

Web Services

and their benefits to Central Cancer Registries

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Definitions

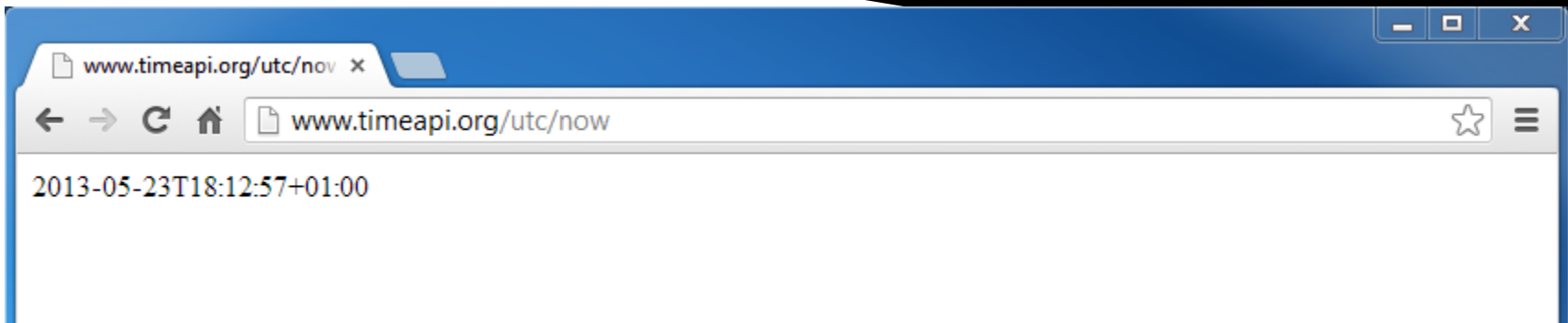
- **From Wikipedia:**

A web service is a method of communication between two electronic devices over the World Wide Web.

- **Less formally:**

A web address (URL) that can be called from software to get shared data or computation results.

