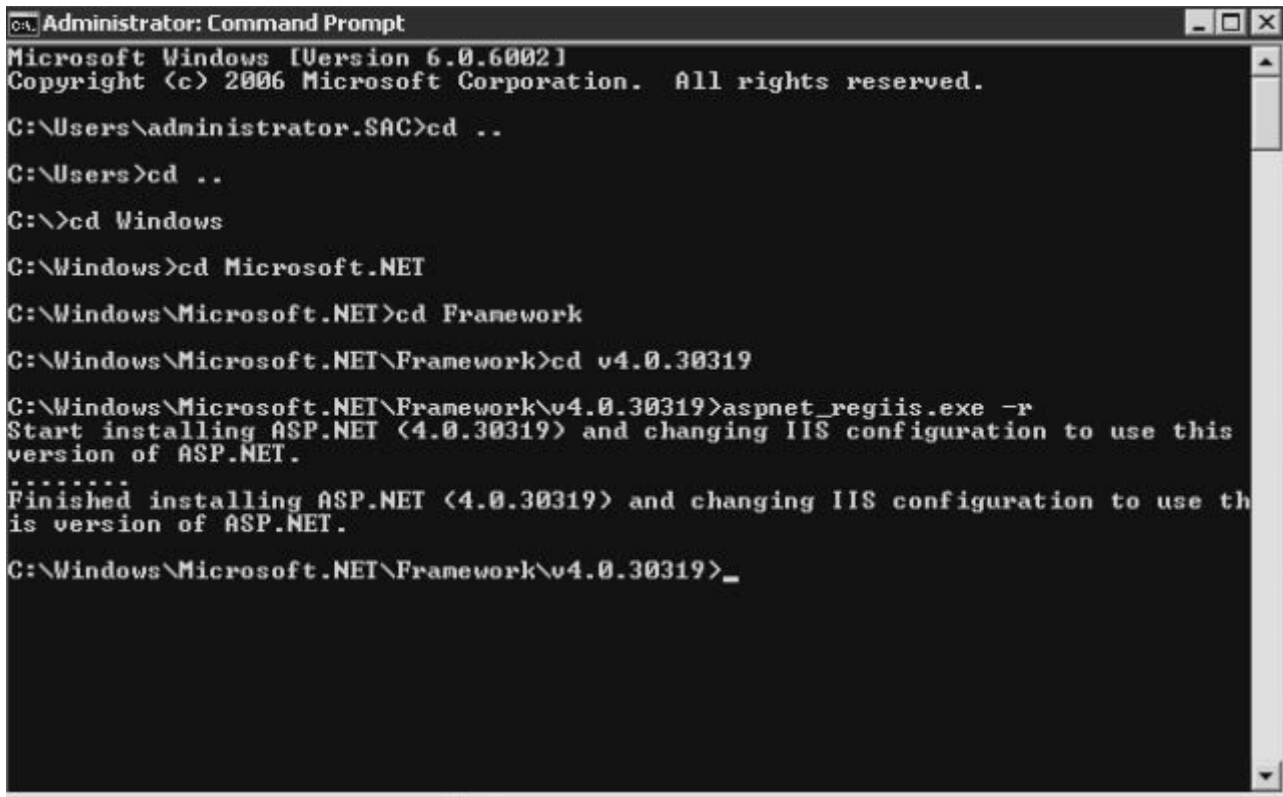


The 'Edit Application Pool' dialog box is used to modify the settings of an existing application pool. It contains the following fields and controls:

- Name:** DefaultAppPool
- .NET CLR version:** .NET CLR Version v4.0.30319 (selected from a dropdown menu)
- Managed pipeline mode:** Integrated (selected from a dropdown menu)
- Start application pool immediately:** A checked checkbox.
- Buttons:** 'OK' and 'Cancel' at the bottom.

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10. Register .NET Framework v4.0 with IIS as follows. This is not necessary for Windows 10.



```
Administrator: Command Prompt
Microsoft Windows [Version 6.0.6002]
Copyright (c) 2006 Microsoft Corporation. All rights reserved.

C:\Users\administrator.SAC>cd ..
C:\Users>cd ..
C:\>cd Windows
C:\Windows>cd Microsoft.NET
C:\Windows\Microsoft.NET>cd Framework
C:\Windows\Microsoft.NET\Framework>cd v4.0.30319
C:\Windows\Microsoft.NET\Framework\v4.0.30319>aspnet_regiis.exe -r
Start installing ASP.NET (4.0.30319) and changing IIS configuration to use this
version of ASP.NET.
.....
Finished installing ASP.NET (4.0.30319) and changing IIS configuration to use th
is version of ASP.NET.
C:\Windows\Microsoft.NET\Framework\v4.0.30319>_
```

11. Launch the Open Dental program. Enable FHIR by going to Setup -> Advanced Setup -> FHIR and checking the Enabled checkbox.

