Configure Data Collectors

Data Collectors

Data collectors help you determine whether data that a transaction passed into an application is causing problems. When you configure data collectors, AppDynamics accesses information in application code arguments, return values, variables, as well as HTTP Request data such as headers and cookies, and displays this information in Call Drill Down panels. See Data Collectors.

You can configure these types of data collectors:

- Method Invocation Data Collectors
- HTTP Request Data Collectors

To access data collector configuration

1. In the left navigation panel, click **Configure -> Instrumentation**.

2. Click the **Diagnostic Data Collectors** tab.

Configuring Method Invocation Data Collectors

Configure custom method invocation data collectors to capture parameters, the return value, or the invoked object for a particular method. The captured data appears in the USER DATA tab of the snapshot viewer.

This procedure involves the following tasks:

- Name the data collector
- Describe the class and method that the data collector is based on
- If the method is overloaded, add its parameters
- Optionally restrict the scope of the data collector by adding match conditions
- Describe the data to collect from the method and how to process it
- Select the business transactions that use the data collector

To configure a method invocation data collector

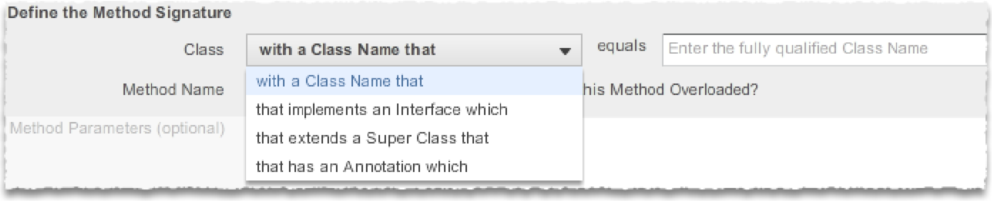
1. In the left navigation pane, choose **Configure > Instrumentation**, then click the **Diagnostic Data Collectors** tab. (If you don't see the tab, click **>>** and then click Diagnostic Data Collectors.)

2. In the Method Invocation Data Collectors panel, click **Add**.

3. Enter a name for the data collector.

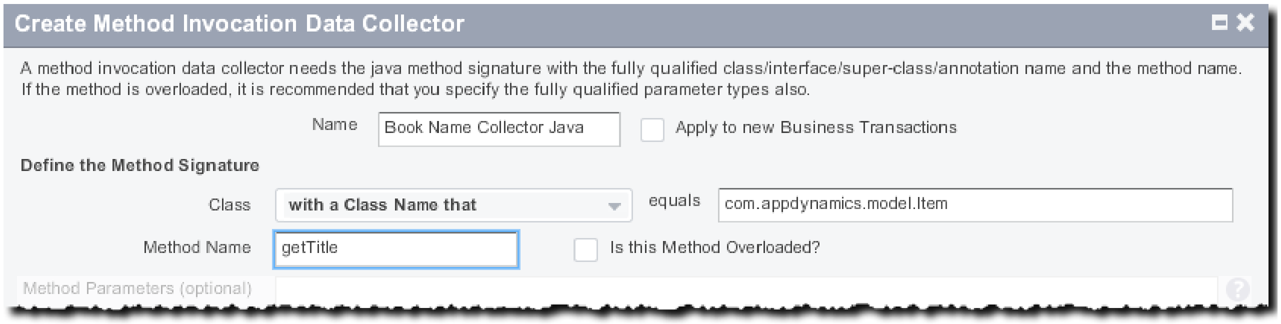
4. Check the Apply to new Business Transactions check box if you want to apply the collector to new transactions.

5. Specify the class name for the data collector by selecting the comparison to apply from the drop down menu and entering the fully qualified class name in the adjacent text field.


Define the Method Signature
Class
with a Class Name that
equals
Enter the fully qualified Class Name
Method Name
with a Class Name that
that implements an Interface which
that extends a Super Class that
that has an Annotation which
his Method Overloaded?
Method Parameters (optional)

6. Enter the name of the method on which the data collector is based.

For Java:


Create Method Invocation Data Collector

A method invocation data collector needs the java method signature with the fully qualified class/interface/super-class/annotation name and the method name. If the method is overloaded, it is recommended that you specify the fully qualified parameter types also.

Name: Book Name Collector Java

□ Apply to new Business Transactions

Define the Method Signature

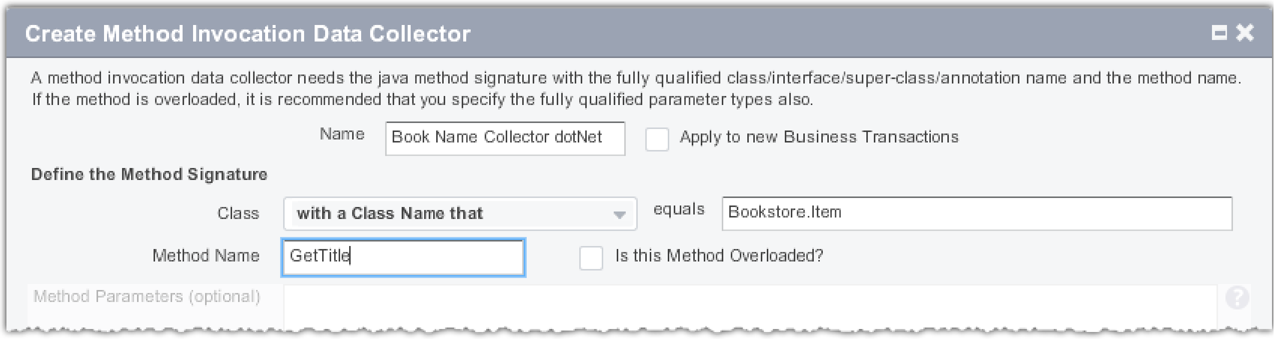
Class: with a Class Name that equals com.appdynamics.model.Item

Method Name: getTitle

□ Is this Method Overloaded?