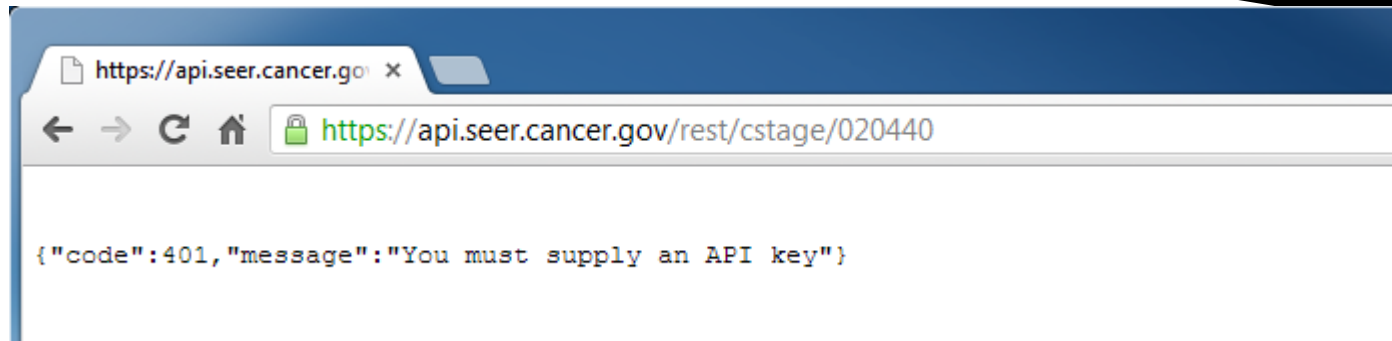
Example 1: Online Time Services



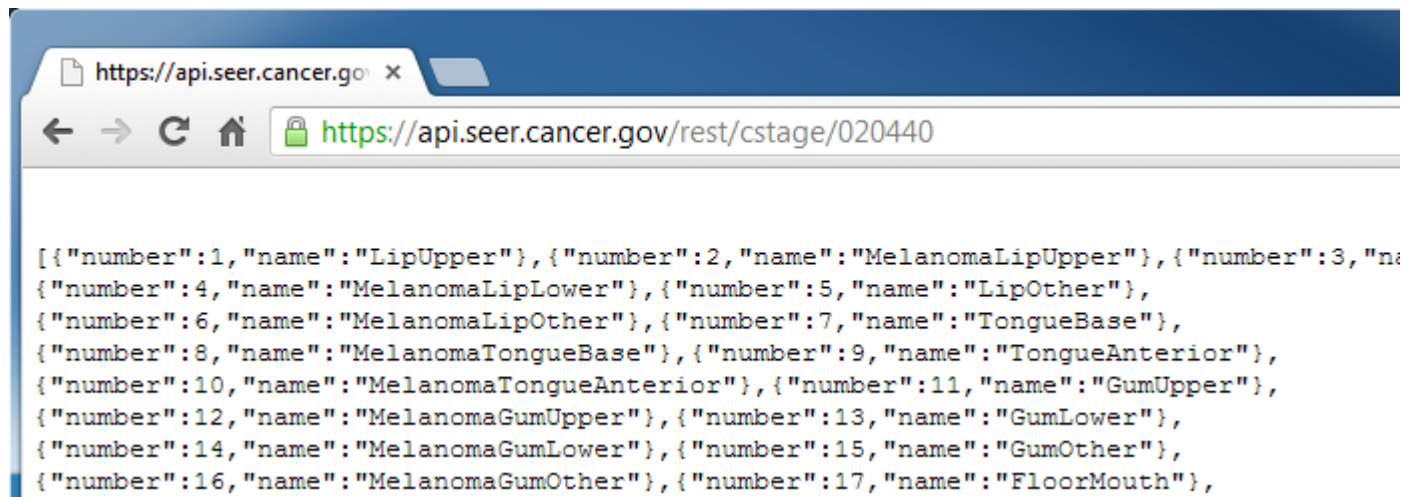
- Returns the current time
- Publicly available (no security required).
- Can be accessed using a web browser, but it's not the main purpose.
- The call returns a value that can be use in other **software**.

Example 2: SEER API

SEER API is a secure Web Service:



After providing my key:



Example 2: SEER API (cont)

The SEER*CS Test Web Site is an example of software using the SEER API

The screenshot shows a web browser window with the address bar displaying `seer.cancer.gov/seertools/cstest/`. The page header features the National Cancer Institute logo and the text "National Cancer Institute" and "U.S. National Institutes of Health | www.cancer.gov". Below the header, the SEER*CS Test logo is displayed, along with the version number "Version 02.04.40".

The main content area includes a navigation link "<< Collaborative Staging Home" and a link "Questions? Ask a SEER Registrar". A paragraph explains the purpose of the site: "Use the SEER CS Case Analysis Web Site to derive Collaborative Stage and SEER Summary Stage values for individual cases. You may enter cases, calculate values for CSv2 and SEER Summary Stage fields, and view the tables and logic used in the CSv2 algorithms."

Under the heading "For more information:", there are two bullet points:

- Submit CSv2 coding questions to the [CAnswer Forum](#). If your question relates to a specific case, please include the link provided when you staged your case.
- Visit the [Collaborative Stage Data Collection System web site](#).

The "Schema Selection" section contains input fields for "Site" (C700), "Histology" (8000), and "Behavior" (3), each with a lightbulb icon. Below these fields are "Find Schema" and "Reset" buttons.

The "Brain - Brain and Cerebral Meninges" section has a "Show Notes" dropdown menu. At the bottom of the page, there are input fields for "Grade", "Diag. Year", "CS Version Original", "Tumor Size", "Extension", and "Ext Eval", each with a lightbulb icon.

