



HCL Domino Volt

Interacting with Services

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Agenda

- Understanding Service Concepts
- Volt Services
- REST Service
- Synchronizing Service Calls
- On Events
- On Submit Actions

Services Concepts

In the generic sense a service is a system that can be called where you pass it information and it gives you information back

An example is where you pass it a postal code and it will validate that postal code

Another example is where you pass it a set of criteria and it returns data that matches that criteria

Services don't have to return data – they can be used to update or POST to another application or perform some task

Services are setup to expect a certain structure of input (or parameters), and they are expected to return a certain structure of output (or parameters).

Custom services (transports) can be added by an administrator and made available to all users

Service Configuration

1. Service 2. Inputs 3. Outputs 4. Details

Create Input Assignments

Review

Select source:

Current User

> Page 1

View: Basic

Options / Form 2 / Search

Select target:

Search by (F_Department) "Department"

Search by (F_DeptOptions) "Dept Options"

Filter by Stage ID

Filter by line ID

Filter by create time

View: Basic

Assigned Inputs

Source	Target
There are currently no assignments. Select a source and target above then click the "Assign Input" button.	

Previous Next OK Apply Cancel

Volt Apps as a Service

Service	Description	Input	Output
create	Creates a new record in the application just as if a user submitted a new form.	All input items in the form.	The number of records created.
update	Updates a record in the application, used when you want to send the application to another stage. This service is only available for those application that have a workflow.	All input items in the form.	true/false if update occurred.
search	Given some search criteria, this service will return you a list of records that match that search criteria.	Search criteria (on any item in form)	The number and data of the records that match the search criteria.
retrieve	Given some search criteria, this service will return a single record.	Record id or search criteria	Data of the first record that matched the search
delete	Delete a given record.	Record id or search criteria	true/false if delete occurred.

Consuming Services

Events and actions

Event	Purpose	How to call service on that event
On Application Start	Useful for registering global functions that could be used across all the forms in the application	On the Events tab, select onStart.
On form load	Useful for when you need to pre-populate the form.	In the form properties: onLoad event
On page load	Useful for when you want to populate information on a page that is not visible all the time.	In the page properties: onShow event
When an item first becomes visible	Useful for when you want to populate a drop down's choice list when the item becomes visible.	In the item properties: onShow event
When the value of an item changes	Useful for when you want to pass data to the service as search criteria to further populate the form – also referred to as mid-population. Another common example is for when you want to validate information.	In the item properties: onItemChange event
On form submission	Useful for when you want to share the submitted data with a service.	In the form properties: beforeSave event

Using Services

Service Configuration

The Service Configuration defines the service type and source, the inputs, outputs and naming details

1. Select the Services to define the type and source
2. Either “Enter a URL” or “Select a Service” service
3. Service Catalog – Current Application, Another Volt Application, or General (transports)
4. Volt created services for the current application or other Volt Application

Service Configuration

1. Service 2. Inputs 3. Outputs 4. Details

Creating a Service Configuration requires that you provide a URL or select a service, then create input and output maps to move data between the form and the target service.

Enter a URL

Or, select a service

Selected Service: None - find a service below

Service Catalog:

Include service description in the search

Current application and document services will not appear until the application is saved. Display:

Options / Form 2 / Delete

Options / Form 2 / Retrieve

Options / Form 2 / Search

Options / Form 2 / Submit (S_Submit) / Create

Options / Form 2 / Submitted / Update (S_Update) / Update

Options / Review / Delete

Show 10 | 20 | 50 | 100 | 200 items

Previous Next OK Apply Cancel

Using Services

Retrieving a List

1. From the Input section we can select any match criteria or filter settings
2. Can select an input item from the app (i.e. postal code), constant or advanced
3. Match that to the value on the right from the service
4. Click to create match
5. Items show below

Notes:

- Some services have required inputs and must be mapped here
- Pagination, order and filters can be done here
- Advanced options include criteria like greater than, etc

Service Configuration

1. Service **2. Inputs** 3. Outputs 4. Details

Create Input Assignments

Review

Select source:

Enter Value: Product Specialist

View: Constant

User Maintenance / User Maintenance / Search

Select target:

- Search by (F_Role) "Role"
- Search by (F_PSGeo) "Geo"
- Search by (F_Name) "Name"
- Search by (F_EmailAddress) "Email"
- Search by (F_Standalone) "Standalone"

View: Basic

Assigned Inputs

Source	Target
Constant: "F_Name"	Order By

Previous Next OK Apply Cancel

Using Services

Retrieving a List

1. From the Output section we can select the returning results
2. Select the item returned by the service
3. Match that to the value on the right in the application
4. Click to create match
5. Items show below

Notes:

- Item types must match (string to string, date to date, etc)
- Search results must go into an item that can take multiple values
- Retrieve results must go into a single item result field
- Ensure your apps are set to accept service calls

The screenshot shows the 'Service Configuration' dialog box, specifically the '3. Outputs' tab. The 'Create Output Assignments' section is active, showing a 'Select source' list on the left and a 'Select target' list on the right. A red circle '1' is above the '3. Outputs' tab. A red circle '2' highlights the selected source item 'Result (F_Name) "Name"'. A red circle '3' highlights the selected target item 'Displayed Value'. A red circle '4' highlights the 'Match' button between the two lists. Below this, the 'Assigned Outputs' table shows the result of the assignment.