12. Edit the OpenDentalFHIRConfig.xml within the OpeDentalFHIR folder of the Open Dental installation directory. This file should contain the credentials to connect to the Open Dental database.

13. FHIR requires that all communication uses HTTPS. This requires a security certificate to be installed on the server. The following webpage details that process:

<http://opendental.com/manual/middletiersecuritycert.html>

If you are planning on only allowing FHIR be used within a private network, you can create your own security certificate instead of purchasing one.

14. Test that the FHIR server is now working by typing into a web browser the URL of your FHIR website followed by '/conformance' (i.e. <http://50.201.161.45:56015/opendental.fhir/conformance>) If you receive a message stating "The only supported format is application/json", then the server is working properly.

## API Keys

When requesting data from the FHIR server, an API key must be present in the request header. API keys can be acquired from within the Open Dental program and distributed to developers. A single office can generate

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as many keys as it wants. These keys are free of charge if they only require the ability to read data from the FHIR server. To write data through FHIR, a small fee will be charged for each key. The Subscription resource, however, can use a read-only key to create and update Subscriptions.

To create a new API key from within Open Dental, go to Setup -> Advanced Setup -> FHIR. Click the Generate Key in the lower left. Once the key is created, you can assign permissions for the resources to which you want this API key to have access.

Enabled ☒

Process subscription interval in minutes. Leave blank to disable subscriptions.

API Keys		
Developer	API Key	Notes
Godric Gryffindor	hHyd5g8MKdd216n7	
Rowena Ravenclaw	0QQ0CrTG0CYajnNw	This key is authorized for read operations only.
Salazar Slytherin	DhCLI1pfgVCFfdg	This key is pending approval for write operations. Read operations are authorized.
Rowena Ravenclaw	sppPoxqff0eoVYgE	This key is disabled.
Godric Gryffindor	bxBFBFfOM3kzmKcr	This key is authorized for read operations only.
Salazar Slytherin	Y2LqzJIKFxJosFva	This key is authorized for read operations only.
Helga Hufflepuff	QfsSqlDU06wN0PrL	

Permissions for API key:

- ☒ AppointmentRead
- ☒ PatientRead
- ☐ Subscriptions
- ☒ LocationRead
- ☒ OrganizationRead
- ☒ PractitionerRead
- ☐ ScheduleRead
- ☐ Conformance

Generate Key Set All Unset All Close

## Resources Notes

Important notes concerning the functionality of resources are given here. To see a complete list of resources along with the methods and search parameters supported, see the Conformance Statement.

## Appointment

The statuses on a FHIR Appointment resource correspond to the following appointment statuses in Open

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## Dental:

proposed – An Open Dental planned appointment  
pending – An appointment that is on the Unscheduled List  
booked – An appointment with a status of Scheduled or ASAP  
arrived – An appointment that has a value in the Time Arrived field but not in the Time Dismissed

## field

fulfilled – An appointment with a status of Complete  
cancelled – An appointment that has been deleted  
noshow – An appointment with a status of Broken

## Location

A location corresponds to an operatory within Open Dental. The managingOrganization field refers to the clinic to which the operatory is assigned.

## Organization

One Organization represents the practice as entered within Open Dental under Setup -> Practice. Every other Organization resource is a clinic within Open Dental.

## Practitioner

The Practitioner.speciality field is drawn from the provider specialties within Open Dental. These specialties are user-editable and do not conform to any code system. The role of a provider will be either 'provider' or 'hygienist'.

## Schedule

A Schedule resource will exist for a Practitioner if the provider has a schedule set for that day within Open Dental. Every operatory in Open Dental will have a Schedule resource for every day. If no date range is specified for a GET call, then the schedules for the next 28 days will be returned.

## Slot

Slots are divided into five minute intervals. A Slot that is linked to a Schedule that is linked to a Practitioner will be considered free if there is a schedule within Open Dental for that provider during that time and the provider is not scheduled for an appointment during that time. A Slot that is linked to a Location will be considered free if that operatory has a provider scheduled for that time and the operatory is an operatory considered for Web Sched and there is no appointment in that Slot.