Method Parameters (optional)

For .NET:



Create Method Invocation Data Collector

A method invocation data collector needs the java method signature with the fully qualified class/interface/super-class/annotation name and the method name. If the method is overloaded, it is recommended that you specify the fully qualified parameter types also.

Name: Book Name Collector dotNet □ Apply to new Business Transactions

Define the Method Signature

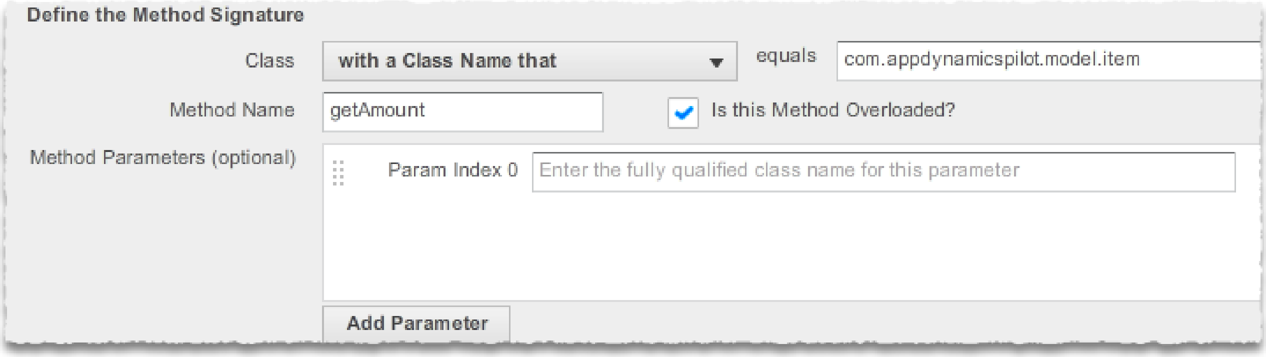
Class: with a Class Name that equals Bookstore.Item

Method Name: GetTitle □ Is this Method Overloaded?

Method Parameters (optional)

7. If the method is overloaded:

   a. Check the Is this Method Overloaded? check box.
   b. For each method parameter, click **Add Parameter** to add the fully qualified class name for each parameter.



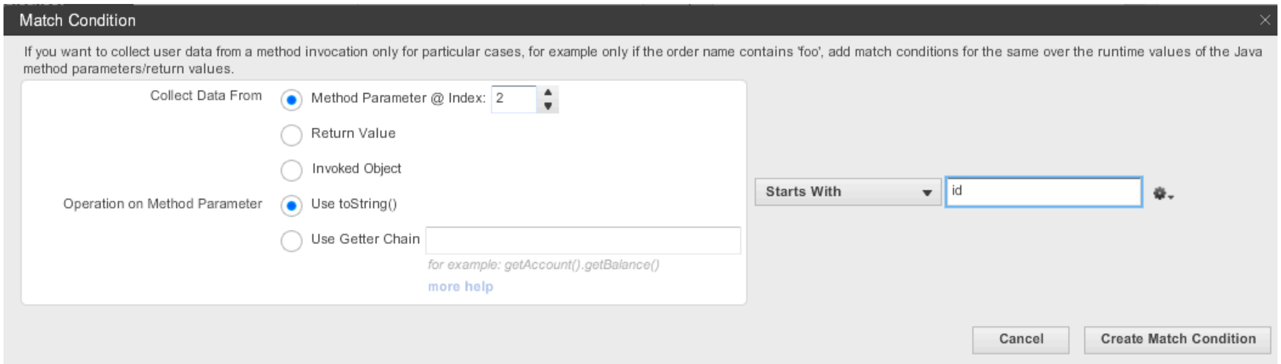
Define the Method Signature

Class: with a Class Name that equals com.appdynamicspilot.model.item

Method Name: getAmount ☑ Is this Method Overloaded?

Method Parameters (optional): Param Index 0 Enter the fully qualified class name for this parameter

8. Optionally click **Add Match Condition** to specify match conditions for the source of the data collector and the operation to run on the source of the data. Use match conditions to restrict the data collector to method invocations or return values with certain values or to the invoked object.



Match Condition

If you want to collect user data from a method invocation only for particular cases, for example only if the order name contains 'foo', add match conditions for the same over the runtime values of the Java method parameters/return values.

Collect Data From: ● Method Parameter @ Index: 2
○ Return Value
○ Invoked Object

Operation on Method Parameter: ● Use toString()
○ Use Getter Chain

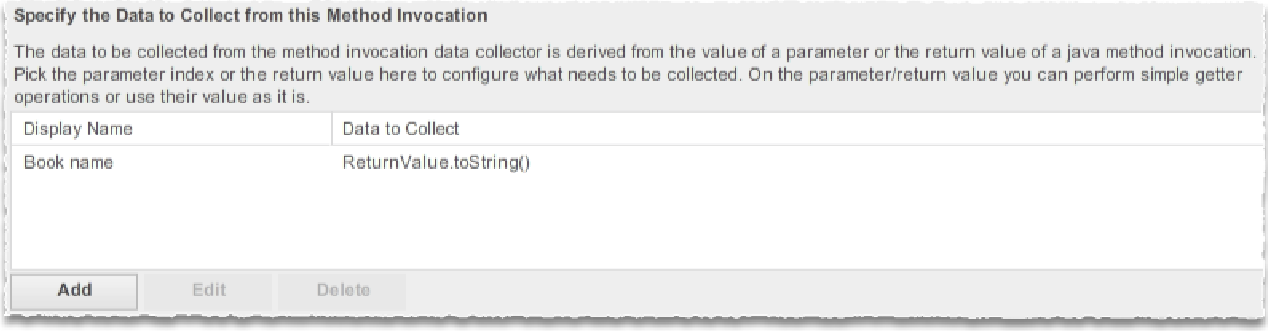
for example: getAccount().getBalance()

