

Patient Study Calendar RESTful API

The REST API allows you to programmatically create and update templates, schedules, and activities using PSC's XML format and the standard HTTP protocol. For more information about the resource-oriented model, see [Wikipedia](#) (don't miss the list of links at the end of the article). The book [RESTful Web Services](#) also provides an excellent introduction.

The current machine readable (WADL) description of the API for this PSC instance will always be accessible from <http://localhost:8080/studycalendar/api/v1/docs/psc.wadl>.

The human readable version of that description will be visible at <http://localhost:8080/studycalendar/api/v1/docs>.

- [Resources](#)
 - <http://localhost:8080/studycalendar/api/v1/studies>
 - <http://localhost:8080/studycalendar/api/v1/studies/{study-identifier}/template>
 - <http://localhost:8080/studycalendar/api/v1/studies/{study-identifier}/template/{amendment-identifier}>
 - <http://localhost:8080/studycalendar/api/v1/studies/{study-identifier}/template/amendments/{amendment-identifier}>
 - <http://localhost:8080/studycalendar/api/v1/studies/{study-identifier}/sites/{site-identifier}>
 - <http://localhost:8080/studycalendar/api/v1/studies/{study-identifier}/sites/{site-identifier}/subject-assignments>
 - <http://localhost:8080/studycalendar/api/v1/studies/{study-identifier}/sites/{site-identifier}/approvals>
 - <http://localhost:8080/studycalendar/api/v1/studies/{study-identifier}/schedules/{assignment-identifier}>
 - <http://localhost:8080/studycalendar/api/v1/studies/{study-identifier}/schedules/{assignment-identifier}/activities/{year}/{month}/{day}>
 - <http://localhost:8080/studycalendar/api/v1/studies/{study-identifier}/schedules/{assignment-identifier}/activities/{scheduled-activity-identifier}>
 - <http://localhost:8080/studycalendar/api/v1/activities>
 - <http://localhost:8080/studycalendar/api/v1/activities/{activity-source-name}>
 - <http://localhost:8080/studycalendar/api/v1/activities/{activity-source-name}/{activity-code}>
 - <http://localhost:8080/studycalendar/api/v1/sites>
 - <http://localhost:8080/studycalendar/api/v1/sites/{site-identifier}>
 - <http://localhost:8080/studycalendar/api/v1/sites/{site-identifier}/blackout-dates>
 - <http://localhost:8080/studycalendar/api/v1/sites/{site-identifier}/blackout-dates/{blackout-date}>

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 - [text/xml \(psc:site\)](#)
 - [text/xml \(psc:blackout-dates\)](#)
 - [text/xml \(psc:blackout-date\)](#)

Resources

/studies

All the studies in the system.

Methods

GET

available response representations:

- [text/xml \(psc:studies\)](#)

/studies/{study-identifier}/template

A full study template.

resource-wide template parameters

parameter	value	description
study-identifier		The assigned protocol identifier for the study.

Methods

GET

Returns the template for the study, decomposed into amendments.

available response representations:

- [text/xml \(psc:study\)](#)

PUT

Creates the study if it does not exist, using the entity provided in the request. If the study does exist, the development amendment may be updated using this method, but nothing else. (Released amendments will not be modified.)

acceptable request representations:

- [text/xml \(psc:study\)](#)

available response representations:

- [text/xml \(psc:study\)](#)

/studies/{study-identifier}/template/{amendment-identifier}

A realized template, containing all epochs, study segments, etc., as it existed at a particular amendment.

resource-wide template parameters

parameter	value	description
study-identifier		The assigned protocol identifier for the study.
amendment-identifier		The natural key for the amendment. The format is yyyy-mm-dd[~name]. E.g., for an amendment with date March 9, 2015 and no name, the natural key is 2015-03-09. For an amendment with date April 1, 2001, and named "justkidding", the natural key would be 2001-04-01~justkidding. The name portion may be omitted if so long as omitting it does not cause ambiguity.

Methods

GET

Retrieve the realized template as it existed for the given amendment.

available response representations:

- [text/xml \(psc:planned-calendar\)](#)

/studies/{study-identifier}/template/amendments/{amendment-identifier}

A single amendment.

resource-wide template parameters

parameter	value	description
study-identifier		The assigned protocol identifier for the study.
amendment-identifier		The natural key for the amendment. The format is yyyy-mm-dd[~name]. E.g., for an amendment with date March 9, 2015 and no name, the natural key is 2015-03-09. For an amendment with date April 1, 2001, and named "justkidding", the natural key would be 2001-04-01~justkidding. The name portion may be omitted if so long as omitting it does not cause ambiguity.

Methods

GET

Get the amendment alone.

available response representations:

- [text/xml \(psc:amendment\)](#)

PUT

Create the amendment (if the study doesn't already have a development amendment) or update the amendment (if it is the current development amendment).

acceptable request representations:

- [text/xml \(psc:amendment\)](#)

available response representations:

- [text/xml \(psc:amendment\)](#)

DELETE

Delete the amendment, if and only if it isn't released.

