

1 - Getting Started with calIntegrator

This chapter introduces general calIntegrator procedures and how to obtain help to use calIntegrator.

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About calIntegrator

NCI Center for Biomedical Informatics and Information Technology (CBIIT) is developing a novel translational informatics platform called calIntegrator that allows researchers and bioinformaticians to access and analyze subject annotation and experimental data across multiple subject annotation trials and studies. The calIntegrator framework provides a mechanism for integrating and aggregating biomedical research data and provides access to a variety of data types (for example, immunohistochemistry (IHC), microarray-based gene expression, SNPs, subject annotation trials data, imaging data, etc.) in a cohesive fashion.

calIntegrator is a web based or locally installed portal that allows researchers and study managers to access the biomedical informatics infrastructure and data analysis tools established by calIntegrator from one common software platform. As a calIntegrator user, you can perform the following tasks:

- Integrate subject annotation data with genomic and/or imaging data
- Import data of various types in a predefined flat format, and create new studies with multiple study data
- Update an existing study to add new attributes or to add/modify data
- Perform analyses on study data

Registering as a New calIntegrator User

To request a calIntegrator account, you must register as a new user, completing the following steps:

1. Go to the [CBIIT calIntegrator login page](#) or use the URL provided by your System Administrator for the calIntegrator instance at your institution.
2. Click the **Register Now** hypertext link, under the calIntegrator login section in the lower center of the page. This opens the account registration form.
3. Enter the appropriate information. Fields with an asterisk are required.

Security Information	Entry
Do you have an LDAP account?	An LDAP account is a user profile you may have with your institution or CBIIT. If you answer Yes, enter your username and password. This allows calIntegrator to verify that your credentials are correct. If calIntegrator does not validate your LDAP profile, you are asked to reenter your credentials. You can choose to answer No. In this case, the System Administrator will manually ensure that you do not get a duplicate LDAP account during provisioning. You can then cancel the action or talk with your System Administrator about the problem. If you select No (you do not have an LDAP account), the text boxes for entering the LDAP account information disappear. You must indicate the role you would like to be assigned in calIntegrator, and continue entering the appropriate information in the Account Details section.  Not logged in? After you submit your registration request, you can continue to use calIntegrator without an account to browse and search available data while your account is verified and activated.
Username	Enter your LDAP user name.
LDAP Password	Enter your password. Your password is case-sensitive.

Requested role(s)	Select one or more of the roles, described in this table:		
	Role	Description	Permissible Actions
	Study Manager	Creates, owns and manages studies	Configures and deploys studies Updates studies Adds or removes study data Performs analyses on study data Knows which data should be included in a study Knows which users should be given access to the data within a study
	Study Investigator	Investigates and queries study data	Queries study data Saves queries Analyzes using K-M Plot Analyzes using Gene Expression Plots Analyzes using GenePattern Cannot update a study Can see only data authorized by study manager
	UPT Admin	Has administrative privileges in UPT	Creates or deletes user groups

4. Enter your account details. Field names followed by asterisks are required.
5. Click **Submit Registration Request**. Click **Cancel** to terminate the registration. A Registration Request confirmation page appears if you submit the request.

The registration workflow continues as follows.

1. The caIntegrator system administrator receives an email containing all of the information you specified in the new user request form.
2. An account request confirmation email is also sent to you, the prospective user, at your specified email address.
3. The system administrator creates your user account and sends you an email verification.
4. You can log in to caIntegrator.



While your account is activated

Once you register, you can continue to use caIntegrator without an account to browse and search publicly available data and download data while your account is being activated.

When your account is registered, the UserID and password you are assigned determines your access rights for the data in the system. Access rights include roles for the application as well as instance level security; they are provisioned to your account by the system administrator.

For information about administering user accounts, see [7 - Administering User Accounts](#).

Welcome to the caIntegrator Workspace

The caIntegrator Welcome workspace enables quick access to all caIntegrator functions and information before and after you login, before you open any studies.

Logging In

- Without logging in, you can browse any public studies. To do so, select from the drop-down list of Public Studies in the upper center of your browser.
- Use the customary steps to log into caIntegrator. If your login is successful, the Welcome to Browse/Study page appears.



Single Sign-on (SSO).

If your local installation of caIntegrator is configured with single sign-on, when you click the login button, you are redirected to the single sign-on login page hosted by a separate SSO server. Once you enter your credentials there, you are logged into both caIntegrator and caArray. You can navigate between the two applications without being challenged to provide login credentials again.