## Subscription

Subscriptions can be used to find out about changes that occur to Patients and Appointments. The channel type that is supported is rest-hook, so when a change occurs, an empty POST request is sent to the channel endpoint. A notification will be sent anytime there is a change in the Patient or Appointment database

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tables, so it is possible that a notification will be sent even though the resource as returned by FHIR has the exact same fields.

To use Subscriptions, the Open Dental eConnector service must be running. The interval at which the service sends out notifications can be set in the Open Dental program in Setup -> Advanced Setup -> FHIR.

## Use Cases

All the following use cases can be performed on the demo server using the specified URLs.

### Use Case 1 - Find all appointments scheduled for clinic Hogwarts Hospital Wing for September 1<sup>st</sup>

1. The client will find out the id for the Hogwarts Hospital Wing clinic by querying the Organization resource:  
<http://50.201.161.45:56015/opendental.fhir/organization?name=Hogwarts%20Hospital%20Wing>

-Then the client will need all the Locations that have Hogwarts Hospital Wing for their organization (we'll say the id for Hogwarts Hospital Wing is 1): <http://50.201.161.45:56015/opendental.fhir/location?organization=Organization/1>

-The client can now query the Appointment resources (suppose that the location returned above has the id of 2 and 3):

<http://50.201.161.45:56015/opendental.fhir/appointment?location=2,3&date=ge2016-09-01T00:00:00&date=le2016-09-01T23:59:59&status=booked>

### Use Case 2 – Keep an updated list of patients who have Madame Pomfrey as a provider

-The client will find out the id for Madame Pomfrey by querying the Practitioner resource:  
<http://50.201.161.45:56015/opendental.fhir/practitioner?family=pomfrey&given=madame>

-This will return a Practitioner resource. In this case the id for that resource will be 1.

-The client will then issue a query against the patient resources like the following:  
<http://50.201.161.45:56015/opendental.fhir/patient?careprovider=Practitioner/1>

-To be informed of new patients that are assigned Jordan Sparks as their provider, the client then creates a Subscription resource like this one:

```
{
  "criteria": "patient?careProvider=Practitioner/1",
  "contact": [
    {
      "system": "email",
```

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```
    "value": "andrew@friendsofopendental.com",
    "use": "work",
    "rank": 1,
    "period": {
      "start": "2016-08-01T08:00:00"
    }
  },
  "reason": "To provider surveys to Madame Pomfrey's patients to
determine her quality of care",
  "status": "requested",
  "channel": {
    "type": "rest-hook",
    "endpoint": "http://www.friendsofopendental.com/fhirpatients"
  },
  "end": "2018-01-01T00:00:00"
}
```

Then the client will perform a POST request it to this URL:

<http://50.201.161.45:56015/opendental.fhir.subscription>

-Every few minutes Open Dental's EConnector will check active subscriptions and if any match the criteria, it will send an empty POST request to the endpoint URL (<http://www.friendsofopendental.com/fhirpatients>) that was included when the Subscription was created.

-When the client receives that POST request, it can issue the same query with a parameter for the time that it last checked: [http://50.201.161.45:56015/opendental.fhir.patient?careprovider=Practitioner/1&\\_lastupdated=ge2016-09-21T18:37:10](http://50.201.161.45:56015/opendental.fhir.patient?careprovider=Practitioner/1&_lastupdated=ge2016-09-21T18:37:10)

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## Appendix A – Conformance Statement

This Conformance Statement describes in detail the implementation of Open Dental FHIR. An up-to-date Conformance Statement can always be retrieved from

<http://50.201.161.45:56015/opendental.fhir/conformance>

