



# GED

## API SEARCH CAPABILITIES GUIDE

## INTRODUCTION

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“Birds of a feather flock together.” It’s an old saying that’s never more true than when we think about the millions of events that happen around the world each year and the fact that people choose which ones they invest their time and money on, whether it’s a football game, tech conference, luxury car rally, or Heavy Metal concert.

The first step to attracting your target audience is finding them. Once you know everything about an event such as what sort of event it is and where and when it is being held, you know what kind of people are going to be there. With that knowledge, you can sponsor the event, target relevant mobile ads to its attendees, offer prizes to acquire leads from it, plan a guerrilla strategy nearby, or, if you run a business in the area, you can attract its crowd to your location. This just scratches the surface of the many ways you can leverage event data.

Global Event Data Inc. (GEDI) is the premiere source of detailed event data worldwide. This guide briefly describes GEDI’s rich and comprehensive data feed, provides ideas about how you can leverage the data to enhance existing strategies or create new ones, and, for developers and data professionals, offers a hands-on tutorial for interacting with the event data using a browser.

This guide is in two parts:

### Part I: Welcome to the GEDI Events Firehose

- This part describes what details are in the events data feed and provides ideas about how you can use this data within your business.

### Part II: Using the GEDI Events Feed: A Hands-On Guide

- This part provides a tutorial so that you see how you can interact with the data. You’ll learn how to extract relevant event data to meet business needs and deliver it in a form that business-people can easily open in Excel.

## PART I: WELCOME TO THE GEDI EVENTS FIREHOSE

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No matter what your business is, having a detailed and reliable feed of events scheduled everywhere—from around the corner to across the world, from entertainment to professional events, from recurring to one-time events, from ballet to DJs at a hip-hop club, from sports to classic car auctions to medical conferences—gives you a new way to **find and connect with the precise audience you or your client is looking for.**

The GEDI Events Firehose is a single source of all the events happening in venues of all sizes, both indoors and outdoors, around the globe. If you operate one business in one location, you might not need this data; you could probably keep up with the events happening around you. But if you are a large organization, media agency, or PR firm that services large clients on a global scale, this data will be invaluable to you and your clients, allowing you to easily find the precise events with the correct demographics.

## GETTING THE DATA

The GEDI Events Firehose is available in two ways:

- You can query the live event data remotely via the Firehose, as we will demonstrate in Part II.
- You can bring the data in-house so that you can incorporate it into your existing data ecosystem and interact with it using your own analytic and visualization tools.

Many organizations will prefer the second option so that they can append it to their own tools and data repositories. Since GEDI data is constantly being refreshed, hosting the data internally requires calls to the API to keep it up to date.

Once you become a GEDI customer, you have unlimited access to the latest GEDI data. There is no cost per API call or per event. Your license provides you with unlimited access to the data for your own internal use.

## DEFINING THE WORD “EVENT”

An event is anything with a time and a physical location that more than one person can attend. Concerts fit into that category, but so do lectures, professional conferences, karaoke nights, and singles meetups. As you explore the data available to you, you’ll get a feel for how many kinds of events are included in the dataset—and the possibilities of how you could leverage that data for your own business needs.

## WHAT CAN GEDI TELL YOU ABOUT AN EVENT?

Depending on which tier of access you choose, GEDI can deliver all the intelligence you need about every event that interests you. For example:

- Event title
- Venue name
- Full normalized address
- Latitude/Longitude

- Categories
- Genres
- Subject matter metadata (such as artist names, place names, and much more)
- Complete schedule
- Normalized start/end time and date
- Entry prices
- Venue capacity min and max

### HOW ARE EVENTS SOURCED?

Proprietary, custom-built web crawlers search hundreds of thousands of events every day, with new data sources added each week.

Each data source is recrawled on average every three to nine hours, meaning that the data delivered by GEDI is real-time, with up to 35,000 new events being catalogued each day and more than 200,000 events being updated.

### HOW ARE EVENTS ENRICHED?

For each event, not only are complete venue addresses provided in normalized format, but each event is also geocoded with a latitude and longitude, which is useful for location-aware applications and mobile advertising, among other things.