Source	Target
5 Searched Records > Record Unique Identifier	Page 1 > Section > Department 2 > Options > Saved Value

At the bottom of the dialog, there are buttons for 'Previous', 'Next', 'OK', 'Apply', and 'Cancel'.

Using Services

Connecting to URL Call

1. This is the URL to the service including parameters
2. Select the type of service call
3. Volt identifies the parameters from the URL and lets you assign or pass a static value
4. If Authentication or Request headers are required
5. The resulting (returned) JSON

Notes:

- The Sample Response will determine the fields to match in the input and output
- POST will require the JSON definition for input

Service Details

Define details about your JSON service. By providing both a sample request and response, input and output mapping options are generated. Use the additional sections for configuration details that your service might require.

* URL 1

G

2 GET POST PUT PATCH DELETE HEAD

3 **URL Parameters and Segments**

Name	Assignable	Display Name	Value
key	<input checked="" type="checkbox"/>	<input type="text" value="key"/>	-
/47.197.199.37	<input type="checkbox"/>	-	47.197.199.37

4 **Authentication**

Request Headers

5 **Sample Response (JSON)** Fetch

```
{
  "ip": "47.197.199.37",
  "type": "IPv4",
  "hostname": null,
  "carrier": {
    "name": null,
    "mcc": null,
    "mnc": null
  },
  "connection": {
    "asn": 5650,
    "domain": "frontiernet.net",
  }
}
```

OK Cancel



Calling Services in Order

At times you may need to wait for one service to end before you call the next one.

Volt provides a way to build a “listener” and when it completes call another service or perform some action

Best practice is to have all of the listeners in the onLoad event of the form so they are loaded and available

If you do put a listener elsewhere you will need to close the listener connection

Review - F_Review1 » **onLoad**

This event is invoked after the form's data is loaded onto the form, and before it is presented

Predefined Actions:

- Run a Formula
- Call a Service [?](#)

Custom Actions:

[Help](#)

```
var form = app.getForm('F_Review1');
var srvA = form.getServiceConfiguration('SC_EmailLookup');
var hdlA = srvA.connectEvent("onCallFinished", function(success) {
    if(success) {
        form.getServiceConfiguration('SC_GetGEO').callService();
    }
});
// srvA.disconnectEvent(hdlA);
});
```

// Connect to the right form
// Identify the service to "listen" for
// Listen for it to finish
// If service completes successfully then do the following
// If service is called from anywhere but onLoad then make sure you disconnect

Custom Transports

HTTP Transport Creation

Custom transports can be created and deployed by the administrator so all users can leverage common services

Typical use cases are look ups commonly used across applications or calls that require credentials to be passed that can't be shared

The HTTP Service Transport provides a mechanism to communicate with HTTP servers. The transport allows configuration of the URL to request, HTTP method to use, query parameters, and request headers

The Service Description provides an interface to Domino Volt mapping interface, and an interface to a Service Transport

```
?xml version="1.0" encoding="UTF-8"?  
<serviceDescription>  
  <id>CRM_UpdateFields_CreditLimit</id>  
  <defaultLocale>en-us</defaultLocale>  
  <transportId>PatchHTTPTransport</transportId>  
  <name>Update CRM Fields - Credit Limit</name>  
  <description>Update fields in MS Dynamics</description>  
  <inbound>  
    <parameters>  
      <parameter>  
        <id>Authorization</id>  
        <name>Authorization</name>  
        <description>MS Auth Token</description>  
        <mandatory>true</mandatory>  
        <type>STRING</type>  
      </parameter>  
      <parameter>  
        <id>credit-limit</id>  
        <name>Credit Limit</name>  
        <description></description>  
        <mandatory>true</mandatory>  
        <type>STRING</type>  
      </parameter>  
      <parameter>  
        <id>credit-assess</id>  
        <name>Credit Assessment</name>  
        <description></description>  
        <mandatory>true</mandatory>  
        <type>STRING</type>  
      </parameter>  
      <parameter>  
        <id>urlWOHost</id>  
        <name>URL</name>  
        <description></description>  
        <mandatory>true</mandatory>  
        <type>STRING</type>  
      </parameter>  
    </parameters>  
    <serviceMapping>  
      <constants>  
        <constant>  
          <id>host</id>  
          <value>https://hcl.crm.dynamics.com</value>  
        </constant>  
        <constant>  
          <id>request-body-json</id>  
          <value><![CDATA[  
            {"po_creditmanagementcreditlimit" : 0,  
             "ps_creditcheckstatus" : 0  
            }]]></value>  
        </constant>  
      </constants>  
    </serviceMapping>  
  </inbound>  
</serviceDescription>
```

Summary

HCL Domino Volt gives you the ability to:

- Use services to populate fields in an application
- You can call services within the existing application, other Volt applications or even REST services via URL or through a custom transport
- Services can be called on events, on submit or conditionally in JS
- Services can retrieve, search, update, create and each Volt application creates its own set of services
- Custom transports can be used to make service calls available to end users

Additional Resources

- Domino Volt Wiki (<https://hclwiki.atlassian.net/wiki/spaces/HDV/overview>)
- Domino Volt Service InfoCenter (https://help.hcltechsw.com/domino_volt/1.0/cr_using_apps_as_services toc.html)
- HCL Leap Wiki (<https://hclwiki.atlassian.net/wiki/spaces/HL/pages/462131/Introduction+to+HCL+Leap>)
- Domino Volt Documentation (https://help.hcltechsw.com/domino_volt/1.0/index.html)