```
{
  "url": "http://50.201.161.45:56015/opendental.fhir/conformance/open-
dental-conformance",
  "version": "1.0",
  "status": "active",
  "experimental": true,
  "publisher": "Open Dental Software, Inc.",
  "contact": [
    {
      "name": "Brian Miller",
      "telecom": [
        {
          "system": "phone",
          "value": "5033635432",
          "use": "work",
          "rank": 1
        },
        {
          "system": "email",
          "value": "brian@opendental.com",
          "use": "work",
          "rank": 2
        }
      ]
    },
    {
      "name": "Chris McGehee",
      "telecom": [
        {
          "system": "phone",
          "value": "5033635432",
          "use": "work",
          "rank": 2
        },
        {
          "system": "email",
          "value": "chris@opendental.com",
          "use": "work",
          "rank": 1
        }
      ]
    }
  ]
}
```

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```
    }
  ]
}
],
"date": "2016-08-22T00:00:00",
"description": "This conformance statement describes the RESTful API
that accesses the Open Dental database.",
"requirements": "Published to give operational support to third-party
vendors wishing to interface with the Open Dental database.",
"kind": "instance",
"software": {
  "name": "Open Dental",
  "version": "16.3.0.0",
  "releaseDate": "2016-08-11T00:00:00"
},
"implementation": {
  "description": "FHIR server for a dental office running Open Dental",
  "url": "http://engtestpc3:56015/opendental.fhir"
},
"fhirVersion": "1.0.2",
"acceptUnknown": "no",
"format": [
  "application/json"
],
"rest": [
  {
    "mode": "server",
    "documentation": "This FHIR server can be used to look up patient
demographics and appointments and to find openings where appointments can
be scheduled. A client system can keep itself in sync with this server
through Subscriptions.",
    "security": {
      "cors": false,
      "description": "This FHIR server uses API keys to enforce
security. Each API key has a set of permissions that allow access to
certain resources. These keys can be generated and managed within the
Open Dental program (Setup -> Advanced Setup -> FHIR). These API keys are
only valid for the dental office that generated the API key. Once a
client has an API key, it can include it in the header with the format
'Authorization: FHIRAPIKey apikey=mysupersecretapikey'."
    },
    "resource": [
      {
        "type": "Appointment",
        "interaction": [
          {
```

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```
        "code": "read"
      },
      {
        "code": "search-type"
      }
    ],
    "versioning": "no-version",
    "readHistory": false,
    "updateCreate": false,
    "conditionalCreate": false,
    "conditionalUpdate": false,
    "conditionalDelete": "not-supported",
    "searchParam": [
      {
        "name": "patient",
        "type": "reference",
        "documentation": "The patient on the appointment.  
Corresponds to appointment.PatNum.",
        "target": [
          "Patient"
        ]
      },
      {
        "name": "location",
        "type": "reference",
        "documentation": "The operatory in which the appointment is  
scheduled. Corresponds to appointment.Op.",
        "target": [
          "Location"
        ]
      },
      {
        "name": "identifier",
        "type": "string",
        "documentation": "The logical Id of the appointment. This  
is the same value as appointment.AptNum."
      },
      {
        "name": "practitioner",
        "type": "reference",
        "documentation": "The provider or hygienist on the  
appointment. Corresponds to appointment.ProvNum or appointment.ProvHyg.",
        "target": [
          "Practitioner"
        ]
      }
    ],
  },
}
```

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```
{
  "name": "status",
  "type": "token",
  "documentation": "The status of the appointment. A status
of 'booked' corresponds to an appointment.AptStatus of Scheduled or ASAP.
A status of 'cancelled' corresponds to an appointment that has been
deleted. A status of 'noshow' corresponds to an appointment.AptStatus of
Broken'. A status of 'proposed' corresponds to an appointment.AptStatus
of Planned. A status of 'pending' corresponds to a an
appointment.AptStatus of UnschedList. A status of 'fulfilled' corresponds
to an appointment.AptStatus of 'complete'."
},
{
  "name": "date",
  "type": "date",
  "documentation": "The start time of the appointment. This
corresponds to appointment.AptDateTime."
},
{
  "name": "_lastUpdated",
  "type": "date",
  "documentation": "The last time any of the fields in the
appointment were modified (this includes fields that are stored in the
database and not transferred through FHIR). This corresponds to
appointment.DateTStamp."
}
],
{
  "type": "Location",
  "interaction": [
    {
      "code": "read"
    },
    {
      "code": "search-type"
    }
  ],
  "versioning": "no-version",
  "readHistory": false,
  "updateCreate": false,
  "conditionalCreate": false,
  "conditionalUpdate": false,
  "conditionalDelete": "not-supported",
  "searchParam": [
    {
```