Starts With id

If you are using a complex getter chain on the data, see

- Getter Chains in Java Configurations
- Getter Chains in .NET Configurations

9. To specify the data items that this collector will collect from this method invocation, click **Add** in the Specify the Data to Collect from this Method Invocation panel. Repeat for each data item to be collected.

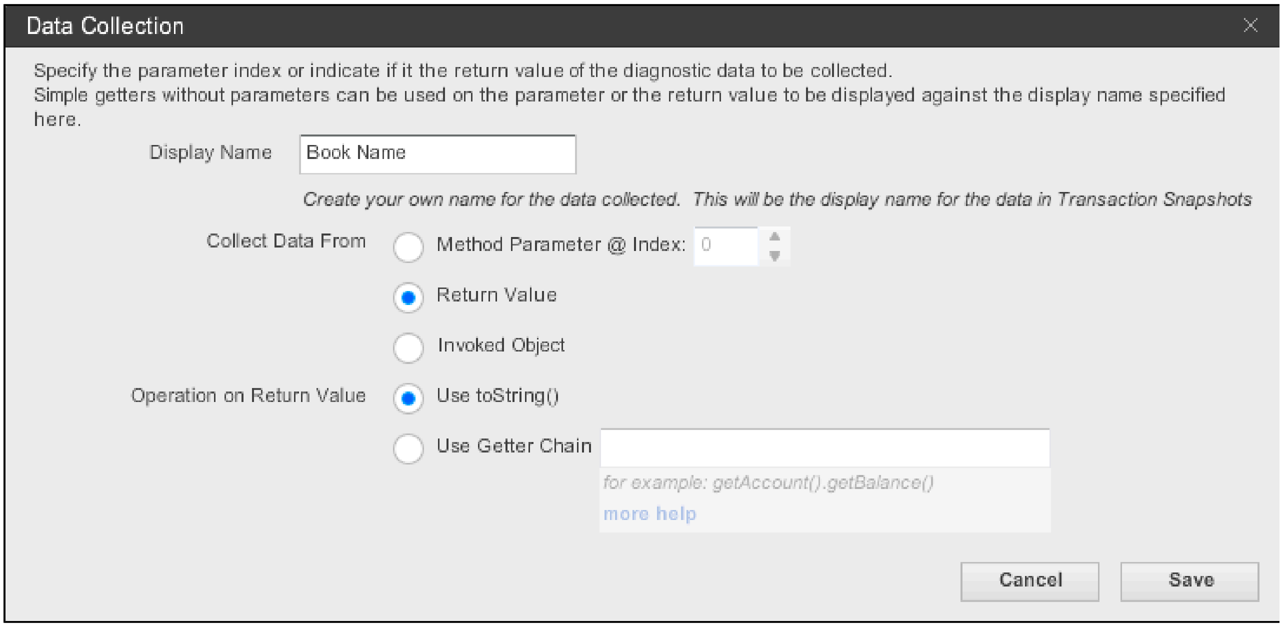


Specify the Data to Collect from this Method Invocation

The data to be collected from the method invocation data collector is derived from the value of a parameter or the return value of a java method invocation. Pick the parameter index or the return value here to configure what needs to be collected. On the parameter/return value you can perform simple getter operations or use their value as it is.

Display Name	Data to Collect
Book name	ReturnValue.toString()

10. In the Data Collection screen, specify a name for the data, which kind of data to collect (parameter, return value, or invoked object), and, if necessary, which operation to use on it.



Data Collection

Specify the parameter index or indicate if it the return value of the diagnostic data to be collected.
Simple getters without parameters can be used on the parameter or the return value to be displayed against the display name specified here.

Display Name: Book Name

Create your own name for the data collected. This will be the display name for the data in Transaction Snapshots

