vtwsclib – vtiger CRM Web Services Client Library version 1.1 http://forge.vtiger.com/projects/vtwsclib

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About

vtwsclib	(vtiger	CRM	Web	Servi	ces (Client	Libra	ry) p	rovide	s wr	apper	classe	s to	use	vtiger	CRM	web
services.	Using	this I	ibrary	you (can	write	new a	applio	cation	that	integi	ate wi	th v	tiger	CRM	easily.	

The current release of vtwsclib library provides web services client wrappers for PHP, JS and Python languages.

Installation

Unpack the vtwsclib-x.y.zip into the folder where your web services client application will reside.

Requirement

You will need to enable the **php_curl** extension when using PHP Client Libary.

PHP Client Library Overview

PHP Client wrapper (class Vtiger_WSClient) provides the following functions:

- > doLogin
- doListTypes
- > doDescribe
- doCreate
- doRetrieve
- doQuery
- > toJSON
- > toJSONString

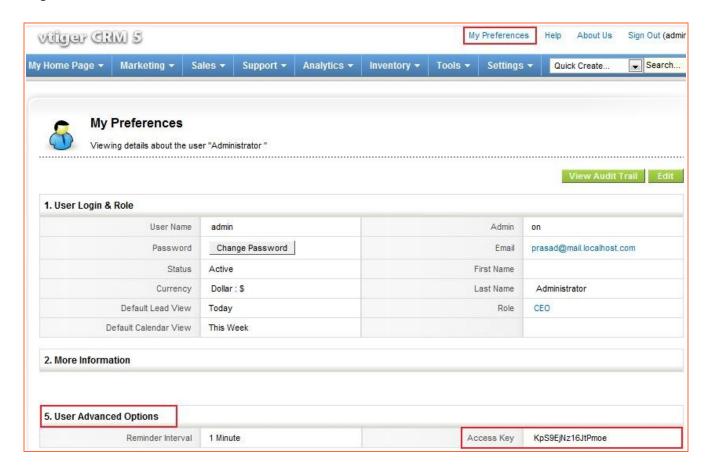
Class overview

class Vtiger_WSClient is defined in the file vtwsclib/Vtiger/WSClient.php. Include this class in your PHP web services client application code as illustrated below

Vtiger_WSClient(url)				
Parameters	url – vtiger CRM URL			
Return value	Instantiates class object			
Example	<pre><?php include_once('vtwsclib/Vtiger/WSClient.php'); \$url = 'http://en.vtiger.com/wip'; \$client = new Vtiger_WSClient(\$url); ?></pre>			

Boolean doLogin(username, accesskey)					
Parameters	username – vtiger CRM username accesskey – users unique key (See My Preferences in vtiger CRM as shown <u>here</u>)				
Return value	True – on success False – on failure				
Details	This function initializes Vtiger_WSClient with sessionId on successful login which is required for performing other operations.				
Example	<pre><?php include_once('vtwsclib/Vtiger/WSClient.php'); \$url = 'http://en.vtiger.com/wip'; \$client = new Vtiger_WSClient(\$url); \$login = \$client->doLogin('admin', 'KpS9EjNz16JtPmoe'); if(!\$login) echo 'Login Failed'; else echo 'Login Successful'; ?></pre>				

vtiger CRM User Preferences



```
Array doListTypes()
Parameters
Return value
                List of module names accessible to logged in user.
Details
Example
                 <?php
                 include_once('vtwsclib/Vtiger/WSClient.php');
                 $url = 'http://en.vtiger.com/wip';
                 $client = new Vtiger_WSClient($url);
                $login = $client->doLogin('admin', 'KpS9EjNz16JtPmoe');
                 if(!$login): echo 'Login Failed';
                 else {
                     $modules = $client->doListTypes();
                     foreach($modules as $module) echo "ModuleName: $module\n";
                }
?>
```

```
Object doDescribe(module)
Parameters
                module - module name
Return value
                Details of the module as Map
Details
                Information about fields of the module, permission to create, delete, update records of
                the module can be obtained.
Example
                include_once('vtwsclib/Vtiger/WSClient.php');
                $url = 'http://en.vtiger.com/wip';
                $client = new Vtiger_WSClient($url);
                $login = $client->doLogin('admin', 'KpS9EjNz16JtPmoe');
                if(!$login): echo 'Login Failed';
                else {
                     $modules = $client->doListTypes();
                     foreach($modules as $module) {
                         $describe = $client->doDescribe($module);
                         $cancreate = $describe[createable];
                         $canupdate = $describe[updateable];
                         $candelete = $describe[deleteable];
                         $canread = $describe[retrieveable];
                         $fields = $describe[fields];
                     }
                }
?>
```

