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Vtiger Webservices

This document describes the rest based apis published by Vtiger. The is meant as a reference document for consumers of the apis and not as a tutorial, which is provided as a separate document. We recommend that you go through the tutorial before you attempt reading this document.

All structural data including response from the api is represented as Json strings.

We use a specially formatted *id* that can by used to look up a module's type and invoke required methods. Create is the only case that does not require an id.

URL Format

```
webservice.php?operation=[operation type]
    &sessionName=[session id]
    &[operation specific parameters]
```

operation

We support the following operations, *getchallenge*, *login*, *create*, *retrieve*, *update*, *delete*, *sync*, *query*, *listtypes*, *describeobject* and *logout*.

sessionName

The key that is used to uniquely identify the current session. This should be sent to the server as part of each request.

Security

The webservices api supports the security model followed in the Vtiger web user interface.

The login process uses a two step challenge/response scheme.

Types used by the api

The Response Format

All responses will have the following format.

If the request is processed successfully,

```
Result{
    success:Boolean=true
    result:Object //The Result object
}
```

If there is a failure while processing the request,

```
Result{
```

```

    success:Boolean=false
    error:ErrorObject
}

ErrorObject{
    errorCode:String //String representation of the error type
    errorMessage:String
}

```

errorCode is a string representation of the error type.

Id

objectTypeId 'x' objectId

objectTypeId - Id of the object type. This is generated by looking up the module's name in the vtiger_tab table.

objectId - id of object in database. This is a globally unique id for objects based on crmid of the object stored in the vtiger_crmentity table.

TimeStamp

A long representation of the number of seconds since unix epoch.

VtigerObject

A Map representing the contents of a crmentity based object. All reference fields are represented using *Id*. A key called id of type *Id* represents the object's unique id. This field is present for any object fetched from the database.

Map

An associative array of key value pairs.

GetChallengeResult

An object representing the response of a getchallenge operation,

```

GetChallengeResult{
    token:String //Challenge token from the server.
    serverTime:TimeStamp //The current server time.
    expireTime:TimeStamp //The time when the token expires.
}

```

LoginResult

An object representing the response of a login operation,

```

LoginResult{
    sessionId:String //Unique Identifier for the session
}

```

```
    userId:String //The vtiger id for the logged in user
    version:String //The version of the webservice api
}
```

SyncResult

An object representing the response of a sync operation,

```
SyncResult{
    updated:[Object] //List of Objects created or modified.
    deleted:[Id] //List of *Id* of objects deleted.
    lastModifiedTime:Timestamp //time of the latest change.
}
```

Operations

Get Challenge

Get a challenge token from the server.

```
getchallenge(username:String):GetChallengeResult
```

username: A vtiger username

response: A GetChallengeResult object containing the server's challenge token.

Login

Login to the server.

```
login(username:String, accessKey:String):LoginResult
```

username: A Vtiger username.

accessKey: An md5 of the concatenation of the challenge token and the user's webservice access key.

response: A LoginResult object containing the session id, the api version id and the user id.

This must be a post request.

url format

```
webservice.php?operation=login
    &username=[username]
    &accessKey=[accessKey]
```

Create

Create a new entry on the server.

```
create(element:Map, elementType:String): VtigerObject
```

element: Fields of the object to populate. Values for mandatory fields must be provided.
elementType: The class name of the object.

This Must be a post request.

url format

```
webservice.php?operation=create  
    &sessionName=[session id]  
    &element=[object]  
    &elementType=[object type]
```

response: A VtigerObject instance representing the new object.

Retrieve

Retrieve an existing entry from the server.

```
retrieve(id: Id): VtigerObject
```

id: The *Id* of the object.

response: A VtigerObject instance representing the retrieved object.

This Must be a get request.

url format

```
webservice.php?operation=retrieve  
    &session_name=[session id]  
    &id=[object id]
```

Update

Update an existing entry on the vtiger crm object.

```
update(object: VtigerObject): VtigerObject
```

object: The VtigerObject to update.

response:A VtigerObject representing the object after the update.

This Must be a post request.

url format

```
webservice.php?operation=update  
    &sessionName=[session id]  
    &element=[object]
```

Delete

Delete an entry from the server.

```
delete(id:Id):Nothing
```

id: The *Id* of the object to be deleted.

response: A map with one key status with value 'successfull'

This Must be a post request.

url format

```
webservice.php?operation=delete
    &sessionName=[session id]
    &id=[object id]
```

Query

The query operation provides a way to query vtiger for data.

```
query(queryString : String): [VtigerObject]
```

queryString: The query to process.

response: A list of Map containing the fields selected.

Queries are currently limited to a single object. Joins are not supported. By default the query returns 100 objects this number can be changed using the limit operator.

The query format

```
select * | <column_list> | <count(*)>
from <object> [where <conditionals>]
[order by <column_list>] [limit [<m>, ]<n>];
```

The column list in the order by clause can have at most two column names.

- column_list: comma separated list of field names.
- object: type name of the object.
- conditionals: condition operations or in clauses or like clauses separated by 'and' or 'or' operations these are processed from left to right. There are no grouping that is bracket operators.
- conditional operators: <, >, <=, >=, =, !=.
- in clauses: in ().
- like clauses: in ().
- value list: a comma separated list of values.
- m, n: integer values to specify the offset and limit respectively.

This Must be a get request.

url format

```
webservice.php?operation=query
    &sessionName=[session id]
    &query=[query string]
```

Sync

Sync will return a SyncResult object containing details of changes after modifiedTime.

```
sync(modifiedTime: Timestamp, elementType: String):SyncResult
```

modifiedTime: The time of the last synced modification.

elementType: This is an optional parameter, to specify a single module rather than sync getting all modules.

Returns a SyncResult object representing the sync data.

This Must be a get request.

url format

```
webservice.php?operation=sync
    &sessionName=[session id]
    &modifiedTime=[timestamp]
    &elementType=[elementType]
```

Logout

Logout from the webservices session, this leaves the webservice session invalid for further use.

```
logout(): Map
```

Returns a map containing the key 'message' with the value 'successfull'.

url format

```
webservice.php?operation=logout
    &sessionName=[session id]
```

List Types

List the names of all the Vtiger objects available through the api.

```
listtypes(): Map
```

Returns a map containing the key 'types' with the value being a list of names of Vtiger objects.

url format

```
webservice.php?operation=listtypes
    &sessionName=[session id]
```

Describe Object

Get the type information about a Vtiger object.

```
describeobject (elementType: String): DescribeObjectResult
```

elementType: The type name of the Vtiger object to describe.

Returns a DescribeObjectResult instance.

url format

```
webservice.php?operation=describeobject  
    &sessionName=[session id]  
    &elementType=[elementType]
```

Known Issues

- Sync does not work on the users module.