GEDI also enriches the data with category and genre information. Events may be assigned more than one category and genre if applicable. Categories are defined labels that can be placed on an event (see Table 1); genres are free-form to accommodate the emergence of new interests, art forms, event types, and musical genres. Event data provides signals of new trends and emerging areas of interest.

**Table 1. Categories for Events**

Community	Health & Fitness	Theatre & Performing Arts
Education	Festivals	Sports
Charity	Nightlife	Concerts
Conventions & Tradeshows	Fundraiser	Networking
Food & Drink	Film & Visual Arts	

To further aid categorization, GEDI employs custom algorithms to extract key subject matter information such as artists, topics, places, and proper names. These show up in the data in the detail block, with the tag “featuring.”

Uniquely, GEDI also researches venues to provide additional data including venue type, size, shape, configuration, and capacity. Such information is available in the advanced data tier.

## HOW ARE EVENTS MAINTAINED?

Each event is normalized and stored in a single format so that the data is consistent and easy to manipulate. The fields are predictable from event to event, making the data easy to analyze.

## INSPIRATIONAL IDEAS FOR GEDI DATA

GEDI is the largest and most comprehensive source of global event data available. The fundamental premise is that having advance knowledge of events scheduled around the globe is like having a crystal ball that tells you where and when you will be able to target relevant consumers that you will then be able to engage and convert—thanks to the specific event they have elected to attend.

Consider the following use cases, which are just the tip of the iceberg:

- A premium beer brand seeks to sponsor country and western music events in the US for a month, in order to capture the attention of a new market segment.
- A national sandwich chain wants to know about events happening within 2 blocks of each of its 12,000 stores so that they can ensure adequate staffing and inventory, as well as offering relevant promotions to the people who will be passing their door on their way to the event.
- An advertising agency represents an up-and-coming restaurant chain that has outlets near several major venues. The chain seeks to pull in customers before and after events with event-oriented mobile offers. Even more compelling mobile ads will be targeted to those lining up outside a nearby competitor—a practice known as geoconquesting.
- The US Marines have found that young football fans are the top demographic most interested in becoming recruits, followed by people who engage in marathons and triathlons. The Marines use GEDI to find relevant events where they can plan a physical presence, guaranteeing exposure to their key audience, as well as finding similar events that they can either sponsor or send recruiters to.
- A political campaign might use GEDI to find events with lots of potential voters of a certain demographic to optimize efforts to get out the vote and gain support for their candidate, particularly for segments or geographic areas where the opposing candidate has been gaining ground.

Truly, the use cases for event data are limited only by your imagination, as you will see when you begin exploring the data for yourself.

## PART II: EXPLORING GEDI DATA

This section is meant for a technical audience, the developers and data “wranglers” who work with JSON data and who will be tasked with slicing and dicing the data to fulfill business requests.

Business readers are welcome to follow along. JSON is a very easy to read, text-based, self-describing, semi-structured data and you’re welcome to come along for the ride.

To make this tutorial generic and as database and programming language neutral as possible, we are using the simplest tools of all: a browser (Google Chrome) with a JSON viewer plug-in (JSONview).

### LET’S GET STARTED

Assuming you’ve opened Chrome and installed JSONview (or the JSON viewer of your choice), copy the following URL, inserting your API key where indicated.

```
https://gedi-prod.apigee.net/events.v2/search/?max=20&start=0&apikey=<YourAPIKeyHere>
```

Open the URL with your API key in Google Chrome, you should see something like this:

```

{
  status: 200,
  matches: [ ],
  avatars: [ ],
  themes: [ ],
  streams: [ ],
  - query: {
    fieldset: "advanced",
    strict: false,
    matches: 584733,
    max: 20,
    q: [ ],
    start: 0,
    nlpLocation: [ ],
    date: [ ],
    runtime: 0.108703,
    id: "5310adbfdc0fb807feed52ba"
  },
  - events: [
    - {
      checkpoint: "2014-01-16T21:38",
      - at: {
        precise: true,
        - address: {
          postalCode: "10011",
          country: "US",
        }
      }
    }
  ]
}

```

The advanced field set is being used

Matches: How many events this query returned (we are not filtering so that's the current set of all events)

How many events to return per query (can be set high as 1000)

Event to start with (0 means the top)

The query block appears at the top of the page; it tells you the parameters for the query and how many results came back.