Object doCreate	Object doCreate(module, valuesmap)						
Parameters	module – module name valuesmap – field name and field value pairs						
Return value	On successful creation New record information will be returned. Creation may fail if mandatory field name and value pair is not set.						
Details	Creating new records in the module can be done using this method.						
Example	<pre><?php include_once('vtwsclib/vtiger/WSClient.php'); \$url = 'http://en.vtiger.com/wip'; \$client = new Vtiger_WSClient(\$url); \$login = \$client->doLogin('admin', 'KpS9EjNz16JtPmoe'); if(!\$login): echo 'Login Failed'; else { \$module = 'Leads'; \$record = \$client->doCreate(\$module,</pre>						
NOTE:	The server returns record['id'] in the format <moduleid>'x'<recordid>. Use method getRecordId method can be used to retrieve only the record id part from the returned record id from the server.</recordid></moduleid>						

Object doRetri	Object doRetrieve (record)						
Parameters	record – identifier having the format <moduleid>'x'<recordid></recordid></moduleid>						
Return value	f specified module record is found its information is returned otherwise False. Creation may fail if mandatory field name and value pair is not set.						
Details	Retrieve information of existing record of the module.						
Example	<pre><?php include_once('vtwsclib/Vtiger/WSClient.php'); \$url = 'http://en.vtiger.com/wip'; \$client = new Vtiger_WSClient(\$url); \$login = \$client->doLogin('admin', 'KpS9EjNz16JtPmoe'); if(!\$login): echo 'Login Failed'; else { // Retrieve Contacts record with id 110 \$record = '4x110'; \$recordInfo = \$client->doRetrieve(\$record); if(\$recordInfo) { \$lastname = \$recordInfo['lastname']; } } } </pre>						

Object doQuery (query)						
Parameters	query – SELECT query to use for fetching the records.					
Return value						
Details	Webservices provides custom subset of SQL support to work with vtiger CRM.					
Example	<pre><?php include_once('vtwsclib/Vtiger/WSClient.php'); \$url = 'http://en.vtiger.com/wip'; \$client = new Vtiger_WSClient(\$url); \$login = \$client->doLogin('admin', 'KpS9EjNz16JtPmoe'); if(!\$login): echo 'Login Failed'; else { // Retrieve Accounts matching name 'vtiger' \$query = "SELECT * FROM Accounts WHERE accountname LIKE 'vtiger'"; \$records = \$client->doQuery(\$query); if(\$records) { \$columns = \$client->getResultColumns(\$records); foreach(\$records as \$record) {</pre>					
NOTE:	Use getResultColumns API to retrieve column names available in the result records. Please refer the webservices documentation to know more about SQL format and support.					

Object toJSON(inputString)						
Parameters	outString – json format input string					
Return value	PHP Array or Map or String					
Details	Converts the given input JSON format string to PHP Object					
Example	<pre><?php include_once('vtwsclib/Vtiger/WSClient.php'); \$url = 'http://en.vtiger.com/wip'; \$client = new Vtiger_WSClient(\$url); \$phpmap = \$client->toJSON('{ "A" : "B" }'); ?></pre>					

String toJSONS	String toJSONString (input)					
Parameters	put – PHP Array or Map or String					
Return value	JSON string					
Details	Converts the given input to JSON format string					
Example	<pre><?php include_once('vtwsclib/Vtiger/WSClient.php'); \$url = 'http://en.vtiger.com/wip'; \$client = new Vtiger_WSClient(\$url); \$jsonstring = \$client->toJSONString({ 'a'=>'ValueA'}); ?></pre>					

Javascript Client Library Overview

The following script includes are required on your page to use web services through Javascript client:

```
<script type='text/javascript' src='vtwsclib/third-party/js/jquery.js'></script>
<script type='text/javascript' src='vtwsclib/third-party/js/md5.js'></script>
<script type='text/javascript' src='vtwsclib/Vtiger/WSClient.js'></script>
```

Javascript Client wrapper (Vtiger_WSClient) provides the following functions:

- > doLogin
- doListTypes
- doDescribe
- doCreate
- doRetrieve
- doQuery
- > toJSON
- > toJSONString