Collect Data From:
○ Method Parameter @ Index: 0
● Return Value
○ Invoked Object

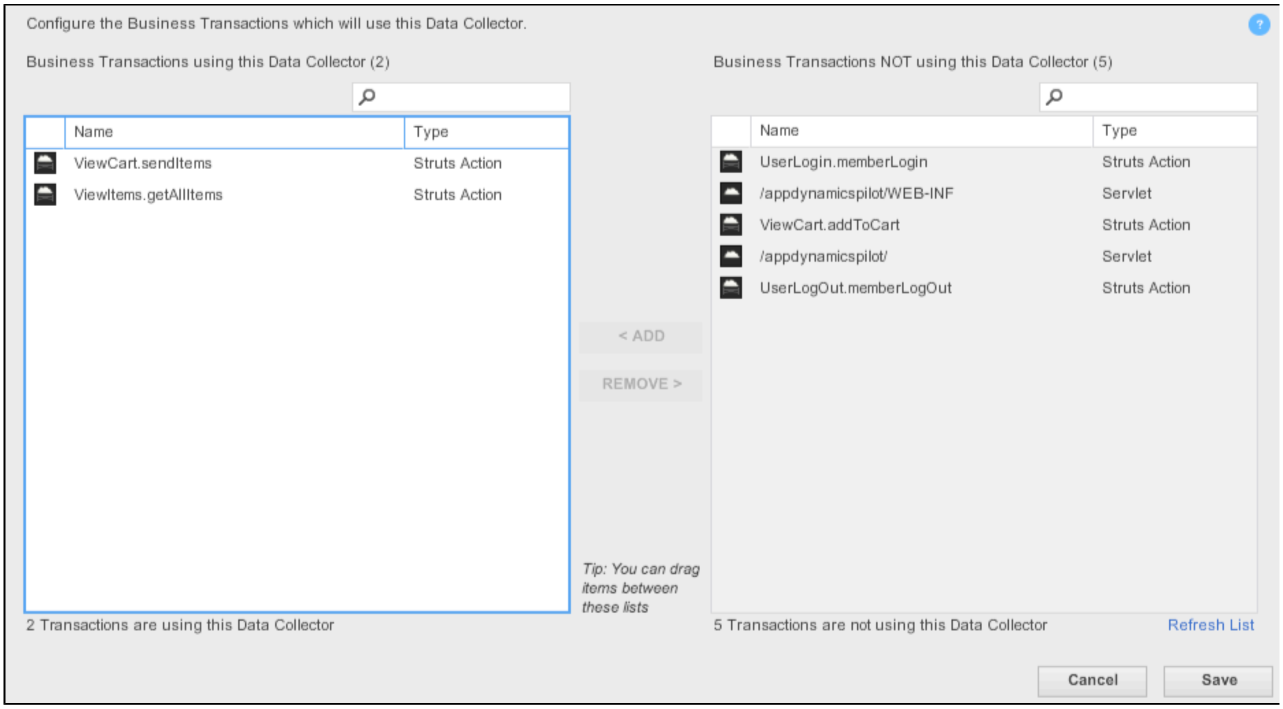
Operation on Return Value:
● Use toString()
○ Use Getter Chain

for example: getAccount().getBalance()

11. Click **Save**.

12. To create the data collector, click **Create Method Invocation Data Collector**.

13. In the Apply to Business Transactions window that appears, specify the business transactions to which this data collector will be applied by moving them from the Business Transactions NOT using this Data Collector list on the right to the Business Transactions using this Data Collector list on the left.



Configure the Business Transactions which will use this Data Collector.

Business Transactions using this Data Collector (2)

Name	Type
ViewCart.sendItems	Struts Action
ViewItems.getAllItems	Struts Action

2 Transactions are using this Data Collector

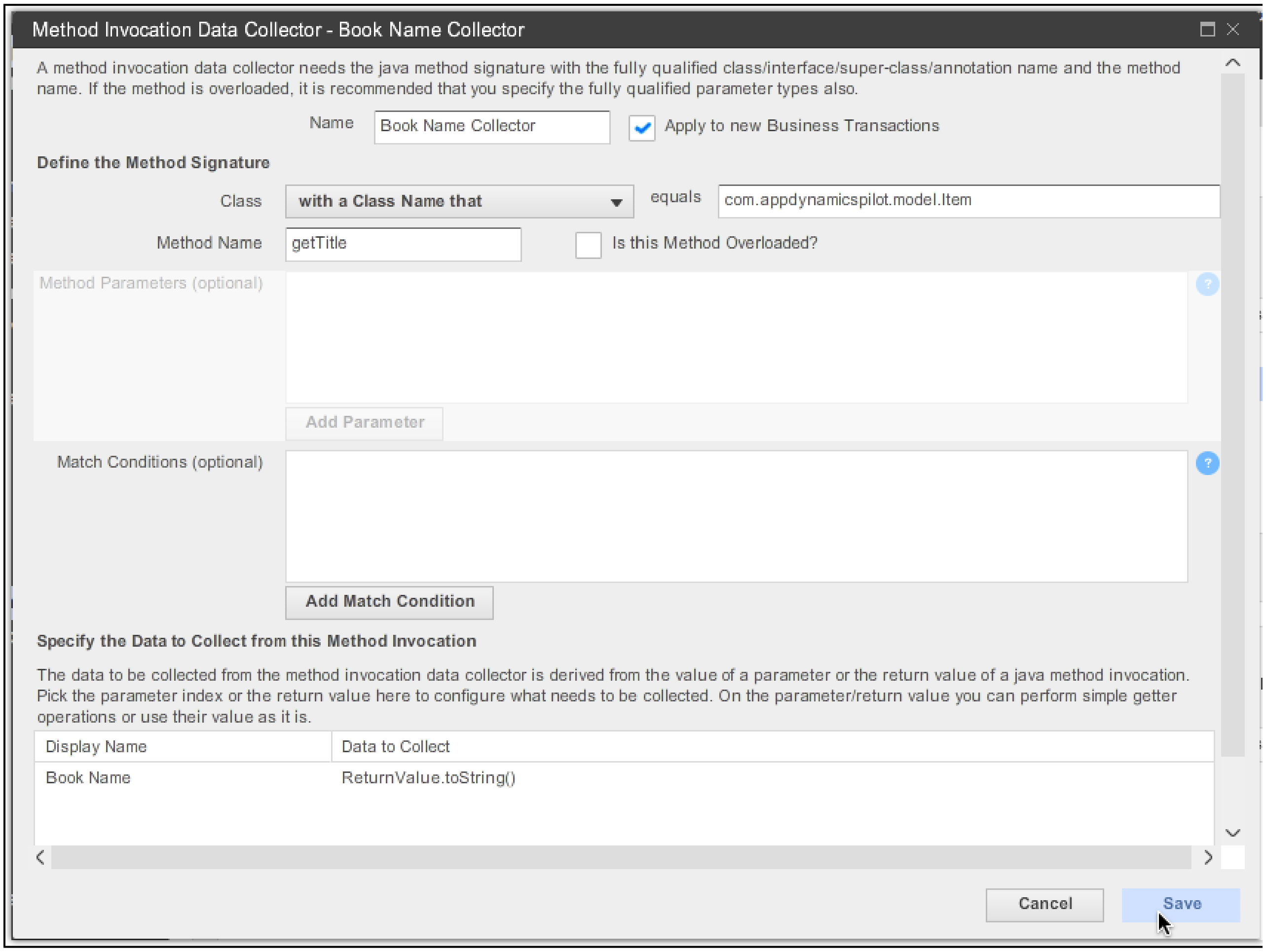
Business Transactions NOT using this Data Collector (5)