/studies/{study-identifier}/sites/{site-identifier}

The link between a study and a site.

resource-wide template parameters

parameter	value	description
study-identifier		The assigned protocol identifier for the study.
site-identifier		The assigned identifier for the site. If none was specified when the site was created, the default is the site's name.

Methods

GET

If successful, the link exists. Otherwise it doesn't.

available response representations:

- [text/xml \(psc:study-site-link\)](#)

PUT

Associate the site and the study.

acceptable request representations:

- [text/xml \(psc:study-site-link\)](#)

DELETE

Unassociate the site and the study. Only possible if there are no subjects on the study from the site.

/studies/{study-identifier}/sites/{site-identifier}/subject-assignments

The collection of subjects on the study at the named site.

resource-wide template parameters

parameter	value	description
study-identifier		The assigned protocol identifier for the study.
site-identifier		The assigned identifier for the site. If none was specified when the site was created, the default is the site's name.

Methods

GET

available response representations:

- [text/xml \(psc:subject-assignments\)](#)

POST

Accepts a document describing the registration information for a subject (including the subject information) and assigns the subject to the the study.

acceptable request representations:

- [text/xml \(psc:registration\)](#)

/studies/{study-identifier}/sites/{site-identifier}/approvals

The history of approvals for the amendments of a study at a site.

resource-wide template parameters

parameter	value	description
study-identifier		The assigned protocol identifier for the study.
site-identifier		The assigned identifier for the site. If none was specified when the site was created, the default is the site's name.

Methods**GET**

available response representations:

- [text/xml \(psc:approvals\)](#)

POST

Accepts a document naming the amendment and the approval date in order to mark an amendment approved. This process is not reversible.

acceptable request representations:

- [text/xml \(psc:approval\)](#)

/studies/{study-identifier}/schedules/{assignment-identifier}

The schedule for a single subject

resource-wide template parameters

parameter	value	description
study-identifier		The assigned protocol identifier for the study
assignment-identifier		A shared identifier for the subject's schedule. You can specify the identifier to use when registering the subject (it's an optional attribute in the <code>registration</code> element), or you can use a random one that PSC provides. In either case, you can find the valid assignment identifiers with a GET to <code>studies/{study-identifier}/sites/{site-name}/subject-assignments</code> .

Methods**GET**

Retrieve the full schedule for the assignment.

available response representations:

- [text/xml \(psc:schedule\)](#)

POST

Accepts a document describing a scheduled study segment and adds it to the subject's schedule. Any activities included in the POSTed scheduled segment will be ignored (i.e., only activities from the study template will be scheduled using this method).

acceptable request representations:

- [text/xml \(psc:scheduled-study-segment\)](#)

/studies/{study-identifier}/schedules/{assignment-identifier}/activities/{year}/{month}/{day}

A list of activities for the selected day.

resource-wide template parameters

parameter	value	description
study-identifier		The assigned protocol identifier for the study
assignment-identifier		A shared identifier for the subject's schedule. You can specify the identifier to use when registering the subject (it's an optional attribute in the <code>registration</code> element), or you can use a random one that PSC provides. In either case, you can find the valid assignment identifiers with a GET to <code>studies/{study-identifier}/sites/{site-name}/subject-assignments</code> .
year		
month		
day		

Methods

GET

available response representations:

- [text/xml \(psc:scheduled-activities\)](#)

/studies/{study-identifier}/schedules/{assignment-identifier}/activities/{scheduled-activity-identifier}

A single scheduled activity.

resource-wide template parameters

parameter	value	description
study-identifier		The assigned protocol identifier for the study
assignment-identifier		A shared identifier for the subject's schedule. You can specify the identifier to use when registering the subject (it's an optional attribute in the <code>registration</code> element), or you can use a random one that PSC provides. In either case, you can find the valid

scheduled-activity-identifier

assignment identifiers with a GET to `studies/{study-identifier}/sites/{site-name}/subject-assignments`.

PSC's generated identifier for the scheduled activity. You can use `studies/{study-identifier}/schedules/{assignment-identifier}` or `studies/{study-identifier}/schedules/{assignment-identifier}/{year}/{month}/{day}` to find valid values.

Methods**GET**

Returns the details for the scheduled activity, including the source planned activity and its modification history.

available response representations:

- [text/xml \(psc:scheduled-activity\)](#)

POST

Accepts a new scheduled activity state (date, status, and reason) to update the scheduled activity.

acceptable request representations:

- [text/xml \(psc:scheduled-activity-state\)](#)

/activities

All of the activity sources in the system.