Class overview

class Vtiger_WSClient is defined in the file vtwsclib/Vtiger/WSClient.js

Vtiger_WSClient	Vtiger_WSClient(url)					
Parameters	url – vtiger CRM URL					
Return value	Instantiates class object					
Example	<pre><script type="text/javascript"> var url = 'http://en.vtiger.com/wip'; var client = new Vtiger_WSClient(url); </script></pre>					

doLogin(username, accesskey, callback)					
Parameters	username – vtiger CRM username accesskey – users unique key (See My Preferences in vtiger CRM as shown <u>here</u>) callback – callback argument (See details explained <u>here</u>)				
Callback First parameter	True – on success False – on failure				
Details	Initializes Vtiger_WSClient with sessionId on successful login which is required for performing other operations. Function referenced via callback will be invoked.				
Example	<pre><script type="text/javascript"> var url = 'http://en.vtiger.com/wip'; var client = new Vtiger_WSClient(url); client.doLogin('admin', 'KpS9EjNz16JtPmoe', callback); // postLogin function gets a call once request is completed function postLogin(result, args) { if(result) alert('Login was successful'); else alert('Login failed'); } </script></pre>				

Callback Argument

Asynchronous calls are made to service using AJAX request by webservice client functions.

Hence callback function should be sent, which will be invoked after the response is obtained from the server.

The callback argument can be any of the following:

- Function Reference

Webservice function will invoke the callback function passing the result as the first parameter. If callback map was sent then the reference sent via 'function' key will be invoked with result as the first parameter and second parameter will be values referenced by 'arguments' key of the callback map.

```
doListTypes(callback)
Parameters
                 callback - callback argument (See details explained <a href="here">here</a>)
Callback
                 List of module names accessible to logged in user.
First parameter
Details
Example
                 <script type='text/javascript'>
                 var url = 'http://en.vtiger.com/wip';
                 var client = new Vtiger_WSClient(url);
                 client.doLogin('admin', 'KpS9EjNz16JtPmoe', postLogin);
                 // postLogin function gets a call once request is completed
                 function postLogin(result, args) {
                     if(!result) alert('Login failed');
                     else getModules();
                 function getModules() {
                     client.doListTypes(postGetModules);
                     // postGetModules gets a call once request is completed
                 function postGetModules (modules, args) {
                     if(modules) alert(client.toJSONString(modules));
                 </script>
```

```
doDescribe(module, callback)
Parameters
                module - module name
                callback – callback argument (See details explained <a href="here">here</a>)
Callback
                Details of the module as Map
First Parameter
Details
                Information about fields of the module, permission to create, delete, update records of
                the module can be obtained.
                 <script type='text/javascript'>
Example
                 var url = 'http://en.vtiger.com/wip';
                 var client = new Vtiger_WSClient(url);
                 client.doLogin('admin', 'KpS9EjNz16JtPmoe', postLogin);
                 // postLogin function gets a call once request is completed
                 function postLogin(result, args) {
                     if(!result) alert('Login failed');
                     else getModuleDetails();
                 function getModuleDetails() {
                     var module = 'Leads';
                     var callback = {
                          'function': processModuleDetails,
                          'arguments': { 'moduleName' : module }
                     client.doDescribe(callback);
                     // processModuleDetails gets a call once request is completed
                 function processModuleDetails(result, args) {
                     var module = args.moduleName;
                     if(result)
                         alert('Module = ' + module + ', Details = ' +
                               client.toJSONString(result));
                 </script>
```

