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Developer's Guide

Events Structure

Events Structure

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Overview

When the **Tracker Application** monitors the current web page, it generates a series of events, which are represented in JSON format.

There are two available event types:

- **SYSTEM** — These events are generated automatically and cannot be configured.
- **BUSINESS** — These are additional custom events you can create.

Important

You can configure when an event should be generated by **customizing the DSL**, but if you need more flexibility you can use the **Monitoring JS API**.

Common Event Structure

The common event structure is a scaffold for generating System and Business events. In table below, **data** represents the common structure that is included in both event types.

Field	Type	Description
eventType	String	The event type: BUSINESS or SYSTEM.
eventName	String	The required event name.
eventId	String	The generated UUID that is used to identify the event.
pageId	String	The generated UUID that is used to identify the page.
timestamp	Number	The time stamp for when the event was generated. This is taken from the browser.
category	String	A list of categories separated by commas. For more information, see Managing Categories .
url	String	The URL of the page where the event was triggered.
languageCode	String	The current language. This can be configured using the languageCode configuration option in the instrumentation script .

Field	Type	Description
globalVisitID	String	globalVisitID is a anonymously identifier of a particular device or browser.
visitID	String	visitID represents a particular session in the browser.
data	Object	Container for additional data. Which depends on event type and name. See appropriate event below

Example of the Common Event Structure

```
{
  "eventName": "PageEntered",
  "eventID": "44D25DDB78174DEC8F33E28F96428336",
  "pageID": "9A1AD4389AC34F0A86D3EB04E50D6137",
  "timestamp": 1413979605190,
  "category": "my-category",
  "url": "http://www.genesys.com/products",
  "languageCode": "en-US",
  "globalVisitID": "b5a93936-b2a4-4042-a5e6-0a2b9681c1a9",
  "visitID": "8bd4bbb5-3b1d-4647-9ede-37820b88e343",
  "data": {
    ...
  }
}
```

System Event Structure

System events have specific values for the following fields:

Field	Type	Description
eventType	String	SYSTEM
eventName	String	The following values are possible: PageEntered — generated when the user enters a page PageExited — generated when the user changes location or closes a page VisitStarted — generated when the visit is identified
data	Object	This field should contain specific information, described in System data below.

System data

The value of the System event's **data** field can vary depending on the name of System event. The following sections provide details about the **data** provided for each event name.

VisitStarted

The VisitStarted event expands the System event structure with the following value for **data**:

data field	Type	Description
userAgent	String	The <code>window.navigator.userAgent</code> value. This contains information about the name, version, and platform of the browser.
screenResolution	String	The screen resolution at the moment the event is generated. The format is width x height. For example: "1440x900"
language	String	The language code from <code>window.navigator</code> , retrieved from the first available of the following objects: <code>window.navigator.language window.navigator.browserLanguage window.navigator.userLanguage window.navigator.systemLanguage</code>
timezoneOffset	String	The timezone offset in milliseconds.
ipAddress	String	The client IP address.

```
{
  "eventType": "SYSTEM",
  "eventName": "VisitStarted",
  "eventID": "5E1BA21F69F149F280B028385DF16DC3",
  "pageID": "300E084345EC412F879D5A835F7CA4F6",
  "timestamp": 1414074819648,
  "category": "my-category",
  "url": "http://www.genesys.com/products",
  "languageCode": "en-US",
  "globalVisitID": "301438c2-3139-4035-aac0-1c9c8a60c481",
  "visitID": "9ccd9489-6a94-4b45-8813-clcca010d443",
  "data": {
    "userAgent": "Mozilla/5.0 (Windows NT 6.1; WOW64; rv:32.0) Gecko/20100101
Firefox/32.0",
    "screenResolution": "1680x1050",
    "language": "en-US",
    "timezoneOffset": -10800000,
    "ipAddress": "123.45.67.890"
  }
}
```

PageEntered

The PageEntered event expands the System event structure with the following value for **data**:

data field	Type	Description
urlReferrer	String	A <code>window.document.referrer</code> value. The referrer property returns the URL of the document that loaded the current document.
localTime	String	The string representation of the time in the browser when the event was generated.
title	String	The page title, taken from <code>window.document.title</code> .

```
{
  "eventType": "SYSTEM",
  "eventName": "PageEntered",
  "eventID": "44D25DDB78174DEC8F33E28F96428336",
  "pageID": "9A1AD4389AC34F0A86D3EB04E50D6137",
  "timestamp": 1413979605190,
  "category": "my-category",
  "url": "http://www.genesys.com/products",
  "languageCode": "en-US",
  "globalVisitID": "b5a93936-b2a4-4042-a5e6-0a2b9681c1a9",
  "visitID": "8bd4bbb5-3b1d-4647-9ede-37820b88e343",
  "data": {
    "urlReferrer": "http://www.genesys.com",
    "localTime": "Wed Oct 22 2014 15:06:45 GMT+0300 (FLE Daylight Time)",
    "title": "English"
  }
}
```