Event data starts here

**Figure 1.** The query block shows you the terms of and results from your query

The query block at the top of the page reflects the parameters of this query. Basically, the query is designed to return 20 events, starting with the first one. There are no other filters (yet).

Let’s change the start parameter in the URL from start=0 to start=1000. That will show us 20 events, 1000 through 1019:

```
https://gedi-prod.apigee.net/events.v2/search/?max=20&start=1000&apikey=<YourAPIKeyHere>
```

You can see that the start parameter changes to 1000 and a different event is shown on the bottom of the screen.

**Hint: GEDI's query language is very forgiving. If it doesn't understand a parameter you add, it ignores the parameter. You can ensure that your query has all the parameters you intended by comparing the query block. If a parameter doesn't appear in the query block, check the syntax (see Table 2, which is at the end of this document).**

## LOOKING AT EVENT DATA

Let's look in detail at an event. We'll refer to the data in the figure below, but your own data will be different since GEDI data is constantly being updated and you will be querying it live.

Each event has four blocks: an "at" block, a schedule block, a detail block, and a summary block.

<pre>- {   checkpoint: "2013-12-18T21:29" }</pre>	When the event was added or updated
<pre>- at: {   precise: true,   address: {     postalCode: "90078",     country: "US",     region: "California",     street: "2301 North Highland Avenue",     locality: "Los Angeles"   },   geo: [     -118.335958,     34.1118862   ],   venueId: 20428,   name: "Hollywood Bowl" },</pre>	Where the event is happening
<pre>- schedule: [   - {     startDate: "2014-06-21T20:00",     dates: [       "2014-06-21T20:00"     ],     allDay: false,     endDate: "2014-06-21T20:00",     occurrenceCount: 1,     startTime: "2014-06-21T20:00",     exceptions: [ ],     endTime: "2014-06-21T23:59"   }, ],</pre>	When it's happening
<pre>id: "528bdc2472eefd57f4b7c240",</pre>	A unique identifier for the event
<pre>- price: {   8300,   50600 },</pre>	Ticket prices
<pre>- detail: {   - featuring: [     - {       name: "Hollywood Bowl Orchestra"     },     - {       name: "orchestra"     },     - {       name: "Los Angeles"     }   ] },</pre>	Keywords, artist names, proper nouns, place names
<pre>- summary: {   - genre: [     "symphony",     "theatre",     "classical"   ],   - category: [     "Concerts",     "Theatre &amp; Performing Arts"   ],   shortName: "Hollywood Bowl Orchestra - Los Angeles" },</pre>	Summary includes genres, categories, and event name

### CHECKING IN

The checkpoint is the first thing in each event entry. It tells you the date and time at which this event was added or updated, in GMT format.

### WHERE IT'S AT

Scanning down, you see the "at" block. This includes:

- The address of the venue
- The latitude and longitude of the event, in the geo field
- The venue ID, a unique identifier
- The venue name

```

- at: {
  precise: true,
  - address: {
    postalCode: "90078",
    country: "US",
    region: "California",
    street: "2301 North Highland Avenue",
    locality: "Los Angeles"
  },
  - geo: [
    -118.335958,
    34.1118862
  ],
  venueId: 20428,
  name: "Hollywood Bowl"
},

```

### WHEN IT'S HAPPENING: SCHEDULE

The schedule block indicates when the event is happening. For recurring events (like art exhibitions), this section can be quite long, listing all open dates and times.

The event in this example is scheduled for June 21, 2014:

```

- schedule: {
  - {
    startDate: "2014-06-21T20:00",
    - dates: [
      "2014-06-21T20:00"
    ],
    allDay: false,
    endDate: "2014-06-21T20:00",
    occurrenceCount: 1,
    startTime: "2014-06-21T20:00",
    exceptions: [ ],
    endTime: "2014-06-21T23:59"
  },
},

```

It starts at 8:00 PM (startTime field) and ends at 11:59 PM. Note that all times in the schedule block are provided in the time zone of the event's location.

This event happens only once (as you can see by the occurrenceCount).