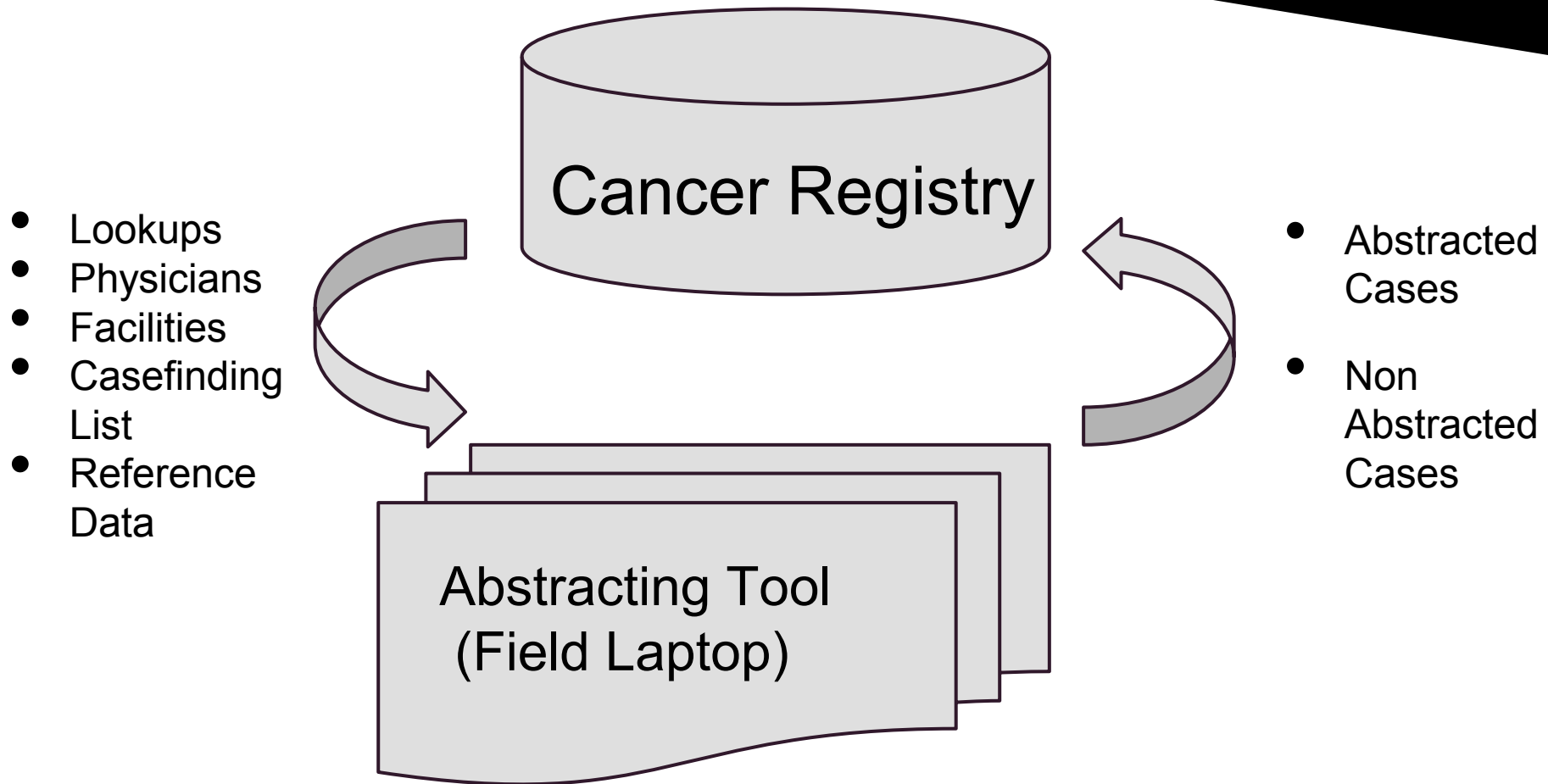
Pros and Cons of Web Services

- Pros:
 - Fully integrated component of any software
 - Increased security - controlled by the system instead of the users
 - Reduces file creation and storage
 - Allows better data tracking
 - Can start with simple services and build more complex ones over time
- Cons:
 - Requires advanced IT skills to put in place

