

The GNU Enterprise Application Server

Application Programmer's Interface
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1 Introduction

The first step is to create and set up an instance of the `geasSession` class, which has to be done at least once for each process. An application can also set up multiple sessions.

With the `geasSession` object, a `geasList` instance can be created to request a list of business object instances from the server. This `geasList` object, once set up, virtually holds a number of `geasInstance` objects, which represent the actual business objects.

The application can also create a new instance of any business object class, using the `geasSession.createInstance` method.

The `geasInstance` class provides means of altering the field values for the instance, deleting the instance, calling methods of the instance or get instances of other business object classes that are referred to by this instance.

2 The Session Object

2.1 Logging Into And Logging Out Of The Application Server

login (*user, password*) Method on `geasSession`
Logs into the server. This is the base for all subsequent operations.

logout Method on `geasSession`
Logs out of the server. No operations are allowed until `login` is called again.

loggedIn Instance Variable of `geasSession`
This read-only variable is set to `TRUE` if we are logged into the server, `FALSE` otherwise.

2.2 Retrieving Lists Of Business Objects

To retrieve a list of business objects of a given class, first a `geasList` object has to be created. This is, initially, an empty list that can later be filled with instances of the given class.

To populate the list with real instances, use the population methods of the `geasList` object.

createList (*class*) Method on `geasSession`
Creates an empty list that can hold `geasInstance` objects of the given class.

2.3 Transactions

Transactions take place at the session level. All operations that are performed within a session while a transaction is running are part of that transaction.

Nested transactions are not supported.

There is no explicit command to start a transaction. A transaction is started implicitly when an operation is performed and no transaction is already running.

Transactions can be ended via the `commit` and the `rollback` methods.

commit Method on `geasSession`
rollback Method on `geasSession`

3 The List Object

3.1 Populating The List

prefetch Instance Variable of `geasList`
 This list of strings holds the names of the *prefetch fields*. Once the `geasList` is populated, each defined field will be retrievable for every object in the list. However, retrieving fields that appear in the list of prefetch fields will be much faster.
 This variable must be set before calling the `populate` method.

conditions Instance Variable of `geasList`
 This list holds the conditions that have to be fulfilled. When the list is populated with the `populate` method, only instances that fulfill *all* of the conditions will be inserted into the list.
 The format in which the conditions are passed is to be defined.
 This variable must be set before calling the `populate` method.

sort Instance Variable of `geasList`
 This list of strings holds the names of the fields that should be used to sort the `geasList`.

populate Method on `geasList`
 Populates the list with all the objects that fulfill the conditions set in the `conditions` variable and orders them using the fields listed in the `sort` variable.
 If the list is not empty at the time this method is called, it is cleared before it is repopulated. If an uncommitted transaction is active at the moment, nothing is changed and an exception is raised.

3.2 Iterating Through The List

These methods are useful for iterating through the list.

firstInstance Method on `geasList`
 Returns the first `geasInstance` of the list.

nextInstance Method on `geasList`
 Returns the next `geasInstance` of the list.

3.3 Creating New Business Object Instances

insertNewInstance (*class*) Method on `geasList`
 Creates a new instance of a business object of the given class. Returns a `geasInstance` object that represents the newly created business object. This business object can be regarded persistent as soon as the current transaction is committed.

4 The Instance Object

4.1 Basic Operations

get (*fieldname*) Method on `geasInstance`
Returns the content of the given field. This can be a string, a number, an object of `geasInstance` class or an object of `geasList` class, depending on the type of the field.

put (*fieldname, value*) Method on `geasInstance`
Sets the given field of the business object to *value*. The datatype of *value* must be compatible with the type of the field, otherwise an exception will be raised.

call (*methodname*) Method on `geasInstance`
Calls a method of the business object.

4.2 Deleting Objects

delete Method on `geasInstance`
Deletes the business object. The business object is not longer persistent after the next commit.

5 The AuthAgent Object

5.1 Basic Operations

authenticate (*session, user, auth*) Method on AuthAgent
Authenticate the user *user* with the informations stored in the *auth* dictionary. The function returns 'true' on success.

hasAccess (*session, user, classname*) Method on AuthAgent
Return information if the user *user* has access to *classname*.

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