Schedule blocks can be quite long but are designed to be intuitive to read. Here's a schedule block from an event that is held monthly. It lists 28 occurrences and the date for each one.

```
- schedule: [
  - {
    startDate: "2014-03-05T19:00",
    - dates: [
      "2014-03-05T19:00",
      "2014-04-02T19:00",
      "2014-05-07T19:00",
      "2014-06-04T19:00",
      "2014-07-02T19:00",
      "2014-08-06T19:00",
      "2014-09-03T19:00",
      "2014-10-01T19:00",
      "2014-11-05T19:00",
      "2014-12-03T19:00",
      "2015-01-07T19:00",
      "2015-02-04T19:00",
      "2015-03-04T19:00",
      "2015-04-01T19:00",
      "2015-05-06T19:00",
      "2015-06-03T19:00",
      "2015-07-01T19:00",
      "2015-08-05T19:00",
      "2015-09-02T19:00",
      "2015-10-07T19:00",
      "2015-11-04T19:00",
      "2015-12-02T19:00",
      "2016-01-06T19:00",
      "2016-02-03T19:00",
      "2016-03-02T19:00",
      "2016-04-06T19:00",
      "2016-05-04T19:00",
      "2016-06-01T19:00"
    ],
    allDay: false,
    endDate: "2016-06-01T19:00",
    occurrenceCount: 28,
    startTime: "2014-03-05T19:00",
    exceptions: [ ],
    endTime: "2014-03-05T21:30"
  }
],
```

Here's an event held weekly on Tuesdays for three months:

```
- schedule: [
  - {
    startDate: "2014-01-28T21:00",
    dates: [ ],
    allDay: false,
    endDate: "2014-03-11T21:00",
    occurrenceCount: 7,
    weekday: 2,
    startTime: "2014-01-28T21:00",
    exceptions: [ ],
    endTime: "2014-01-29T16:00",
    type: "weekly"
  }
],
```

## ID

Each event has a unique identifier. If you find an event you are interested in sponsoring, for example, saving the event ID is the easiest way to get back to a particular event.

## HOW MUCH? EVENT PRICE

The price block tells you about all the prices for the event in cents or the smallest unit of the local currency. For this event, the lowest price is \$83 and the highest price is \$506. If there were other ticket prices, they would be listed highest to lowest following this field.

```
- price: [
  8300,
  50600
],
```

### *DETAILS, DETAILS, DETAILS*

Scrolling down, there's free-form text captured in the detail block:

```

- detail: {
  - featuring: [
    - {
      name: "Hollywood Bowl Orchestra"
    },
    - {
      name: "orchestra"
    },
    - {
      name: "Los Angeles"
    }
  ]
},

```

This information is automatically derived from keywords in the description of the event.

The details block is often quite long and may include information such as the featured artists and featured content (such as the artist's latest CD). It also frequently includes place names.

### *WHAT'S HAPPENING: SUMMARY*

The summary block includes the genre or genres assigned to this event by GEDI. This event shows three listed genres: symphony, theatre, and classical:

```

- summary: {
  - genre: [
    "symphony",
    "theatre",
    "classical"
  ],
  - category: [
    "Concerts",
    "Theatre & Performing Arts"
  ],
  shortName: "Hollywood Bowl Orchestra - Los Angeles"
}

```

The event has also been assigned multiple categories: Concerts and Theatre & Performing Arts. The shortName field provides you the name of the event (we told you this data is human-readable!). With that basic understanding of the structure of event data, let's try out some use cases.

## **USE CASE 1: SPONSORING EVENTS TO RAISE BRAND AWARENESS**

A premium beer brand seeks to sponsor country and western music events in the continental US for a month to capture the attention of a key market segment.

### *FILTERING BY GEOGRAPHY*

The first task is to filter by geography to encompass the continental US. The API expects a bounding box with coordinates for the top left and bottom right of the geographic area being targeted.