doCreate(module	e, valuesmap, callback)
Parameters	module – module name valuesmap – field name and field value pairs callback – callback argument (See details explained <u>here</u>)
Callback First Parameter	On successful creation New record information will be sent. Creation may fail if mandatory field name and value pair is not set.
Details	Creating new records in the module can be done using this method.
Example	<pre><script type="text/javascript"> var url = 'http://en.vtiger.com/wip'; var client = new Vtiger_wsClient(url); client.doLogin('admin', 'Kps9EjNz16JtPmoe', postLogin); // postLogin function gets a call once request is completed function postLogin(result, args) { if(!result) alert('Login failed'); else createModuleRecord(); } function createModuleRecord() { var module = 'Leads'; var valuesmap = { 'lastname' : 'CRMLead', 'company':'vtiger' }; client.doCreate(module, valuesmap, afterCreateRecord); // afterCreateRecord gets a call once request is completed } function afterCreateRecord(result, args) { if(result) alert('Record Id = ' + client.getRecordId(result.id)); } </script></pre>
NOTE	
NOTE:	The server returns record['id'] in the format <moduleid>'x'<recordid>. Use method getRecordId method can be used to retrieve only the record id part from the returned record id from the server.</recordid></moduleid>

```
doRetrieve(record, callback)
Parameters
                 record - identifier having the format <moduleid>'x'<recordid>
                 callback – callback argument (See details explained here)
Callback
                 If specified module record is found its information is sent, otherwise False
First Parameter
                 Creation may fail if mandatory field name and value pair is not set.
Details
                 Retrieve information of existing record of the module.
Example
                 <script type='text/javascript'>
                 var url = 'http://en.vtiger.com/wip';
                 var client = new Vtiger_WSClient(url);
                 client.doLogin('admin', 'KpS9EjNz16JtPmoe', postLogin);
                 // postLogin function gets a call once request is completed
                 function postLogin(result, args) {
                     if(!result) alert('Login failed');
                     else getModuleRecord();
                 function getModuleRecord() {
                     var record = '4x110';
                     client.doRetrieve(record, processModuleRecord);
                     // processModuleRecord gets a call once request is completed
                 function processModuleRecord(result, args) {
                     if(result)
                          alert('Record Id = ' + client.getRecordId(result.id));
                 </script>
```

```
doQuery(query, callback)
Parameters
                query - SELECT query to use for fetching the records.
                 callback – callback argument (See details explained here)
Callback
                 Result sent from the server.
First Parameter
Details
                 Webservices provides custom subset of SQL support to work with vtiger CRM.
Example
                 <script type='text/javascript'>
                 var url = 'http://en.vtiger.com/wip';
                 var client = new Vtiger_WSClient(url);
                 client.doLogin('admin', 'KpS9EjNz16JtPmoe', postLogin);
                 // postLogin function gets a call once request is completed
                 function postLogin(result, args) {
                     if(!result) alert('Login failed');
                     else execQuery();
                 function execQuery() {
                     var query = "SELECT * FROM Accounts " +
                                  "WHERE accountname LIKE '%vtiger%' ";
                     client.doQuery(query, postExecQuery);
                     // postExecQuery gets a call once request is completed
                 function postExecQuery(result, args) {
                     if(result) {
                          var columns = client.getResultColumns(result);
                          alert('COLUMNS: ' + client.toJSONString(columns));
                          alert(client.toJSONString(result));
                 </script>
                 Use getResultColumns API to retrieve column names available in the result records.
NOTE:
                 Please refer the webservices documentation to know more about SQL format and
                 support.
```

Object toJSON(inputString)	
Parameters	inputString – json format input string
Return value	Javascript Array or Map or String
Details	Converts the given input JSON format string to Javascript Object
Example	<pre><script type="text/javascript"> var url = 'http://en.vtiger.com/wip'; var client = new Vtiger_WSClient(url); var jsobj = client.toJSON('{ "A" : "B" }'); </script></pre>

String toJSONString(input)	
Parameters	input – Javascript Array or Map or String
Return value	JSON string
Details	Converts the given input to JSON format string
Example	<pre><script type="text/javascript"> var url = 'http://en.vtiger.com/wip'; var client = new Vtiger_wsClient(url); var jsonstring = client.toJSONString({ 'a'=>'ValueA'}); </script></pre>

Python Client Library Overview

Python Client wrapper (Vtiger_WSClient) provides the following functions:

- > doLogin
- doListTypes
- doDescribe
- doCreate
- doRetrieve
- doQuery
- > toJSON
- > toJSONString

Class overview

class Vtiger_WSClient is defined in the file vtwsclib/Vtiger/WSClient.py

Vtiger_WSClient(url)	
Parameters	url – vtiger CRM URL
Return value	Instantiates class object
Example	<pre>import sys # Absolute/Relative path of vtwsclib/Vtiger folder sys.path.append('vtwsclib/Vtiger') from WSClient import * # Create Vtiger Webservice client client = Vtiger_WSClient('http://en.vtiger.com/wip')</pre>

Object doLogin (username, accesskey)	
Parameters	username – vtiger CRM username accesskey – users unique key (See My Preferences in vtiger CRM as shown <u>here</u>)
Return value	True – on success False – on failure
Details	Initializes Vtiger_WSClient with sessionId on successful login which is required for performing other operations. Function referenced via callback will be invoked.
Example	<pre>import sys # Absolute/Relative path of vtwsclib/Vtiger folder sys.path.append('vtwsclib/Vtiger') from WSClient import * # Create Vtiger Webservice client client = Vtiger_WSClient('http://en.vtiger.com/wip') login = client.doLogin('admin', 'KpS9EjNz16JtPmoe') if login: print 'Login Successful' else: print 'Login Failed!'</pre>