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```
        "name": "address",
        "type": "string",
        "documentation": "The physical address of the clinic to
which the operator is assigned. Corresponds to any value in
clinic.Address, clinic.Address2, clinic.City, clinic.State, clinic.Zip."
    },
    {
        "name": "address-city",
        "type": "string",
        "documentation": "The city of the clinic to which the
operator is assigned. Corresponds to clinic.City."
    },
    {
        "name": "address-postalcode",
        "type": "string",
        "documentation": "The zip code of the clinic to which the
operator is assigned. Corresponds to clinic.Zip."
    },
    {
        "name": "address-state",
        "type": "string",
        "documentation": "The state of the clinic to which the
operator is assigned. Corresponds to clinic.State."
    },
    {
        "name": "identifier",
        "type": "string",
        "documentation": "The logical Id of the location. This is
the same value as operator.OperatorNum."
    },
    {
        "name": "name",
        "type": "string",
        "documentation": "The name or abbreviation of the
operator. Corresponds to operator.OpName or operator.Abbrev."
    },
    {
        "name": "organization",
        "type": "reference",
        "documentation": "The clinic to which the operator is
assigned. Corresponds to operator.ClinicNum.",
        "target": [
            "Organization"
        ]
    },
    {
        {
```

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```
        "name": "status",
        "type": "token",
        "documentation": "The status 'active' corresponds to an
operatorary that is not hidden. The status 'inactive' corresponds to an
operatorary that is hidden."
    }
]
},
{
    "type": "Organization",
    "interaction": [
        {
            "code": "read"
        },
        {
            "code": "search-type"
        }
    ],
    "versioning": "no-version",
    "readHistory": false,
    "updateCreate": false,
    "conditionalCreate": false,
    "conditionalUpdate": false,
    "conditionalDelete": "not-supported",
    "searchParam": [
        {
            "name": "address",
            "type": "string",
            "documentation": "The physical or billing address of the
clinic or practice. Corresponds to any value in clinic.Address,
clinic.Address2, clinic.City, clinic.State, clinic.Zip,
clinic.BillingAddress, clinic.BillingAddress2, clinic.BillingCity,
clinic.BillingState, clinic.BillingZip."
        },
        {
            "name": "address-city",
            "type": "string",
            "documentation": "The city of the clinic or practice.
Corresponds to clinic.City or clinic.BillingCity."
        },
        {
            "name": "address-postalcode",
            "type": "string",
            "documentation": "The zip code of the clinic or practice.
Corresponds to clinic.Zip or clinic.BillingZip."
        },
    ],
}
```

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```
{
  "name": "address-use",
  "type": "string",
  "documentation": "All addresses are considered 'work' so
that is the only value that will return results."
},
{
  "name": "identifier",
  "type": "string",
  "documentation": "The logical Id of the clinic or practice.
This is the same value as clinic.ClinicNum, however the dental practice
can be represented as a Clinic resource with a logical Id of 0."
},
{
  "name": "name",
  "type": "string",
  "documentation": "The name of the clinic or practice.
Corresponds to clinic.Abbbr."
},
{
  "name": "partof",
  "type": "reference",
  "documentation": "In this implementation, all clinics are a
partof the practice.",
  "target": [
    "Organization"
  ],
  "chain": [
    "name"
  ]
}
],
{
  "type": "Patient",
  "interaction": [
    {
      "code": "read"
    },
    {
      "code": "search-type"
    }
  ],
  "versioning": "no-version",
  "readHistory": false,
  "updateCreate": false,
}
```

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```
"conditionalCreate": false,
"conditionalUpdate": false,
"conditionalDelete": "not-supported",
"searchParam": [
  {
    "name": "active",
    "type": "token",
    "documentation": "Whether a patient is active or not. A
value of 'true' corresponds to a patient.PatStatus of Patient. A value of
'false' corresponds to a patient.PatStatus of anything other than
Patient."
  },
  {
    "name": "address",
    "type": "string",
    "documentation": "The address of the patient. Corresponds
to any value in patient.Address, patient.Address2, patient.City,
patient.State, patient.Zip, or patient.Country."
  },
  {
    "name": "address-city",
    "type": "string",
    "documentation": "The patient's city. Corresponds to
patient.City."
  },
  {
    "name": "address-postalcode",
    "type": "string",
    "documentation": "The patient's zip code. Corresponds to
patient.Zip."
  },
  {
    "name": "address-state",
    "type": "string",
    "documentation": "The patient's state. Corresponds to
patient.State."
  },
  {
    "name": "address-country",
    "type": "string",
    "documentation": "The patient's country. Corresponds to
patient.Country."
  },
  {
    "name": "birthdatedate",
    "type": "date",
```