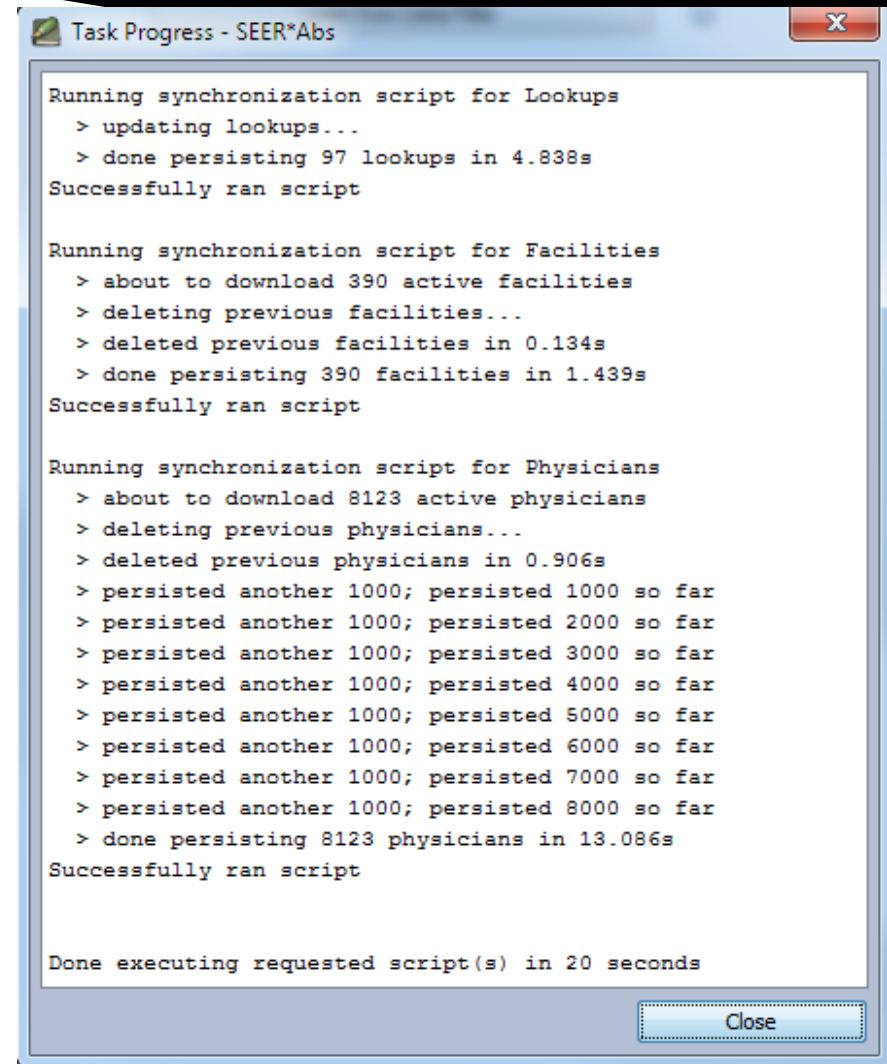
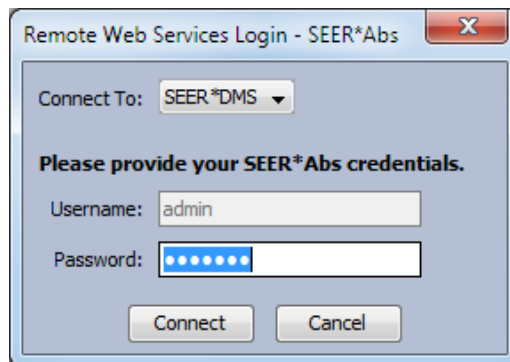
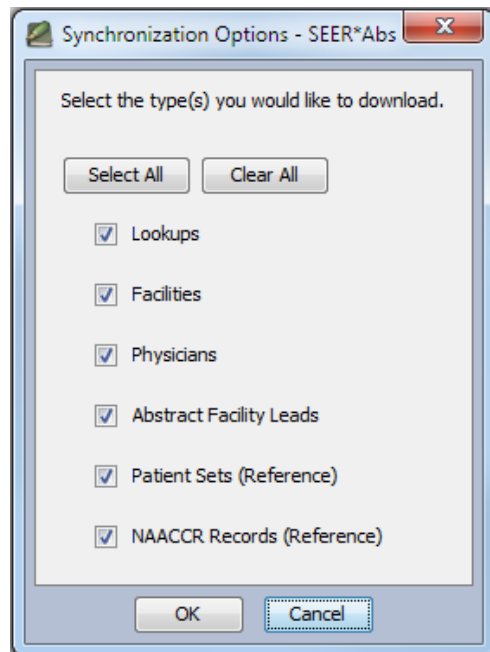
Security

- Essential for any cancer registry.
- Secured Web Services can be implemented by the service providers
--> improved security because user's responsibility is reduced.
- The technology offers many ways of adding secured services.
- Web Services allow call tracking, which is a big aspect of secured services.