**Hint: To filter by geography, use this format. Provide the latitude and longitude of the top left and the bottom right corners of the bounding box.**

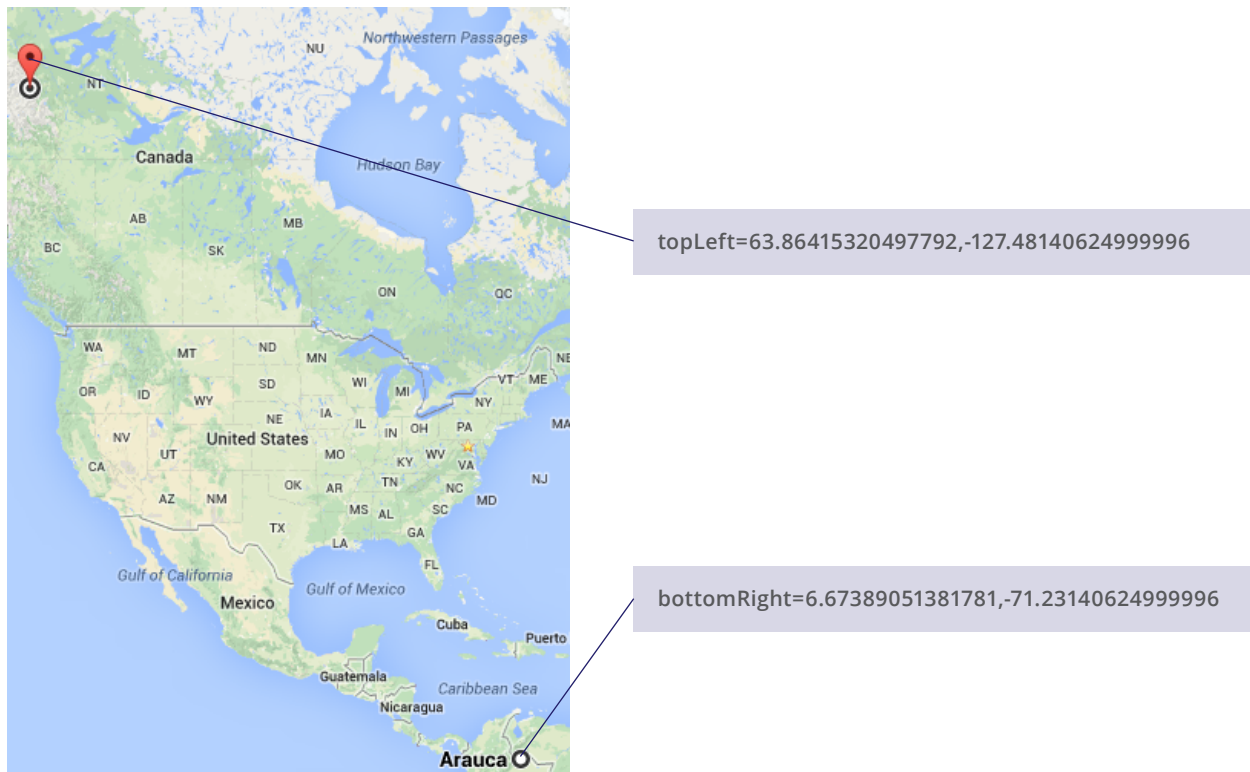
**topLeft=latitude,longitude**

**bottomRight=latitude,longitude**

**See the final page of this guide for a list of query parameters.**

This URL shows the parameters with the appropriate coordinates for a bounding box around the continental US:

```
https://gedi-prod.apigee.net/events.v2/search/?max=20&apikey=<YourAPIKeyHere>
&topLeft=63.86415320497795,-127.48140624999996&bottomRight=6.67389051381781,
-71.23140624999996
```



*Figure 3. A generous bounding box around the continental US*

### **SEARCHING WITH KEYWORDS**

That search returned events in the US. Now let's narrow it down to country music events by adding the parameter `q=country music` to the end.

```
https://gedi-prod.apigee.net/events.v2/search/?max=20&apikey=<YourAPIKeyHere>
&topLeft=63.86415320497795,-127.48140624999996&bottomRight=6.67389051381781,
-71.23140624999996&q=country+music
```

The query parameter `q=` is a free-form search parameter. Add more terms separated by commas if you like. The search returns the most relevant results at the top, matching category and genre before relaxing to match events that may not have relevant categories or genres but have matching names or keywords in the details fields.

### **FILTERING BY TICKET PRICE**

The brand wants to sponsor events that have a ticket price of at least \$20 so we add the filter `priceMin=2000` to the query:

```
https://gedi-prod.apigee.net/events.v2/search/?max=20&apikey=<YourAPIKeyHere>
&topLeft=63.86415320497795,-127.48140624999996&bottomRight=6.67389051381781,
-71.23140624999996&q=countrymusic&priceMin=2000
```

### **FILTERING BY DATE**

Now we have all the country and western music events in the US; the next step is to narrow it down to events occurring the month after next.