Array doListTypes()	
Parameters	
Return value	List of module names accessible to logged in user.
Details	
Example	<pre>import sys # Absolute/Relative path of vtwsclib/Vtiger folder sys.path.append('vtwsclib/Vtiger') from WSClient import * # Create Vtiger Webservice client client = Vtiger_WSClient('http://en.vtiger.com/wip') login = client.doLogin('admin', 'KpS9EjNz16JtPmoe') if not login: print 'Login Failed!' else: modules = client.doListTypes() print 'Modules: ', modules</pre>

Object doDescribe(module)	
Parameters	module – module name
Return value	Details of the module as Map
Details	Information about fields of the module, permission to create, delete, update records of the module can be obtained.
Example	<pre>import sys # Absolute/Relative path of vtwsclib/Vtiger folder sys.path.append('vtwsclib/Vtiger') from WSClient import * # Create Vtiger Webservice client client = Vtiger_WSClient('http://en.vtiger.com/wip') login = client.doLogin('admin', 'KpS9EjNz16JtPmoe') if not login: print 'Login Failed!' else: moduleInfo = client.doDescribe('Leads') print 'ModuleInfo: ', moduleInfo</pre>

Object doCreate(module, valuesmap)	
Parameters	module – module name valuesmap – field name and field value pairs
Return value	On successful creation New record information will be returned back. Creation may fail if mandatory field name and value pair is not set.
Details	Creating new records in the module can be done using this method.
Example	<pre>import sys # Absolute/Relative path of vtwsclib/Vtiger folder sys.path.append('vtwsclib/Vtiger') from WSClient import * # Create Vtiger Webservice client client = Vtiger_WSClient('http://en.vtiger.com/wip') login = client.doLogin('admin', 'KpS9EjNz16JtPmoe') if not login: print 'Login Failed!' else: recordInfo = client.doCreate('Leads',</pre>
NOTE:	The server returns record['id'] in the format <moduleid>'x'<recordid>. Use method getRecordId method can be used to retrieve only the record id part from the returned record id from the server.</recordid></moduleid>

Object doRetrieve(record)	
Parameters	record – identifier having the format <moduleid>'x'<recordid></recordid></moduleid>
Return value	If specified module record is found its information is sent, otherwise False Creation may fail if mandatory field name and value pair is not set.
Details	Retrieve information of existing record of the module.
Example	<pre>import sys # Absolute/Relative path of vtwsclib/Vtiger folder sys.path.append('vtwsclib/Vtiger') from WSClient import * # Create Vtiger Webservice client client = Vtiger_WSClient('http://en.vtiger.com/wip') login = client.doLogin('admin', 'KpS9EjNz16JtPmoe') if not login: print 'Login Failed!' else: # Fetch contact record with id 110 record = '4x110' recordInfo = client.doRetrieve(record) print 'RecordId: ', client.getRecordId(recordInfo['id'])</pre>

Object doQuery	Object doQuery(query)	
Parameters	query – SELECT query to use for fetching the records.	
Return value	Result sent from the server.	
Details	Webservices provides custom subset of SQL support to work with vtiger CRM.	
Example	<pre>import sys # Absolute/Relative path of vtwsclib/Vtiger folder sys.path.append('vtwsclib/Vtiger') from WSClient import * # Create Vtiger Webservice client client = Vtiger_WSClient('http://en.vtiger.com/wip') login = client.doLogin('admin', 'KpS9EjNz16JtPmoe') if not login: print 'Login Failed!' else: # Search for Accounts with name like 'vtiger' query = "SELECT * FROM Accounts WHERE accountname LIKE '%vtiger%'" result = client.doQuery(query) if(result): columns = client.getResultColumns(result) print 'Columns: ', columns print 'Result: ', result</pre>	
NOTE:	Use getResultColumns API to retrieve column names available in the result records.	
	Please refer the webservices documentation to know more about SQL format and support.	