- If SSO is not enabled, continue working in caIntegrator after you log-in as you always have done.
- If SSO is enabled, you might want to check for data updates in caArray upon user login. This is applicable only to studies that you have access to.

caIntegrator Functions

To access caIntegrator functions, use the options listed on the left sidebar of the workspace and described in the following table.

Sidebar Option	Function
[Study Name]	When you log in, one study displays in the left sidebar by default. Any study that you select in the My Studies drop-down list in the upper right of the page replaces this default selection.
Home	Click this to return to the home page for the selected study.
Search [Study Name]	Click this option to open the Search [Study Name] page from which you can launch queries into your selected study. For more information, see 4 - Searching a calIntegrator Study .
Study Data	Click Saved Queries > My Queries to open the list of previous queries you saved. Click any item in the list to open the saved query, which displays on the Criteria, Columns and Sorting tabs. From those tabs, you can modify criteria and/or launch the query again. For more information, see Saving a Query . Click Saved Lists > Global Lists or > My Lists to open gene lists that have been saved for a study. From any page in calIntegrator that shows such a group, you can save a such a list of genes to be used for searches or analyses. See Creating a Gene or Subject List . Click Saved Copy Number Analysis to open an Edit GISTIC Analysis page. You can review genes retrieved from the analysis or, with appropriate permissions, you can edit the metadata for the analysis. See Editing a GISTICAnalysis .
Analysis Tools	Click any of the listed options to open a page where you can launch an analysis of the data in the selected study. • Generate a K-M Plot. See Creating Kaplan-Meier Plots. • Generate a Gene Expression Plot. See Creating Gene Expression Plots. • Launch GenePattern Analysis. See Analyzing Data with GenePattern
Study Management	Click either of the listed options to manage the selected study through editing or deleting it or by creating a new study. • Click Manage Studies. See Managing a Study. • Click Create a New Study. See Creating or Editing a Study.
Application Management	Click Manage Platforms to identify, add or remove platforms that calIntegrator supports. For more information, see Managing Platforms .
calIntegrator Menu	• Click Support to view contact information for Application Support. • Click User Guide to open the calIntegrator User's Guide.
Help	Click the Help icon at the top of each page to open a context-sensitive topic. The help page displays information (from this user's guide) that corresponds to the page from which help was opened.

In the **My Studies** drop-down list in the upper right of the page, select the study you want to use for your current session. (The list includes all studies to which you are subscribed as well as public studies.) As you do so, the following left sidebar contents change to reflect options relevant to your study selection:

- the logo for the selected study (if it exists)
- the name for the selected study
- the list of saved queries and/or saved lists for that study

Viewing Existing Studies

- If you have not logged into calIntegrator, you can view any public studies in your browser.

- After logging in, you can view existing studies for which you have been granted permission as well as public studies. In the upper right corner of the page, in the My Studies drop down list, shown in the following figure, select the study you want to review or work in.