Name	Type
UserLogin.memberLogin	Struts Action
/appdynamicspilot/WEB-INF	Servlet
ViewCart.addToCart	Struts Action
/appdynamicspilot/	Servlet
UserLogOut.memberLogOut	Struts Action

5 Transactions are not using this Data Collector

Tip: You can drag items between these lists

14. Click **Save**. The data collector is created.



Method Invocation Data Collector - Book Name Collector

A method invocation data collector needs the java method signature with the fully qualified class/interface/super-class/annotation name and the method name. If the method is overloaded, it is recommended that you specify the fully qualified parameter types also.

Name: Book Name Collector ☑ Apply to new Business Transactions

Define the Method Signature

Class: with a Class Name that equals com.appdynamicspilot.model.Item

Method Name: getTitle ☐ Is this Method Overloaded?

Method Parameters (optional)

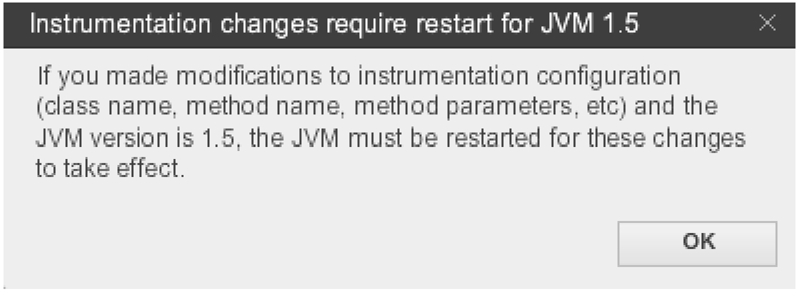
Match Conditions (optional)

Specify the Data to Collect from this Method Invocation

The data to be collected from the method invocation data collector is derived from the value of a parameter or the return value of a java method invocation. Pick the parameter index or the return value here to configure what needs to be collected. On the parameter/return value you can perform simple getter operations or use their value as it is.

Display Name	Data to Collect
Book Name	ReturnValue.toString()

In some environments, including JVM 1.5 and .NET, you must restart after changing the class name, method name, or method parameter settings. A popup will alert you if this is the case.



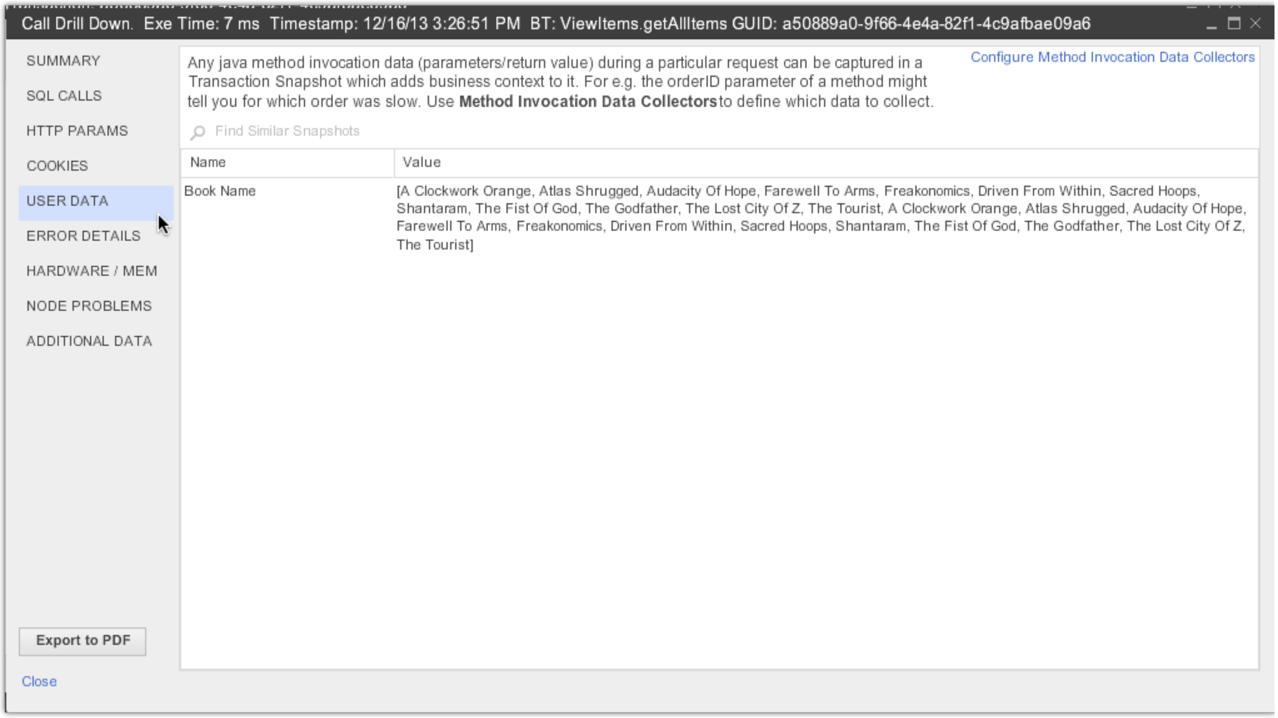
Instrumentation changes require restart for JVM 1.5

If you made modifications to instrumentation configuration (class name, method name, method parameters, etc) and the JVM version is 1.5, the JVM must be restarted for these changes to take effect.