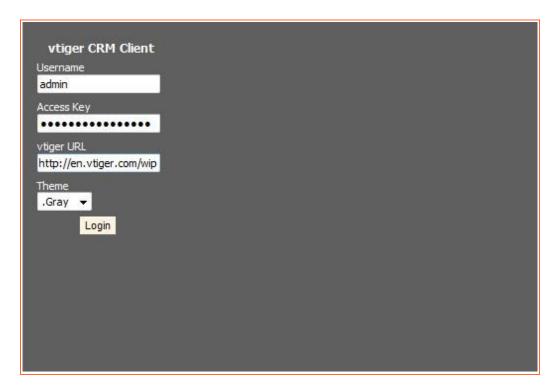
Object toJSON(inputString)	
Parameters	inputString – json format input string
Return value	Python Array or Map or String
Details	Converts the given input JSON format string to Python Object
Example	<pre>import sys # Absolute/Relative path of vtwsclib/Vtiger folder sys.path.append('vtwsclib/Vtiger') from WSClient import * # Create Vtiger Webservice client client = Vtiger_WSClient('http://en.vtiger.com/wip') pyobj = client.toJSON('{ "A" : "B" }');</pre>

String toJSONString(input)	
Parameters	input – Python Array or Map or String
Return value	JSON string
Details	Converts the given input to JSON format string
Example	<pre>import sys # Absolute/Relative path of vtwsclib/Vtiger folder sys.path.append('vtwsclib/Vtiger') from WSClient import * # Create Vtiger Webservice client client = Vtiger_WSClient('http://en.vtiger.com/wip') jsonstring = client.toJSONString({ 'a'=>'ValueA'});</pre>

vtclient application

vtclient is a sample application written using the PHP client library. It provides a simple vtiger CRM client suitable for mobile devices and other web devices that require simple HTML user interfaces. Its features are demonstrated below:

Login Screen



Username	vtiger CRM user
Access Key	Access Key of the user (Check My Preferences in vtiger CRM)
vtiger URL	vtiger CRM Location (like, http://en.vtiger.com/wip)
Theme	Select theme for current login

Home Page

On successful login, the home page displays a list of accessible modules links.



Browse/List view

You can click on the module link from the Home page to start browsing the records.

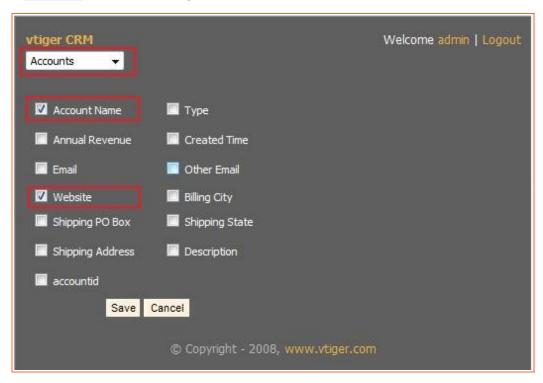


In the Listview you can perform the following:

- > Select other module from the drop down box and continue browsing.
- > Click on Columns button and configure Listview columns.
- > Click on Search button and proceed with filtered browsing.

Configure Columns

Click on the Columns button to configure module columns.



The columns configured for the module will be considered for:

- > Displaying in the Listview
- > Performing Search for the module

NOTE: Column configured for the module is persistent till Logout.

Example: Listview after configuring Accounts module.



Searching

Click on Search button to perform module search.



Enter the search input and click Search again. The search input is matched against the columns configured for the module and results are displayed.



If you select other module, the search is performed on the configured columns of the selected module and results are displayed.

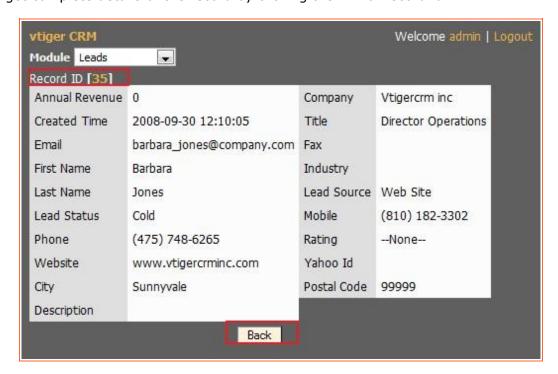


The search browsing will be active until Cancel button is clicked. Once you click on Cancel then it returns to normal Browsing for the selected module.



Detail view

You can get complete details of the record by clicking the link of record id.



Click the Back button to get back to previous page.

Preferences

You can update other preferences by clicking the username:

Fetch Limit	Number of listview rows displayed on a page.
Theme	Choose a different theme



NOTE: Preferences setup is persistent till Logout.

Example: Browsing with Fetch Limit 5 and different theme showing Paging.