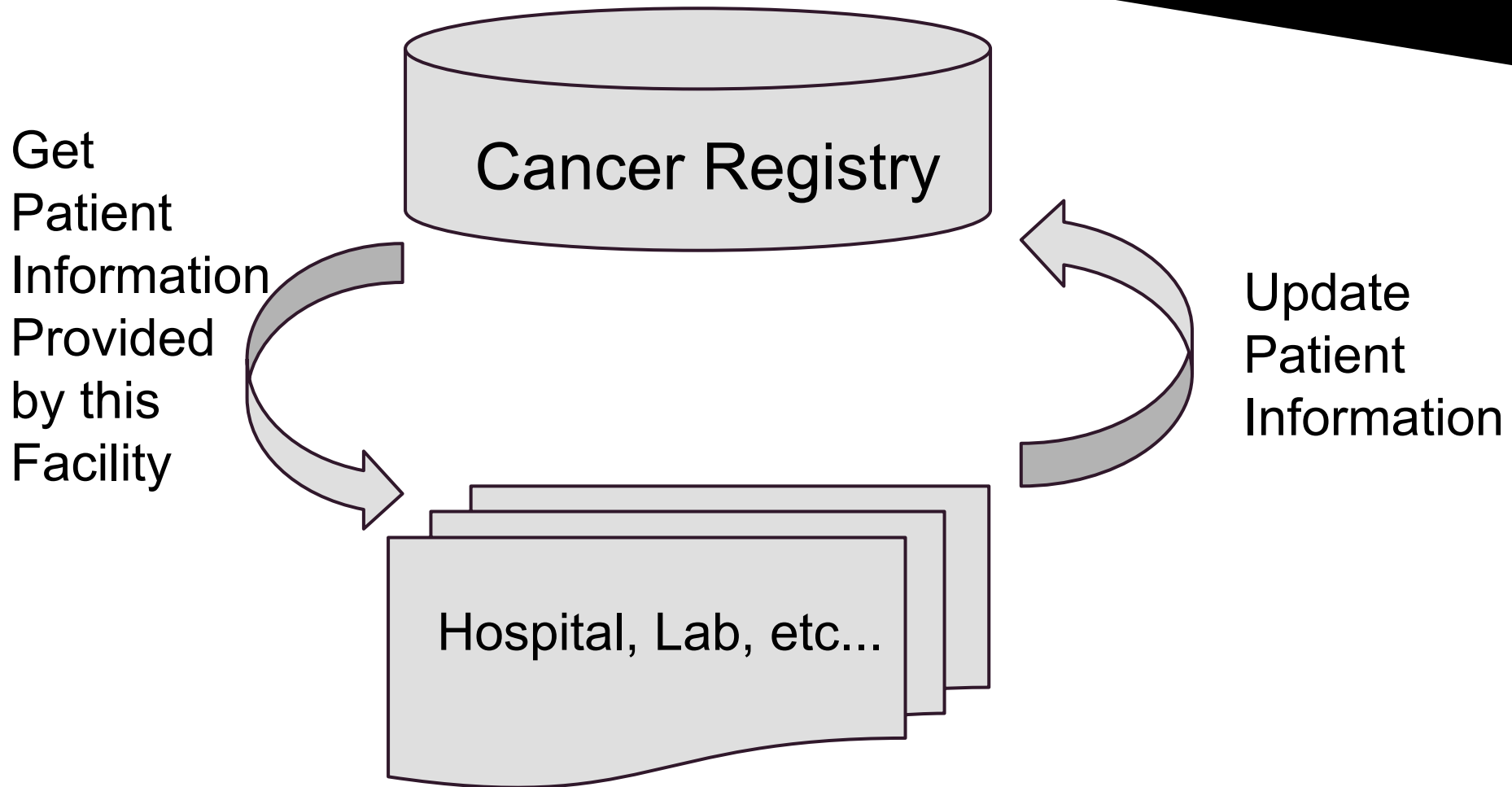
Use Case 1: Abstracting Tools



Abstracting Tools (cont)



