

# Oracle Business Activity Monitoring (BAM) 12c

## *Web Service Interfaces*

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## Oracle BAM 12c: Web Service Interfaces

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**Supported Version:** Oracle Business Activity Monitoring 12c

### **Objectives:**

This document shows examples of the BAM 12c web services interfaces. There are two sets of interfaces. “DODefinition” is used to create data objects, get their definition programmatically or manipulate the attributes of the data object including the types. “DOOperations” relates the actual data within a data object.

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### 1 Data Object Definition

The DODefinition interface relates to the definition of the data object itself. You can use it to create a data object, get its definition or modify it or delete it.

<http://<host>:<port>/OracleBAMWS/WebServices/DODefinition?WSDL>

#### 1.1 Create

This interface creates a data object.

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:orac="http://xmlns.oracle.com/oraclebam">
  <soapenv:Header/>
  <soapenv:Body>
    <orac:Create>
      <orac:xmlPayload><![CDATA[<ns0:simpleDataObject
xmlns:ns0="http://xmlns.oracle.com/bam/bam12">
  <name>Sales</name>
  <displayName>Sales</displayName>
  <cqType>RELATION</cqType>
  <cqArchived>true</cqArchived>
  <hidden>false</hidden>
  <columns>
    <column>
      <name>Salesperson</name>
      <displayName>Salesperson</displayName>
      <length>200</length>
      <nullable>true</nullable>
      <unique>false</unique>
      <dataType>VARCHAR</dataType>
      <columnType>DIMENSION</columnType>
      <hidden>false</hidden>
      <editable>true</editable>
    </column>
    <column>
      <name>SalesArea</name>
      <displayName>Sales Area</displayName>
      <length>100</length>
      <nullable>false</nullable>
      <unique>false</unique>
      <dataType>VARCHAR</dataType>
      <columnType>DIMENSION</columnType>
      <hidden>false</hidden>
      <editable>true</editable>
    </column>
    <column>
      <name>SalesNumber</name>
      <displayName>Sales Number</displayName>
      <length>100</length>
```

```
        <nullable>true</nullable>
        <unique>false</unique>
        <precision>38</precision>
        <scale>10</scale>
        <dataType>DECIMAL</dataType>
        <columnType>MEASURE</columnType>
        <hidden>false</hidden>
        <editable>true</editable>
    </column>
</columns>
</ns0:simpleDataObject>]]></orac:xmlPayload>
</orac:Create>
</soapenv:Body>
</soapenv:Envelope>
```

### 1.2 Delete

This deletes a data object.

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:orac="http://xmlns.oracle.com/oraclebam">
  <soapenv:Header/>
  <soapenv:Body>
    <orac>Delete>
      <orac:dataObjectFullName>Sales</orac:dataObjectFullName>
    </orac>Delete>
  </soapenv:Body>
</soapenv:Envelope>
```

### 1.3 Get

This gets the definition of a data object.

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:orac="http://xmlns.oracle.com/oraclebam">
  <soapenv:Header/>
  <soapenv:Body>
    <orac:Get>
      <orac:dataObjectFullName>Sales</orac:dataObjectFullName>
    </orac:Get>
  </soapenv:Body>
</soapenv:Envelope>
```

### 1.4 Update

This updates the definition of a data object.

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:orac="http://xmlns.oracle.com/oraclebam">
  <soapenv:Header/>
  <soapenv:Body>
```

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```
<orac:Update>
  <orac:xmlPayload><![CDATA[<ns0:simpleDataObject
xmlns:ns0="http://xmlns.oracle.com/bam/bam12">
  <name>Sales</name>
  <displayName>Sales</displayName>
  <cqType>RELATION</cqType>
  <cqArchived>true</cqArchived>
  <hidden>false</hidden>
  <columns>
    <column>
      <name>Salesperson</name>
      <displayName>Salesperson</displayName>
      <length>210</length>
      <nullable>false</nullable>
      <unique>false</unique>
      <dataType>VARCHAR</dataType>
      <columnType>ATTRIBUTE</columnType>
      <hidden>false</hidden>
      <editable>true</editable>
    </column>
    <column>
      <name>saleAmount</name>
      <displayName>Sale Amount</displayName>
      <internal>false</internal>
      <systemManaged>false</systemManaged>
      <isEditable>true</isEditable>
      <length>100</length>
      <nullable>true</nullable>
      <unique>false</unique>
      <precision>38</precision>
      <scale>10</scale>
      <dataType>DECIMAL</dataType>
      <columnType>MEASURE</columnType>
      <hidden>false</hidden>
      <editable>false</editable>
    </column>
    <column>
      <name>SalesArea</name>
      <displayName>SalesArea</displayName>
      <length>100</length>
      <nullable>false</nullable>
      <unique>false</unique>
      <dataType>VARCHAR</dataType>
      <columnType>ATTRIBUTE</columnType>
      <hidden>false</hidden>
      <editable>true</editable>
    </column>
  </columns>
</ns0:simpleDataObject>]]></orac:xmlPayload>
</orac:Update>
</soapenv:Body>
</soapenv:Envelope>
```

### 2 Data Object Operations

The DOOperations interface is used to manipulate the data within a particular data object.

<http://<host>:<port>/OracleBAMWS/WebServices/DOOperations?WSDL>

#### 2.1 Batch

This performs a set of operations as a batch on the data object.

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:orac="http://xmlns.oracle.com/oraclebam">
  <soapenv:Header/>
  <soapenv:Body>
    <orac:Batch>
      <orac:xmlPayload><![CDATA[<dataObjectOperations>
<operations>
  <insert dataobject="Sales">
    <insert-columns>
      <string value="John Smith" name="Salesperson"/>
      <string value="South" name="SalesArea"/>
      <decimal value="5000.00" name="SalesNumber"/>
    </insert-columns>
    <insert-columns>
      <string value="Greg Guan" name="Salesperson"/>
      <string value="North" name="SalesArea"/>
      <decimal value="3000.00" name="SalesNumber"/>
    </insert-columns>
  </insert>
</operations>
</dataObjectOperations>]]></orac:xmlPayload>
    </orac:Batch>
  </soapenv:Body>
</soapenv:Envelope>
```

#### 2.2 Delete

This deletes data from a data object.

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:orac="http://xmlns.oracle.com/oraclebam">
  <soapenv:Header/>
  <soapenv:Body>
    <orac>Delete>
      <orac:xmlPayload><![CDATA[<dataObjectOperations>
<operations>
  <delete dataobject="Sales">
    <filter-columns>
      <string value="Greg Guan" name="Salesperson" predicate="EQ"/>
    </filter-columns>
  </delete>
</operations>
</dataObjectOperations>]]></orac:xmlPayload>
    </orac>Delete>
  </soapenv:Body>
</soapenv:Envelope>
```

```
        </filter-columns>
      </delete>
    </operations>
  </dataObjectOperations>]]></orac:xmlPayload>
  </orac:Delete>
</soapenv:Body>
</soapenv:Envelope>
```

### 2.3 Get

This gets data from a data object.

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:orac="http://xmlns.oracle.com/oraclebam">
  <soapenv:Header/>
  <soapenv:Body>
    <orac:Get>
      <orac:keysCSV>Salesperson</orac:keysCSV>
      <orac:xmlPayload><![CDATA[<DataObject Name="Sales">
        <Contents>
          <Row>
            <Column Name="Salesperson" Value="Greg Guan"/>
          </Row>
        </Contents>
      </DataObject>]]></orac:xmlPayload>
    </orac:Get>
  </soapenv:Body>
</soapenv:Envelope>
```

### 2.4 Insert

This inserts data into a data object.

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:orac="http://xmlns.oracle.com/oraclebam">
  <soapenv:Header/>
  <soapenv:Body>
    <orac:Insert>
      <orac:xmlPayload><![CDATA[<dataObjectOperations>
        <operations>
          <insert dataobject="Sales">
            <insert-columns>
              <string value="Greg Guan" name="Salesperson"/>
              <string value="Northeast" name="SalesArea"/>
              <decimal value="100.00" name="SalesNumber"/>
            </insert-columns>
          </insert>
        </operations>
      </dataObjectOperations>]]></orac:xmlPayload>
    </orac:Insert>
  </soapenv:Body>
</soapenv:Envelope>
```



### 2.5 Update

This updates one or more rows in a data object.

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:orac="http://xmlns.oracle.com/oraclebam">
  <soapenv:Header/>
  <soapenv:Body>
    <orac:Update>
      <orac:xmlPayload><![CDATA[<dataObjectOperations>
<operations>
  <update dataobject="Sales">
    <filter-columns>
      <string value="Greg Guan" name="Salesperson" predicate="EQ"/>
    </filter-columns>
    <update-columns>
      <string value="Hanumesh" name="Salesperson"/>
      <string value="Northwest" name="SalesArea"/>
      <decimal value="6000.25" name="SalesNumber"/>
    </update-columns>
  </update>
</operations>
</dataObjectOperations>]]></orac:xmlPayload>
    </orac:Update>
  </soapenv:Body>
</soapenv:Envelope>
```

### 2.6 Upsert

This performs a data “upsert” operation on a data object. The “upsert” operation will update a row if the key is present, otherwise it will insert a row.

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:orac="http://xmlns.oracle.com/oraclebam">
  <soapenv:Header/>
  <soapenv:Body>
    <orac:Upsert>
      <orac:xmlPayload><![CDATA[<dataObjectOperations>
<operations>
  <upsert dataobject="Sales">
    <filter-columns>
      <string value="Greg Guan" name="Salesperson" predicate="EQ"/>
    </filter-columns>
    <update-columns>
      <decimal value="451.82" name="SalesNumber"/>
    </update-columns>
    <insert-columns>
      <string value="Greg Guan" name="Salesperson"/>
      <string value="Southeast" name="SalesArea"/>
      <decimal value="451.82" name="SalesNumber"/>
    </insert-columns>
  </upsert>
</operations>
</dataObjectOperations>]]></orac:xmlPayload>
    </orac:Upsert>
  </soapenv:Body>
</soapenv:Envelope>
```

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```
        </upsert>
      </operations>
</dataObjectOperations>]]></orac:xmlPayload>
  </orac:Upsert>
</soapenv:Body>
</soapenv:Envelope>
```

### **Summary:**

This document has shown examples of how to interact with BAM 12c data objects via web services.

- Perform data object definition manipulations to create a data object or modify it or simply get its definition programmatically.
- Perform operations on the data for a data object including inserting, updating, deleting or doing a set of operations all at once in a batch.