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```
        "documentation": "The patient's birthdate. This corresponds
to patient.Birthdate."
    },
    {
        "name": "careprovider",
        "type": "reference",
        "documentation": "The patient's primary provider.
Corresponds to patient.PriProv.",
        "target": [
            "Practitioner"
        ]
    },
    {
        "name": "deathdate",
        "type": "date",
        "documentation": "The date time the patient passed away.
This corresponds to patient.DateTimeDeceased."
    },
    {
        "name": "deceased",
        "type": "token",
        "documentation": "Whether a patient deceased or not. A
value of 'true' corresponds to a patient.PatStatus of Deceased or a value
is entered in patient.DateTimeDeceased. A value of 'false' corresponds to
a patient.PatStatus of anything other than Deceased and no value is
entered in papatient.DateTimeDeceased."
    },
    {
        "name": "email",
        "type": "string",
        "documentation": "The patient's email. Corresponds to
patient.Email."
    },
    {
        "name": "family",
        "type": "string",
        "documentation": "The patient's family (last) name.
Corresponds to patient.LName."
    },
    {
        "name": "gender",
        "type": "token",
        "documentation": "The patient's gender. Corresponds to
patient.Gender. The genders 'other' and 'unknown' correponds to Unknown
in Open Dental."
    },
    },
```

## Open Dental FHIR Specification

```
{
  "name": "given",
  "type": "string",
  "documentation": "The patient's given (first or middle)
name. Corresponds to patient.FName or patient.MiddleI."
},
{
  "name": "identifier",
  "type": "token",
  "documentation": "This can match either the business id of
the patient or the patient's Social Security Number. This corresponds to
patient.PatNum or patient.SSN. If intending to search for the SSN, the
token's system should be 'http://hl7.org/fhir/sid/us-ssn'."
},
{
  "name": "language",
  "type": "string",
  "documentation": "The patient's primary language. A two- or
three-letter ISO language tag is accepted. Because Open Dental only
stores a patient's language and not their language region, searches for
en-US, en-UK, or en-CA will match all patients whose language is
English."
},
{
  "name": "name",
  "type": "string",
  "documentation": "The patient's name. Corresponds to a
portion of patient.FName, patient.MiddleI, or patient.LName."
},
{
  "name": "organization",
  "type": "reference",
  "documentation": "The clinic to which the patient is
assigned. Corresponds to patient.ClinicNum.",
  "target": [
    "Organization"
  ]
},
{
  "name": "phone",
  "type": "string",
  "documentation": "A patient's phone number. Corresponds to
patient.HmPhone, patient.WkPhone, or patient.WirelessPhone."
},
{
  "name": "telecom",
```

## Open Dental FHIR Specification

```
        "type": "string",
        "documentation": "A patient's phone number or email.
Corresponds to patient.HmPhone, patient.WkPhone, patient.WirelessPhone,
or patient.Email."
    },
    {
        "name": "_lastUpdated",
        "type": "date",
        "documentation": "The last time any of the fields in for
the patient were modified (this includes fields that are stored in the
database and not transferred through FHIR). This corresponds to
patient.DateTStamp."
    },
    {
        "name": "includePhoto",
        "type": "token",
        "documentation": "Custom search parameter. To reduce
bandwidth, the Patient.photo element is excluded by default. To have the
photo included, this parameter must be included with a value of 'true'."
    },
    {
        "name": "phoneNumberMatch",
        "type": "string",
        "documentation": "Custom search parameter. This parameter
can be used to search for patients whose phone number is a partial match.
Any non-digit characters are ignored both in the parameter value and in
the database value."
    }
]
},
{
    "type": "Practitioner",
    "interaction": [
        {
            "code": "read"
        },
        {
            "code": "search-type"
        }
    ],
    "versioning": "no-version",
    "readHistory": false,
    "updateCreate": false,
    "conditionalCreate": false,
    "conditionalUpdate": false,
    "conditionalDelete": "not-supported",
```

## Open Dental FHIR Specification

