

# Excel tools for ginas

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FEBRUARY 7, 2018

# Overview

Why we  
have  
these  
tools



What  
you can  
do with  
them



Organizati  
on of the  
tools



Live  
demo



Where  
we are  
going  
next



# Why we have these tools

ginas provides interactive data entry in the web application

Fine for a handful of records or data that requires a lot user attention

Suppose you have a lot of data to load

100 records to which you want to add a new synonym?

30 substances have relationships to other substances

2000 records whose code URLs have changed formats?

Ginas bulk data loading tools provide a solution



# What you can do with the tools

Load data from a spreadsheet into ginas

Retrieve data from ginas into a sheet





# Data loading tasks (examples)

Add names to existing substances

Add codes to existing substances

Create relationships between substances

Substitute codes

- Changed code values

- Changed URLs

Replace Substance name

- Supply an existing name to be located and a new name to take its place

Create brand new substances

*And more...*

# Data retrieval options (some)

Names

System identifiers

Anatomical Therapeutic Chemical (ATC) classification codes

Structure (molfile, SMILES, InChi...)

Protein sequence

...



# Basics provided by the code

*These are the base operations provided within the JavaScript and used by Script developers to provide functionality for user*

Locate a substance by name, UUID, or CAS

Manipulate top-level properties

Iterate through its collections

- ▶ Names
- ▶ Codes
- ▶ Relationships
- ▶ Properties
- ▶ References
- ▶ ...

Add/remove items from collections

# Organization of the tools



# Major components

Application programming interface (API) on the server

Microsoft Excel on the client

Web page mock-up

Visual Basic for Applications (VBA) macros

# Ginas API

As many software systems, ginas has an Application Programming Interface to allow outside programs to access key functionality

A RESTful web service

Ginas API provides search, retrieval and update of a substance

Swagger page with API information:

<https://tripod.nih.gov/ginas/#/gsrs/api>



# Reasons for client architecture

Single sign-on

MS Excel as data entry 'client'

VBA webbrowser control

- Mimics a browser for access to web data

- Older JavaScript interpreter

- Tyler has done amazing work to make recent JavaScript functionality available within an older environment

# Top-level Client Components Contained within the sheets of a ginas Excel file

## Sheet with data

Configuration sheet

- ▶ Which server to use, etc.

HTML definition sheet

- ▶ Provides basic dialogs

JavaScript sheet

- ▶ Process data and send to server

Controlled vocabularies

VBA Macros

- ▶ Provide locate and invoke the JavaScript, passing values from spreadsheet.
- ▶ Add processing results back to the sheet





Live demonstration

# Where are we going next?

The tools have been used by a limited number of people, mostly at FDA

Do you have data to load into ginas?

Do you wish to use data from ginas in your Excel work?

Test out the ginas Excel tools!

- Provide feedback

- Participate in discussions of future directions



# Thank you for your attention!

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