Methods**GET**

available response representations:

- [text/xml \(psc:sources\)](#)

/activities/{activity-source-name}

An activity source.

resource-wide template parameters

parameter	value	description
activity-source-name		

Methods**GET**

Returns a list of the activities in the source.

available response representations:

- [text/xml \(psc:source\)](#)

PUT

Create or update the named source. Note that this will not allow you to remove activities if they are in any existing templates.

acceptable request representations:

- [text/xml \(psc:source\)](#)

available response representations:

- [text/xml \(psc:source\)](#)

/activities/{activity-source-name}/{activity-code}

A single activity.

resource-wide template parameters

parameter	value	description
activity-source-name		
activity-code		

Methods

GET

available response representations:

- [text/xml \(psc:activity\)](#)

PUT

Create or update the activity.

acceptable request representations:

- [text/xml \(psc:activity\)](#)

available response representations:

- [text/xml \(psc:activity\)](#)

DELETE

Delete the named activity. Note that this will fail if the activity is in use in any template.

/sites

A list of the sites in the system.

Methods

GET

available response representations:

- [text/xml \(psc:sites\)](#)

/sites/{site-identifier}

A single site.

resource-wide template parameters

parameter	value	description
site-identifier		The assigned identifier for the site. If none was specified when the site was created, the default is the site's name.

Methods

GET

available response representations:

- [text/xml \(psc:site\)](#)

PUT

Create or update the site.

acceptable request representations:

- [text/xml \(psc:site\)](#)

DELETE

Delete the site, but only if there are no assignments.

/sites/{site-identifier}/blackout-dates

The blackout dates for the selected site.

resource-wide template parameters

parameter	value	description
site-identifier		The assigned identifier for the site. If none was specified when the site was created, the default is the site's name.

Methods

GET

available response representations:

- [text/xml \(psc:blackout-dates\)](#)

POST

Add another blackout date to this site.

acceptable request representations:

- [text/xml \(psc:blackout-date\)](#)

/sites/{site-identifier}/blackout-dates/{blackout-date-identifier}

A single blackout date

resource-wide template parameters

parameter	value	description
site-identifier		The assigned identifier for the site. If none was specified when the site was created, the default is the site's name.
blackout-date-identifier		The generated identifier for the blackout date.

Methods

DELETE

Delete the blackout date.

Representations

text/xml (psc:studies)

XML Schema

Source: <http://localhost:8080/studycalendar/api/v1/docs/psc.xsd>

```

<xsd:element name="studies">
  <xsd:annotation>
    <xsd:documentation>
      A collection of study elements. Generally, none of the elements that may be
      embedded in a study will occur in the elements nested in studies.
    </xsd:documentation>
  </xsd:annotation>
  <xsd:complexType>
    <xsd:sequence>
      <xsd:element ref="psc:study" />
    </xsd:sequence>
  </xsd:complexType>
</xsd:element>

```

text/xml (psc:study)

XML Schema

Source: <http://localhost:8080/studycalendar/api/v1/docs/psc.xsd>

```
<xsd:element name="study" type="psc:Study"/>
```

text/xml (psc:planned-calendar)

XML Schema

Source: <http://localhost:8080/studycalendar/api/v1/docs/psc.xsd>

```
<xsd:element name="planned-calendar" type="psc:PlannedCalendar"/>
```

text/xml (psc:amendment)

XML Schema

Source: <http://localhost:8080/studycalendar/api/v1/docs/psc.xsd>

```
<xsd:element name="amendment" type="psc:Amendment"/>
```

text/xml (psc:study-site-link)

XML Schema

Source:

text/xml (psc:subject-assignments)

XML Schema

Source:

text/xml (psc:registration)

XML Schema

Source:

text/xml (psc:approvals)

XML Schema

Source:

text/xml (psc:approval)

XML Schema

Source:

text/xml (psc:schedule)

XML Schema

Source:

text/xml (psc:scheduled-study-segment)

XML Schema

Source:

text/xml (psc:scheduled-activities)

XML Schema

Source:

text/xml (psc:scheduled-activity)

XML Schema

Source:

text/xml (psc:scheduled-activity-state)

XML Schema

Source:

text/xml (psc:sources)

XML Schema

Source: <http://localhost:8080/studycalendar/api/v1/docs/psc.xsd>

```
<xsd:element name="sources" type="psc:Sources"/>
```

text/xml (psc:source)

XML Schema

Source: <http://localhost:8080/studycalendar/api/v1/docs/psc.xsd>

```
<xsd:element name="source" type="psc:Source" maxOccurs="unbounded"/>
```

text/xml (psc:activity)

XML Schema

Source: <http://localhost:8080/studycalendar/api/v1/docs/psc.xsd>

```
<xsd:element name="activity" type="psc:Activity"/><xsd:element name="activity" type="psc:Activity"/>
```

text/xml (psc:sites)

XML Schema

Source:

text/xml (psc:site)

XML Schema

Source:

text/xml (psc:blackout-dates)

XML Schema

Source:

text/xml (psc:blackout-date)

XML Schema

Source: