



## **Jetspeed-2 Portal Statistics Components v.2.1.3**

**Project Documentation**

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## 1.1 Statistics Overview

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### Statistics Overview

Jetspeed-2 provides components for collecting portal data for various application events.

#### Collecting Portal Data

`PortalStatistics` provides APIs for collecting portal application events. The following event types are supported out of the box:

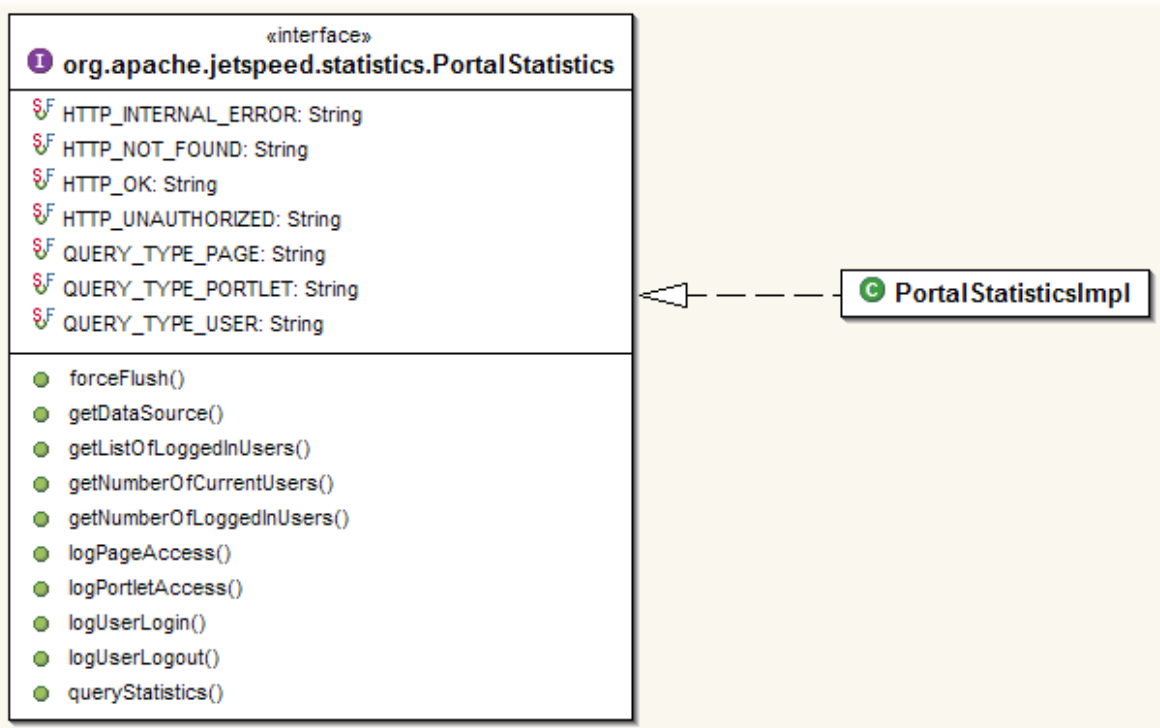
- Portlet rendering statistics.
- Page rendering statistics.
- User access statistics.

The `PortalStatistics` implementation logs usage data based on the [Apache Common Log Format \(CLF\)](#) where each log entry is formatted in the form:

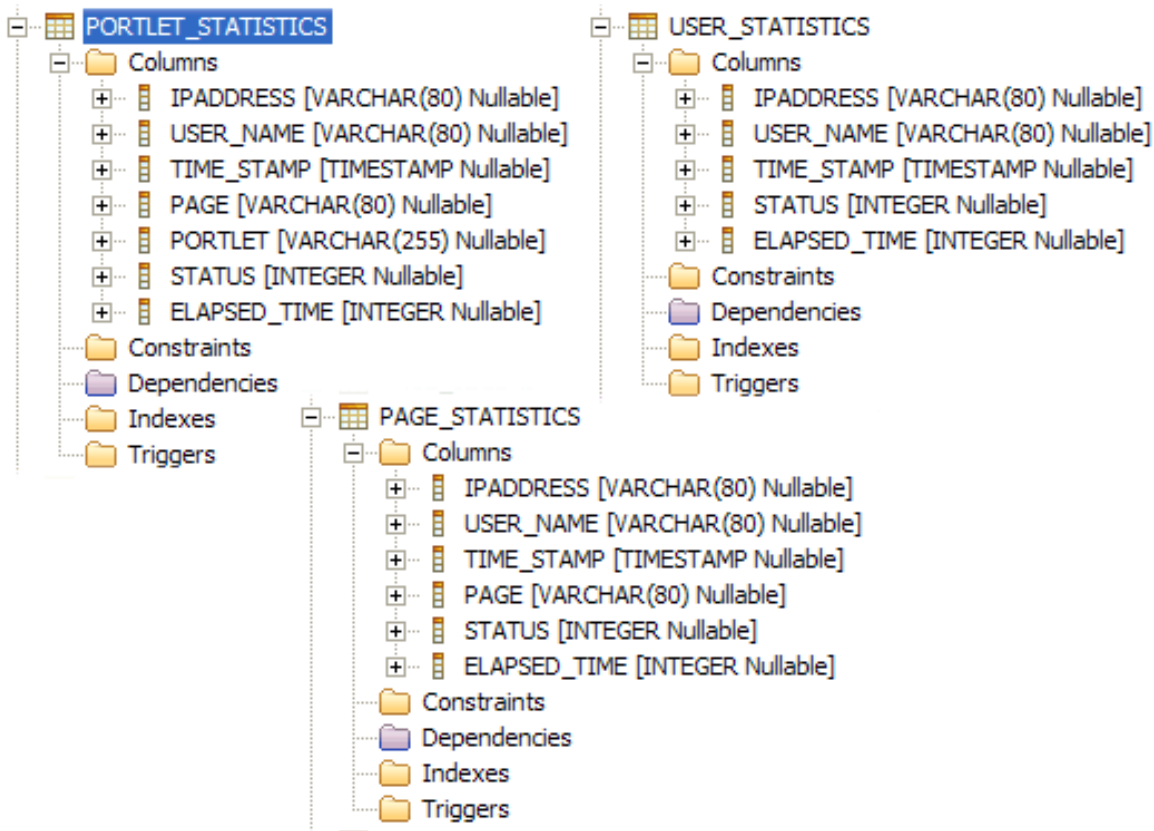
```
%h %l %u %t \"%r\" %>s %b
```

where:

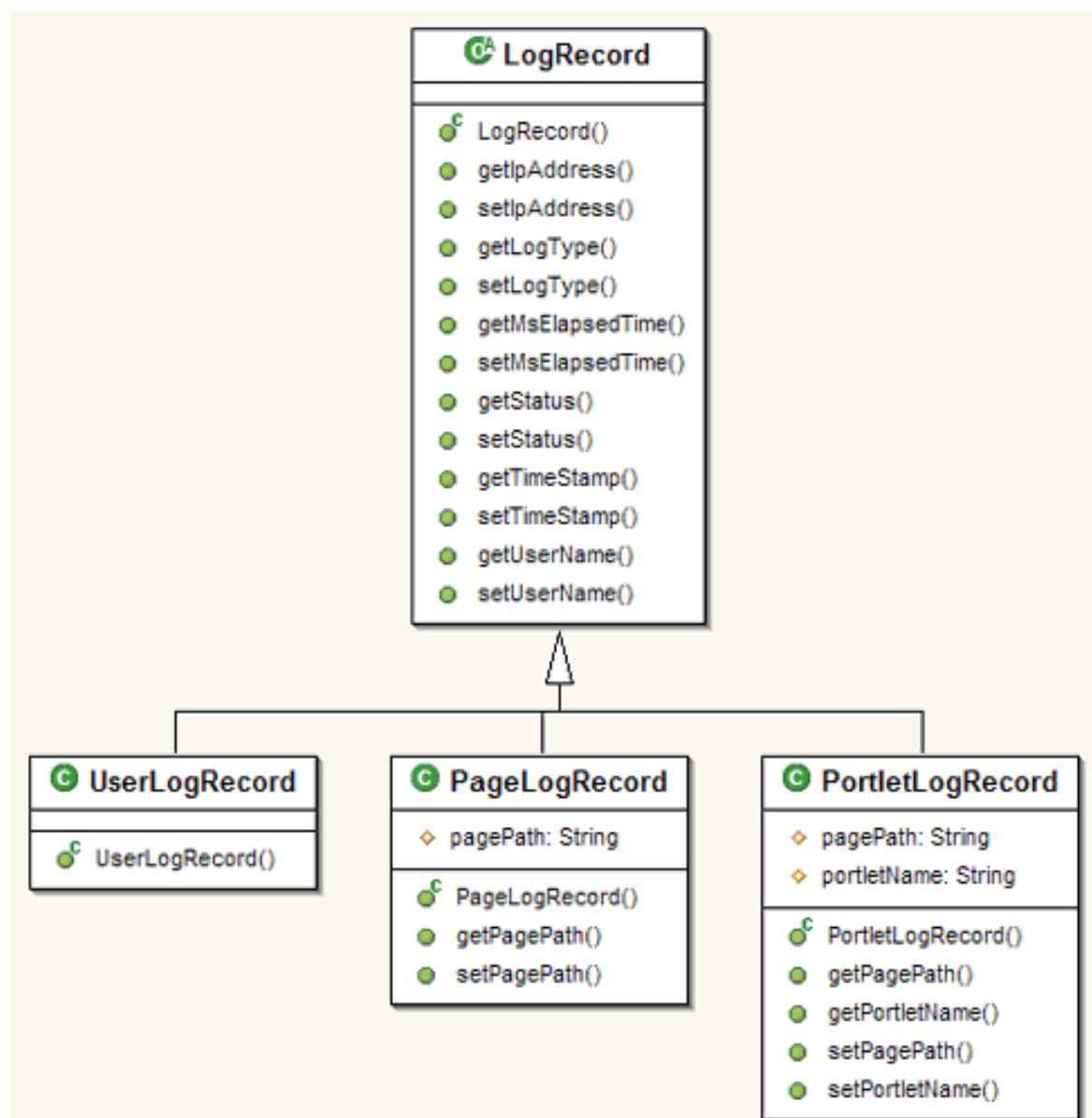
- `%h` - remote host
- `%l` - remote log name
- `%u` - remote user
- `%t` - time in common log time format
- `%r` - first line of HTTP request
- `%s` - HTTP status code
- `%b` - number of bytes sent ("- " if no bytes sent).



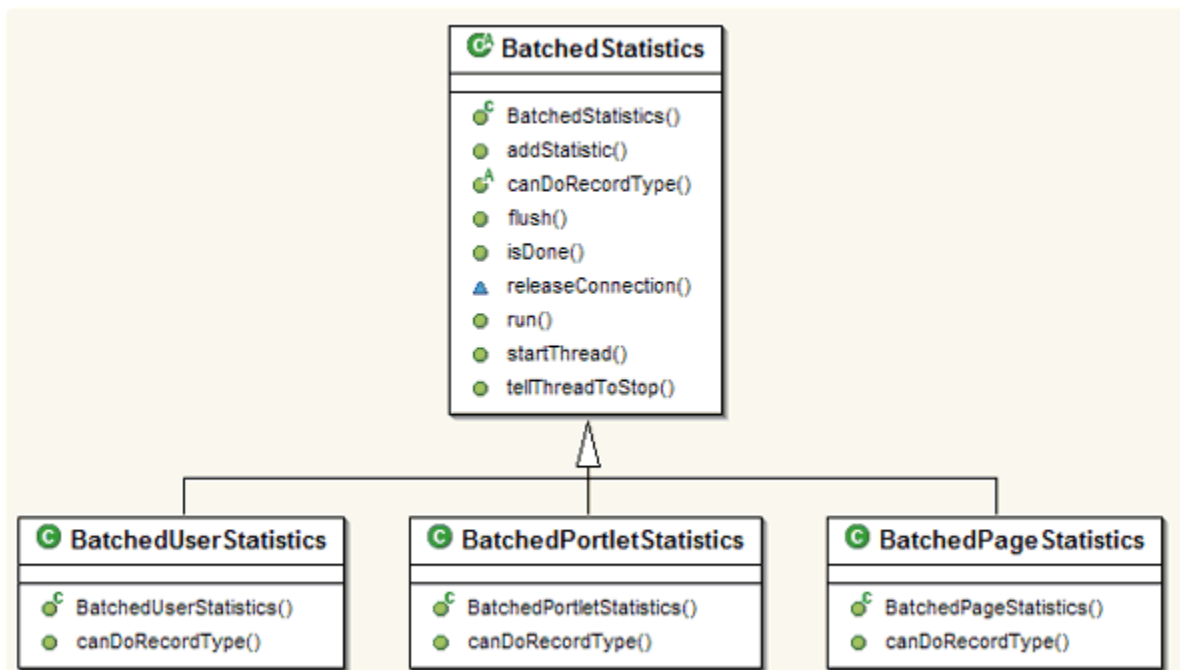
Statistics data is stored in 3 relational tables as illustrated below:



Each event type is mapped to a data holder that gets persisted in the statistics tables illustrated above.



Jetspeed-2 persists the collected data in batches through the `BatchedStatistics` component.



### PortalStatistics Configuration

The `PortalStatistics` component is configured in `WEB-INF/assembly/statistics.xml` and requires the following configuration parameters:

- **logToCLF**: Whether to log to a Common Log Format file.
- **logToDatabase**: Whether to record the statistics in the database.
- **maxRecordToFlush\_Portlet**: The maximum number of portlet events that can be in the portlet statistics FIFO before a flush occurs.
- **maxRecordToFlush\_User**: The maximum number of user events that can be in the user statistics FIFO before a flush occurs.
- **maxRecordToFlush\_Page**: The maximum number of page events that can be in the page statistics FIFO before a flush occurs.
- **maxTimeMsToFlush\_Portlet**: The maximum length of time between FIFO flushes for the portlet statistics FIFO.
- **maxTimeMsToFlush\_User**: The maximum length of time between FIFO flushes for the user statistics FIFO.
- **maxTimeMsToFlush\_Page**: The maximum length of time between FIFO flushes for the page statistics FIFO.
- **jetspeedDSEntry**: The reference to the Jetspeed data source.

The FIFO parameters may be adjusted depending on site specific needs. For example, tuning the events and times down makes the system less likely to lose events in the case of a failure, and also makes the user experience viewing the statistics more responsive to recent events. On the other hand, tuning them higher will reduce the overhead to the database. Generally newer sites with fewer users should use smaller tuning parameters and larger more mature sites should use larger ones.



A sample configuration is provided below:

```
<bean id="PortalStatistics"
  class="org.apache.jetspeed.statistics.impl.PortalStatisticsImpl"
  init-method="springInit"
  destroy-method="springDestroy">
  <!-- logToCLF -->
  <constructor-arg index='0'
type="boolean"><value>>false</value></constructor-arg>
  <!-- logToDatabase -->
  <constructor-arg index='1'
type="boolean"><value>>true</value></constructor-arg>
  <!-- maxRecordToFlush_Portal -->
  <constructor-arg index='2'><value>300</value></constructor-arg>
  <!-- maxRecordToFlush_User -->
  <constructor-arg index='3'><value>50</value></constructor-arg>
  <!-- maxRecordToFlush_Page -->
  <constructor-arg index='4'><value>100</value></constructor-arg>
  <!-- maxTimeMsToFlush_Portal -->
  <constructor-arg index='5'><value>300000</value></constructor-arg>
  <!-- maxTimeMsToFlush_User -->
  <constructor-arg index='6'><value>5000</value></constructor-arg>
  <!-- maxTimeMsToFlush_Page -->
  <constructor-arg index='7'><value>60000</value></constructor-arg>
  <!-- jetspeedDSEntry -->
  <constructor-arg index='8'><ref bean="JetspeedDS"/></constructor-arg>
</bean>
```

## 1.2 Data Aggregation

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### Data Aggregation Overview

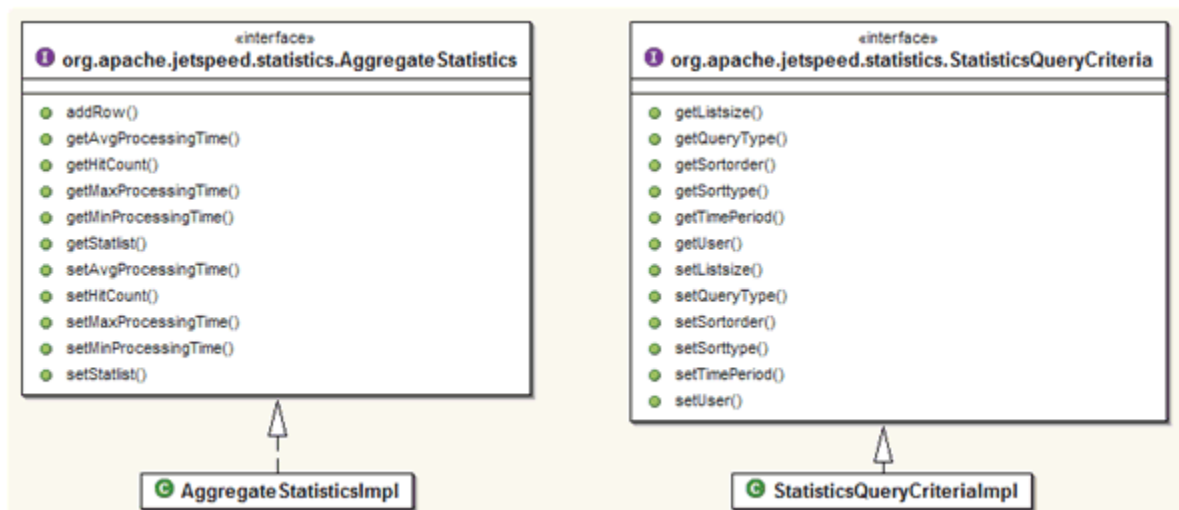
Jetspeed-2 provides a mechanism for aggregating portal statistics for reporting purpose.

#### Retrieving Aggregate Statistics

The PortalStatistics component exposes a `queryStatistics` method that given a `StatisticsQueryCriteria` will return `AggregateStatistics`.

```
AggregateStatistics queryStatistics(StatisticsQueryCriteria criteria)
```

The `AggregateStatistics` can then be used for reporting purpose.



#### Using Aggregate Statistics

As illustrated in [viewing statistics](#), Jetspeed-2 provides a default reporting portlet for view statistics. To query statistics, a `StatisticsQueryCriteria` must be set. According to this criteria the `PortalStatistics queryStatistics()` method will return an `AggregateStatistics`.

```
StatisticsQueryCriteria criteria =
statistics.createStatisticsQueryCriteria();
...
criteria.setUser(user);
criteria.setListsize("5");
criteria.setSorttype("count");
```

```
criteria.setSortorder("desc");
criteria.setTimePeriod(timeperiod);
criteria.setQueryType(queryType);
AggregateStatistics stats = statistics.getDefaultEmptyAggregateStatistics();
...
statistics.forceFlush();
stats = statistics.queryStatistics(criteria);
```

## 1.3 Viewing Statistics

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### Viewing Statistics

#### Where are the Event Recorded?

Portal statistics events collection is injected at multiple points in the portal engine. Some examples are provided below.

For user events, the `SecurityValveImpl` logs a user login event in `getSubject(RequestContext request)`.

```
statistics.logUserLogin(request, 0);
```

For portlet events, the `RenderingJobImpl` invoked in `RenderingJob buildRenderingJob` logs a portlet access event.

```
statistics.logPortletAccess(requestContext, fragment.getName(),  
PortalStatistics.HTTP_OK, end - start);
```

#### Viewing Statistics

Jetseed-2 provides administrative portlets that report on portal statistics.

Portal Statistics

total sessions in progress: 1

statistics are for: **portlets**

for time periods:

- last 1 minutes
- last 5 minutes
- last 30 minutes
- last 1 hour
- last 6 hours
- last 24 hours
- last 7 days
- last 1 month
- last 1 year
- all time

stats for all portlets

Top 5 portlets sorted by count desc

stat name	value	portlet	count	max Time	avg Time	min Time
total hits	21	j2-admin::UserRegistrationPortlet	2	51	30	10
max time	3435.0	j2-admin::LoginPortlet	2	551	280	10
avg time	426.0	j2-admin::LocaleSelector	2	3435	1717	0
min time	0.0	j2-admin::ForgottenPasswordPortlet	2	130	70	10
		demo::UserInfoTest	2	541	366	191

all times in milliseconds

Portal Statistics

total sessions in progress: 1

statistics are for: **pages**

for time periods:

- last 1 minutes
- last 5 minutes
- last 30 minutes
- last 1 hour
- last 6 hours
- last 24 hours
- last 7 days
- last 1 month
- last 1 year
- all time

stats for all pages

Top 5 pages sorted by count desc

stat name	value	page	count	max Time	avg Time	min Time
total hits	10	/default-page.psml	3	6850	4433	341
max time	6850.0	/Administrative/statistics.psml	3	460	206	70
avg time	1686.0	/my-account.psml	2	741	405	70
min time	70.0	\$row.get("groupColumn")	1	220	220	220
		/Administrative/user-mgt.psml	1	1913	1913	1913

all times in milliseconds