To see the output from a method invocation data collector

1. Access transaction snapshots for the business transactions on which this data collector is applied. See Transaction Snapshots.

2. Examine the USER DATA tab of the transaction snapshot.



Call Drill Down. Exe Time: 7 ms Timestamp: 12/16/13 3:26:51 PM BT: ViewItems.getAllItems GUID: a50889a0-9f66-4e4a-82f1-4c9afbae09a6

Any java method invocation data (parameters/return value) during a particular request can be captured in a Transaction Snapshot which adds business context to it. For e.g. the orderID parameter of a method might tell you for which order was slow. Use **Method Invocation Data Collectors**to define which data to collect.

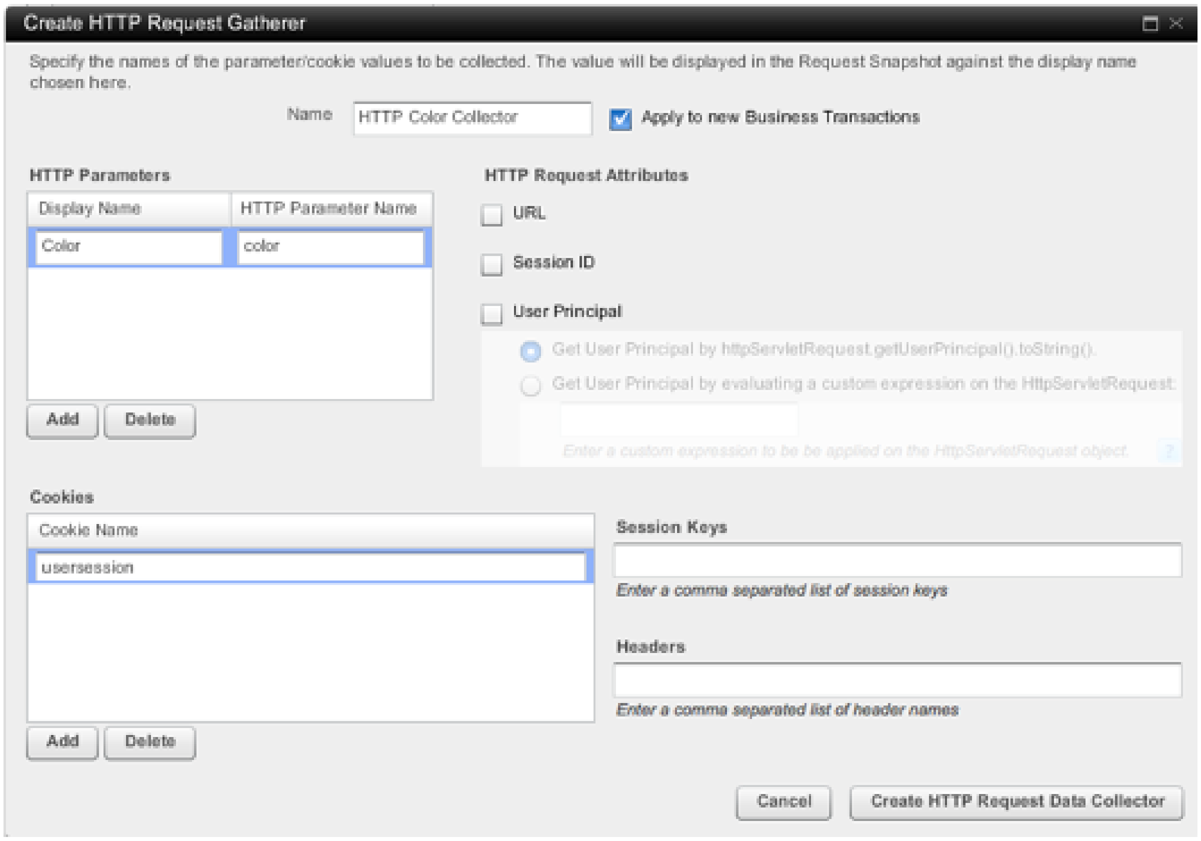
Name	Value
Book Name	[A Clockwork Orange, Atlas Shrugged, Audacity Of Hope, Farewell To Arms, Freakonomics, Driven From Within, Sacred Hoops, Shantaram, The Fist Of God, The Godfather, The Lost City Of Z, The Tourist, A Clockwork Orange, Atlas Shrugged, Audacity Of Hope, Farewell To Arms, Freakonomics, Driven From Within, Sacred Hoops, Shantaram, The Fist Of God, The Godfather, The Lost City Of Z, The Tourist]

Configuring HTTP Request Data Collectors

Configure custom HTTP data collectors to collect HTTP payload data for diagnosis in the transaction snapshot. The captured data appears in the SUMMARY, HTTP PARAMS and COOKIES tabs of the snapshot viewer.