```
    "searchParam": [
      {
        "name": "family",
        "type": "string",
        "documentation": "The practitioner's family (last) name.
Corresponds to provider.LName."
      },
      {
        "name": "given",
        "type": "string",
        "documentation": "The practitioner's given (first or
middle) name. Corresponds to provider.FName or provider.MI."
      },
      {
        "name": "identifier",
        "type": "string",
        "documentation": "The logical id of the practitioner. This
is the same value as provider.ProvNum."
      },
      {
        "name": "name",
        "type": "string",
        "documentation": "The practitioner's name. Corresponds to a
portion of provider.FName, provider.MI, or patient.provider."
      },
      {
        "name": "role",
        "type": "token",
        "documentation": "The provider's role in the practice. The
parameter values supported are 'provider' and 'hygienist'. The former
corresponds to provider.IsSecondary=0 and the latter corresponds to
provider.IsSecondary=1."
      },
      {
        "name": "specialty",
        "type": "string",
        "documentation": "The provider's specialty. These parameter
values are the values set up within Open Dental as provider specialties."
      }
    ]
  },
  {
    "type": "Schedule",
    "interaction": [
      {
        "code": "read"
      }
    ]
  }
]
```

## Open Dental FHIR Specification

```
    },
    {
      "code": "search-type"
    }
  ],
  "versioning": "no-version",
  "readHistory": false,
  "updateCreate": false,
  "conditionalCreate": false,
  "conditionalUpdate": false,
  "conditionalDelete": "not-supported",
  "searchParam": [
    {
      "name": "actor",
      "type": "reference",
      "documentation": "The actor on the Schedule.",
      "target": [
        "Location",
        "Practitioner"
      ]
    },
    {
      "name": "date",
      "type": "date",
      "documentation": "The date of the schedule. Unless an
identifier parameter is included, the dates being searched must be a
finite date range."
    },
    {
      "name": "identifier",
      "type": "string",
      "documentation": "The logical id of the practitioner."
    }
  ]
},
{
  "type": "Slot",
  "interaction": [
    {
      "code": "read"
    },
    {
      "code": "search-type"
    }
  ]
},
"versioning": "no-version",
```

## Open Dental FHIR Specification

```
    "readHistory": false,
    "updateCreate": false,
    "conditionalCreate": false,
    "conditionalUpdate": false,
    "conditionalDelete": "not-supported",
    "searchParam": [
      {
        "name": "fb-type",
        "type": "token",
        "documentation": "The free/busy status of the appointment.
The code system must be http://hl7.org/fhir/ValueSet/slotstatus"
      },
      {
        "name": "identifier",
        "type": "string",
        "documentation": "A Slot Identifier. The logical id of the
Slot. A parameter of either 'identifier' or 'schedule' must be included."
      },
      {
        "name": "schedule",
        "type": "reference",
        "documentation": "The Schedule Resource that we are seeking
a slot within. A parameter of either 'identifier' or 'schedule' must be
included.",
        "target": [
          "Schedule"
        ]
      },
      {
        "name": "start",
        "type": "date",
        "documentation": "The start time of the slot."
      }
    ]
  },
  {
    "type": "Subscription",
    "interaction": [
      {
        "code": "read"
      },
      {
        "code": "create"
      },
      {
        "code": "update"
      }
    ]
  }
]
```

## Open Dental FHIR Specification

```
    },
    {
      "code": "delete"
    },
    {
      "code": "search-type"
    }
  ],
  "versioning": "no-version",
  "readHistory": false,
  "updateCreate": false,
  "conditionalCreate": false,
  "conditionalUpdate": false,
  "conditionalDelete": "not-supported",
  "searchParam": [
    {
      "name": "contact",
      "type": "string",
      "documentation": "The value for a contact field for the
Subscription."
    },
    {
      "name": "criteria",
      "type": "string",
      "documentation": "Rule for server push criteria."
    },
    {
      "name": "payload",
      "type": "string",
      "documentation": "\tMimetype to send, or blank for no
payload."
    },
    {
      "name": "status",
      "type": "token",
      "documentation": "The status of the Subscription. System
must be http://hl7.org/fhir/ValueSet/subscription-status"
    },
    {
      "name": "type",
      "type": "token",
      "documentation": "The type of the Subscription channel.
System must be http://hl7.org/fhir/ValueSet/subscription-channel-type"
    },
    {
      "name": "url",
```

## Open Dental FHIR Specification

```
        "type": "uri",
        "documentation": "The endpoint of the Subscription
channel."
      },
      {
        "name": "identifier",
        "type": "string",
        "documentation": "The logical id of the practitioner."
      }
    ]
  },
  "interaction": [
    {
      "code": "search-system"
    }
  ],
  "searchParam": [
    {
      "name": "_id",
      "type": "string",
      "documentation": "The logical id of the resource."
    }
  ]
},
{id": "open-dental-conformance"
}
```