PageExited

The PageExited event does not have additional data. The event structure is the same as the System event structure, but with the PageExited event name specified:

```
{
  "eventType": "SYSTEM",
  "eventName": "PageExited",
  "eventID": "E8E6F0926F3642BF889DA5ED4342EFA7",
  "pageID": "9A1AD4389AC34F0A86D3EB04E50D6137",
  "timestamp": 1413982730013,
  "category": "my-category",
  "url": "http://www.genesys.com/products",
  "languageCode": "en-US",
  "globalVisitID": "b5a93936-b2a4-4042-a5e6-0a2b9681c1a9",
  "visitID": "8bd4bbb5-3b1d-4647-9ede-37820b88e343",
  "data": {}
}
```

UserInfo

The UserInfo event expands the System event structure with the following value for **data**:

data field	Type	Description
userID	String	A unique persistent string identifier that represents a user or signed-in account across devices.

```
{
  "eventType": "SYSTEM",
  "eventName": "UserInfo",
  "eventID": "532BC42B99C341578639A1DF1F2A45D9",
  "pageID": "C90206CA44A2401F9408A1581EF0E258",
  "timestamp": 1419437657401,
  "category": "",
  "url": "http://www.genesys.com/products",
  "languageCode": "en-US",
  "globalVisitID": "c9b891e4-ae04-493b-b554-4eba19ad7c58",
  "visitID": "b5c87b28-a00e-4461-961b-d6a01b754838",
  "data": {
    "userID": "user@genesyslab.com",
    "name": "Bob",
    "sex": "male",
    "age": 30
  }
}
```

SignIn

The SignIn event expands the System event structure with the following value for **data**:

data field	Type	Description
userID	String	A unique persistent string identifier that represents a user or signed-in account across devices.

```
{
  "eventType": "SYSTEM",
  "eventName": "SignIn",
  "eventID": "DE6826972BDF4820B03FAF5BB7945426",
  "pageID": "C90206CA44A2401F9408A1581EF0E258",
  "timestamp": 1419437874950,
  "category": "",
  "url": "http://www.genesys.com/products",
  "languageCode": "en-US",
  "globalVisitID": "c9b891e4-ae04-493b-b554-4eba19ad7c58",
  "visitID": "b5c87b28-a00e-4461-961b-d6a01b754838",
  "data": {
    "userID": "user@genesyslab.com",
    "name": "Bob",
    "sex": "male",
    "age": 30
  }
}
```

SignOut

The SignOut event does not have additional data. The event structure is the same as the System event structure, but with the SignOut event name specified:

```
{
  "eventType": "SYSTEM",
  "eventName": "SignOut",
  "eventID": "3CE3204E697640A7986C70CA97F0945C",
  "pageID": "C90206CA44A2401F9408A1581EF0E258",
  "timestamp": 1419437925162,
  "category": "",
  "url": "http://www.genesys.com/products",
  "languageCode": "en-US",
  "globalVisitID": "c9b891e4-ae04-493b-b554-4eba19ad7c58",
  "visitID": "b5c87b28-a00e-4461-961b-d6a01b754838",
  "data": {
  }
}
```

Business Event Structure

Business events have the same structure as the common event structure, with additional data specified in the DSL configuration. For example, if your DSL (**domain-model.xml**) has the following event generation rules:

```
<event id="TimeoutEvent10" name="Timeout-10" condition="" postcondition="document.hasFocus()
=== true">
  <trigger name="TimeoutTrigger" element="" action="timer:10000" type="timeout" url=""
count="1" />
  <val name="myValueName" value="'myValue'"></val>
</event>
```

Then the generated Business event is expanded with the additional data:

```
{
  "eventType": "BUSINESS",
  "eventName": "Timeout-10",
  "eventID": "11030C008B3D45ACADFB32A1B4E01122",
  "pageID": "B501B6EE57EF4E2AA05379D468E772D6",
  "timestamp": 1413990905565,
  "category": "",
  "url": "http://www.genesys.com/products",
  "languageCode": "en-US",
  "globalVisitID": "b5a93936-b2a4-4042-a5e6-0a2b9681c1a9",
  "visitID": "8bd4bbb5-3b1d-4647-9ede-37820b88e343",
  "data": {
    "myValueName": "myValue"
  }
}
```