To configure HTTP data collectors

1. In the left navigation pane, choose **Configure > Instrumentation**, then click the **Diagnostic Data Collectors** tab. (If you don't see the tab, click **>>** in the menu bar and then click Diagnostic Data Collectors.)
2. In the HTTP Request Data Collectors panel, click **Add**.
3. Enter a name for the data collector.
4. Check the Apply to new Business Transactions check box if you want to apply the collector to new transactions.
5. Click **Add** in the HTTP Parameters section to set the parameter values that you want to collect.
6. Click **Add** in the Cookies section to set the cookie values that you want to collect.



Create HTTP Request Gatherer

Specify the names of the parameter/cookie values to be collected. The value will be displayed in the Request Snapshot against the display name chosen here.

Name: HTTP Color Collector ☑ Apply to new Business Transactions

HTTP Parameters

Display Name	HTTP Parameter Name
Color	color

HTTP Request Attributes

□ URL

□ Session ID

□ User Principal

● Get User Principal by httpServletRequest.getUserPrincipal().toString().

○ Get User Principal by evaluating a custom expression on the HttpServletRequest:

Enter a custom expression to be be applied on the HttpServletRequest object.

Cookies

Cookie Name
usersession

Session Keys

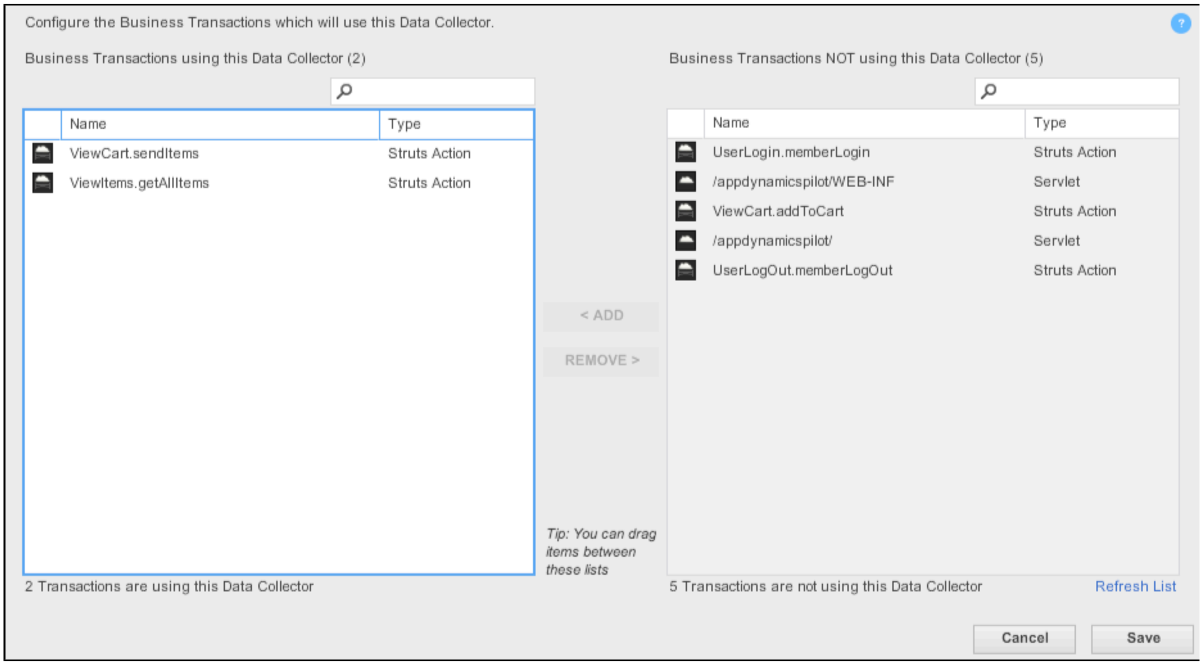
Enter a comma separated list of session keys

Headers

Enter a comma separated list of header names

7. Configure the HTTP data collector to capture any of the following additional data:
   - URL
   - Session ID
   - User Principal
   - Session Keys
   - Headers
8. Click **Create HTTP Request Data Collector**.
9. In the Apply to Business Transactions window that appears, specify the business transactions to which this data collector will be applied by moving them from the Business Transactions NOT using this Data Collector list on the right to the Business Transactions

using this Data Collector list on the left.



Configure the Business Transactions which will use this Data Collector.

Business Transactions using this Data Collector (2)

Name	Type
ViewCart.sendItems	Struts Action
ViewItems.getAllItems	Struts Action

2 Transactions are using this Data Collector

Business Transactions NOT using this Data Collector (5)

Name	Type
UserLogin.memberLogin	Struts Action
/appdynamicspilot/WEB-INF	Servlet
ViewCart.addToCart	Struts Action
/appdynamicspilot/	Servlet
UserLogOut.memberLogOut	Struts Action

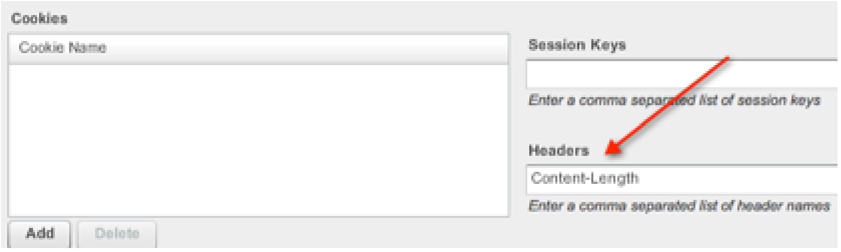
5 Transactions are not using this Data Collector

Tip: You can drag items between these lists

10. Click **Save**. The data collector is created.

To use the HTTP content-length header to monitor the correlation between the size of response and overall throughput for an application

Configure the Content-Length in the Headers section.