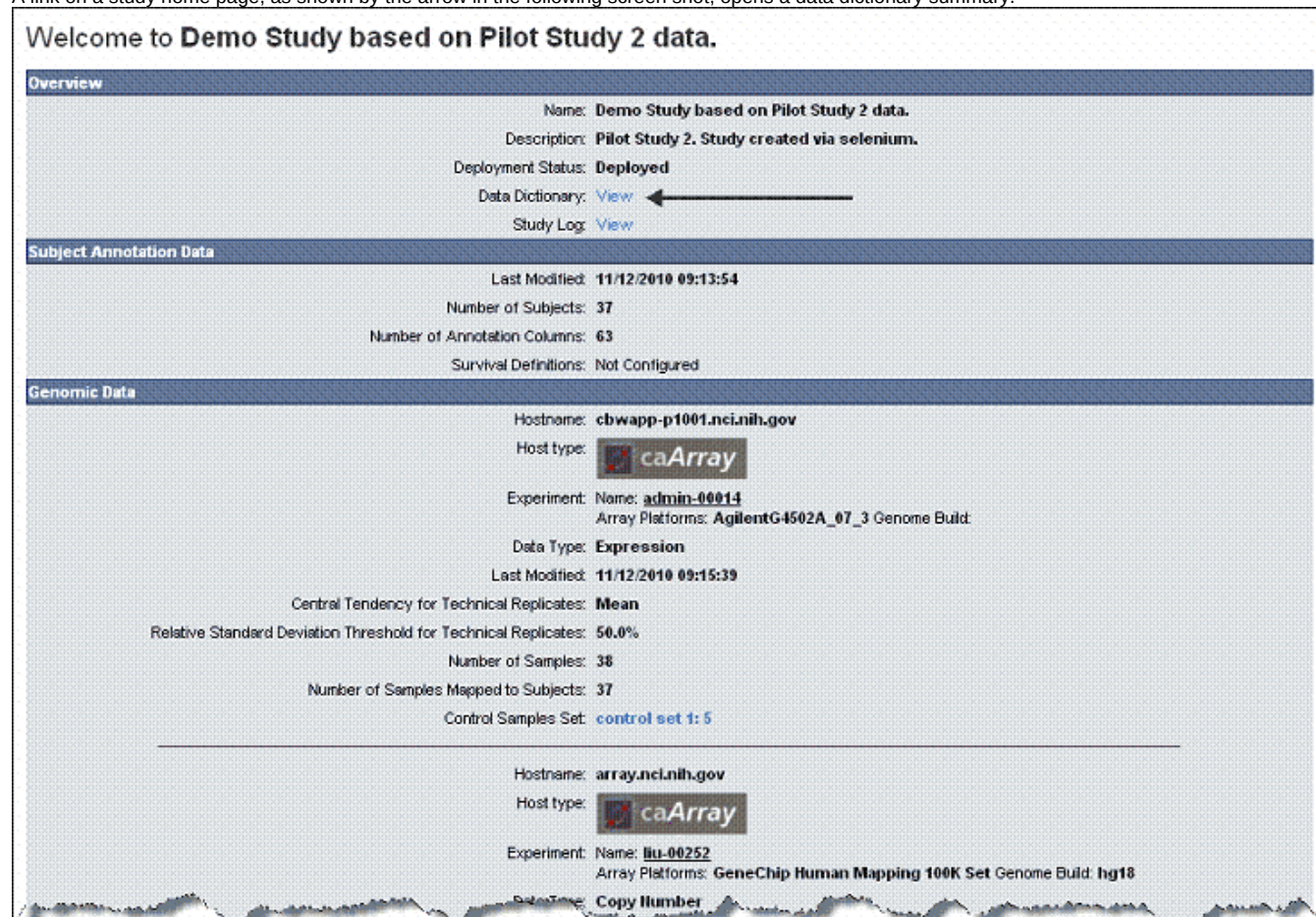
A study summary including a status field should appear for the study you selected. If the status is not deployed, or if the study summary does not appear, then the study is not deployed and available for analysis.

When annotations are uploaded during the creation of the study, each field is defined by the study manager.

- Because in looking at the study, you may not know the meaning of all the annotations, you can open a reference page with a summary of the annotations. Click the **Data Dictionary: View** link on the study home page, as described in the following section.
- From the study summary page, you can also open a log for the study. Click the **Study Log: View** link on the page to see all log entries with descriptions. See [Study Log](#) for more information.

Data Dictionary

A link on a study home page, as shown by the arrow in the following screen shot, opens a data dictionary summary.



The Data Dictionary table, shown in the following figure, clarifies all annotations used in the study. It displays their field descriptors, descriptions, caDSR identifiers (if used), caDSR IDs and definitions, data type, and permissible settings. The **Restrictions** column indicates whether or not masks have been applied to numeric data in the study. For more information, see [Assigning an Identifier or Annotation](#).

View Data Dictionary

Group Name: **Annotations - Default**

Description: **Default annotation group**

Annotation Field Descriptor	Source	Data Type	Description	caDSR ID	Permissible
Age	subject	string	Created via selenium for Rembrandt with NCRI on 12/03/09 09:09:08.		Show/Hide
Block ID	subject	string			Show/Hide
Class	subject	string			Show/Hide
Gender	subject	string	Created via selenium for Rembrandt with NCRI on 12/03/09 09:09:08.		Show/Hide
Grade	subject	string	Grade - created for Netherlands data.		Show/Hide
KRAS	subject	string			Show/Hide

For more information about study details, see [Creating or Editing a Study](#).

Study Log

The study log which you can open by clicking the **Study Log > View** link on the study summary page lists the steps used to create a study. For more information, see [Viewing or Editing a Log](#).

Logging Out

To log out of calIntegrator, click the **logout** link in the upper right-hand corner of the page.

Using calIntegrator Online Help

The calIntegrator online help is in user's guide format. It explains how to use all of the features of the calIntegrator portal.

 **Not logged in?**
You can open the user's guide without being logged into calIntegrator.

To access the user's guide in calIntegrator, click the **Help** icon/menu options available in the upper right corner of the user interface () and on the left sidebar under the **calIntegrator Menu** section. When you click the help icon, context sensitive topics relevant to the page open for your assistance.

Help and additional resource links remain fixed through all the user interface pages.