Use Case 2: Hospital Tools



Hospital Tools (cont)

LOUISIANA TUMOR REGISTRY DATA MANAGEMENT SYSTEM Welcome **bmumph**! [Manage Site](#) or [Logout](#)

[Home](#) [Patient Search](#)

Last Name First Name

Birth Date - - SSN

| | Display_id | Last Name | First Name | Social Security Number | Birthdate | Sex | Race | Last Contact | Vital Status |
|------------------------|--------------|-----------|------------|------------------------|------------|-----|------|--------------|--------------|
| Select | PAT-00353037 | DUCK | DAFFY | 999999874 | 99/99/1902 | 2 | 01 | 8/21/1993 | Dead |
| Select | PAT-00360726 | DUCK | DAISY | 987654321 | 99/99/1952 | 2 | 01 | 11/4/2008 | Alive |
| Select | PAT-20060687 | DUCK | DONALD | 123456789 | 99/99/1985 | 2 | 01 | 3/1/2012 | Alive |

SEER*DMS Web Services

SEER*DMS HTR v14.0

User: depryf

Lookup:



Account | Logoff

REST API

View ▾

Manage ▾

Tools ▾

System ▾

Help ▾

Introduction

Contact

GET api/contact/displayId/:displayId

GET api/contact/filters

GET api/contact/id/:id

GET api/contact/search

Data Search

GET api/datasearch

GET api/datasearch/id/:id

Facility

GET api/facility/displayId/:displayId

GET api/facility/filters

GET api/facility/id/:id

GET api/facility/search

Lookup

GET api/lookup

GET api/lookup/id/:id

Patient

GET api/patient/displayId/:displayId

GET api/patient/filters

GET api/patient/id/:id

GET api/patient/search

Record

Privacy unencrypted HTTP is not supported.

A key is used to identify and authenticate a user. This key acts as a password to your data, so be sure to keep it private.

When using the API then the API key must be attached to each request. The following examples are implemented using a command-line tool that returns both the headers that are returned as well as the data.

```
curl -X GET https://URL
```

For success or failure. Codes are returned using standard HTTP error code syntax. It is important to check the status code of every API request.

Description

DELETE request)

(st)

incorrectly or problem processing request input

(including authentication credentials)

request was denied due to rate limiting

includes the request path/resource

(to a URL that responds only to GET)

Accept header specified by the client)

Example

One of the strengths of REST-style web services is that they are both platform and language agnostic. As long as a programming language can make standard HTTP calls and parse the results then they have all they need to access the web service.

SEER*DMS Web Services (cont)

SEER*DMS HTR v14.0

User: depryf

Lookup:



Account | Logoff

REST API

View ▾

Manage ▾

Tools ▾

System ▾

Help ▾

GET api/facility/search

Return a list of Facilities based on various criteria.

URL Format

https://seerdms-hi-dev.imsweb.com/seerdms_hi/api/facility/search

Permission

api_facility_read

Parameters

| Parameter | Description | Required | Type | Default Value | Example Value |
|------------|---|----------|----------|---------------|---------------------------------|
| id | Facility Filter ID. If no id is provided, it will return all the facilities. | no | String | | <input type="text"/> |
| activeOnly | Pass ' true ' to only return active facilities, and ' false ' for inactive facilities | no | Boolean | | <input type="text"/> |
| depth | Level of detail to return: IDS - Only includes facility id, display id and name ALL - All Facility information | no | String | IDS | <input type="text"/> |
| ignore | List of properties which will not be returned with the Facility. This parameter can be supplied multiple times to specify a list of properties. The help interface will automatically split on commas and supply multiple parameters. | no | [String] | | <input type="text"/> |
| start | Index of the first result. | no | Integer | 1 | <input type="text"/> |
| count | Maximum number of Facilities to return per API call. If specified, value must be between 1 to 100. | no | Integer | 100 | <input type="text" value="10"/> |

Run

Conclusion

For transferring data, Web Services beat
of the traditional methods:

- They can be seamlessly added to an existing Central Registry's software
- They offer more security and tracking options

If your registry doesn't currently provide Web Services, ask your IT staff to look into it 😊