Cookies

Cookie Name

Session Keys

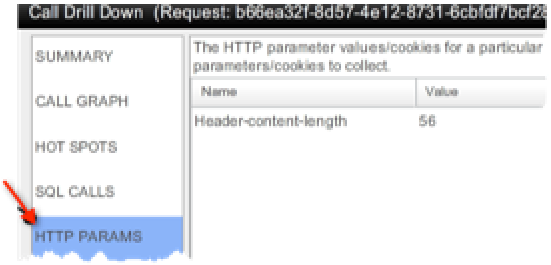
Enter a comma separated list of session keys

Headers

Content-Length

Enter a comma separated list of header names

The content length header appears in the HTTP Params section of the transaction snapshot.



Call Drill Down (Request: b66ea32f-8d57-4e12-8731-6cbfdf7bcf28

The HTTP parameter values/cookies for a particular parameters/cookies to collect.

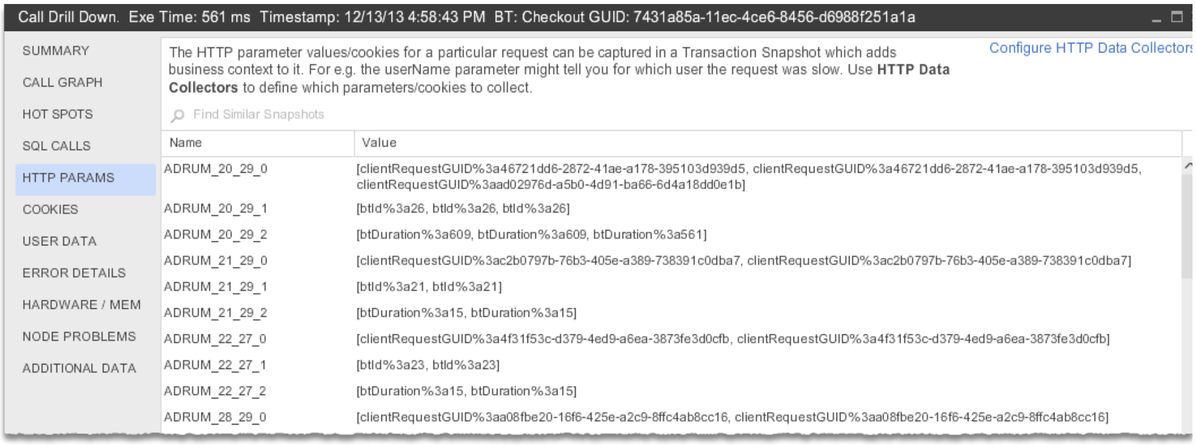
Name	Value
Header-content-length	56

To see the output from an HTTP data collector

1. Access transaction snapshots for the business transactions on which this data collector is

applied. See Transaction Snapshots.

2. For URL, Session ID, or User Principal, examine the SUMMARY panel of the transaction snapshot.
3. For Parameters, Headers, or Session keys, examine the HTTP PARAMS panel of the transaction snapshot.



Call Drill Down. Exe Time: 561 ms Timestamp: 12/13/13 4:58:43 PM BT: Checkout GUID: 7431a85a-11ec-4ce6-8456-d6988f251a1a
SUMMARY
CALL GRAPH
HOT SPOTS
SQL CALLS
HTTP PARAMS
COOKIES
USER DATA
ERROR DETAILS
HARDWARE / MEM
NODE PROBLEMS
ADDITIONAL DATA
Configure HTTP Data Collectors
Find Similar Snapshots

The HTTP parameter values/cookies for a particular request can be captured in a Transaction Snapshot which adds business context to it. For e.g. the userName parameter might tell you for which user the request was slow. Use **HTTP Data Collectors** to define which parameters/cookies to collect.

Name	Value
ADRUM_20_29_0	[clientRequestGUID%3a46721dd6-2872-41ae-a178-395103d939d5, clientRequestGUID%3a46721dd6-2872-41ae-a178-395103d939d5, clientRequestGUID%3aad02976d-a5b0-4d91-ba66-6d4a18dd0e1b]
ADRUM_20_29_1	[btId%3a26, btId%3a26, btId%3a26]
ADRUM_20_29_2	[btDuration%3a609, btDuration%3a609, btDuration%3a561]
ADRUM_21_29_0	[clientRequestGUID%3ac2b0797b-76b3-405e-a389-738391c0dba7, clientRequestGUID%3ac2b0797b-76b3-405e-a389-738391c0dba7]
ADRUM_21_29_1	[btId%3a21, btId%3a21]
ADRUM_21_29_2	[btDuration%3a15, btDuration%3a15]
ADRUM_22_27_0	[clientRequestGUID%3a4f31f53c-d379-4ed9-a6ea-3873fe3d0cfb, clientRequestGUID%3a4f31f53c-d379-4ed9-a6ea-3873fe3d0cfb]
ADRUM_22_27_1	[btId%3a23, btId%3a23]
ADRUM_22_27_2	[btDuration%3a15, btDuration%3a15]
ADRUM_28_29_0	[clientRequestGUID%3aa08fbe20-16f6-425e-a2c9-8ffc4ab8cc16, clientRequestGUID%3aa08fbe20-16f6-425e-a2c9-8ffc4ab8cc16]

4. For Cookies, examine the COOKIES panel of the transaction snapshot.

Learn More

- Data Collectors