You'll find more events the closer you are to the date. Change the dates in the following URL to experiment with how many results you'll find for events next month compared with events six or eight months into the future.

```
https://gedi-prod.apigee.net/events.v2/search/?max=20&apikey=<YourAPIKeyHere>
&topLeft=63.86415320497795,-127.48140624999996&bottomRight=6.67389051381781,
-71.23140624999996&q=countrymusic&priceMin=2000&date.fromDay=2014-06-01&date.
toDay=2014-06-30
```

When we ran that query, we found 799 events by looking at next month, but 140 when looking six months out.

Let's step back now and think about what that one query accomplished. We've found all of the country western music events around the US. It would take many hours for interns with laptops to come up with anywhere near that number of relevant events.

### EXPORT TO CSV

The final step in this process is to save the JSON file from the browser and convert it to a CSV file using the provided Python script or the tool of your choice.

### USE CASE 2: PREPARING FOR IMPACT: EVENTS BRING IN BUSINESS—GET READY

A sandwich chain with 1500 US locations has noticed that nearby events bring in more business. More business means a need for more staff, not to mention more product. By finding out what events are happening near its stores and sharing that information with store managers, store managers will no longer be blindsided by extra business before, during, and after nearby events. And if business is slow when there are nearby events, the chain's advertising agency has offered to provide store managers with geotargeted mobile advertising to bring event traffic to the chain's restaurants.

The first step is creating a pilot for one location, the shop near Fisherman's Wharf in San Francisco.

This search finds all the events happening near that location:

```
https://gedi-prod.apigee.net/events.v2/search/?max=20&apikey=<YourAPIKeyHere>
&topLeft=37.8178179906333,-122.42150674591068&bottomRight=37.80296759953483,-
-122.40777383575443&date.fromDay=2014-03-01&date.toDay=2014-03-31
```

For each location, the process is:

- Given the location's address, create a bounding box that takes in the surrounding area you'd like to mine for events. Add the top left and bottom right of that bounding box to the query.

**Hint: To find the latitude and longitude for an address, check out [geocoder.us](http://geocoder.us).**

- You then filter the timeframe you're interested in (including enough lead time to plan schedules and stock the restaurant) using the `date.fromDay` and `date.toDay` parameters. This search finds events in March 2014 that start after 9 AM and end before 8 PM:

```
https://gedi-prod.apigee.net/events.v2/search/?max=20&apikey=<YourAPIKeyHere>
&topLeft=37.8178179906333,-122.42150674591068&bottomRight=37.80296759953483,-
122.40777383575443&date.fromDay=2014-03-01&date.toDay=2014-03-31&date.
fromTime=09:00&date.toTime=20:00
```

The results from this query can be used to inform the Fisherman's Wharf location of events taking place in the surrounding area, allowing them to add staff, order extra products, or work with their advertising agency to create compelling offers to send to the mobile phones of event participants.

After a successful pilot, developers at the sandwich chain wrote a script to extract events around other store locations.

## START EXPLORING ON YOUR OWN

These simple use cases should be enough to get you started finding event data on your own.

*Table 2. Query Parameters*

Query	What it does	Syntax	Examples
max=	Determines the number of events returned	1000 or less Default is 20	max=50
start=	The first event to display from the results; used for paging through events	Must be followed by a number	start=0 start=21
apikey=	The API key, which authenticates you to the API	Must be a valid API key Required	apikey= <YourAPIKEY>
q=	Searches events by keyword (matches any text, first retrieving matches to genre and category if applicable)	Can include spaces in strings; separate strings with commas	q=funky jazz,nightlife q=meetup q=Avenue Q
topLeft=	Defines the top left of a bounding box within which to find events	latitude,longitude (no space after the comma)	
bottomRight=	Defines the bottom right of a bounding box within which to find events	latitude,longitude (no space after the comma)	
priceMin=	Minimum ticket price, in cents	Also returns events for which no price is included	priceMin=2000
date.fromDay= date.toDay=	Date range to include in query	Date range in yyyy-mm-dd format	date.fromDay=2014-03-01 date.toDay=2014-03-31
date.fromTime= date.toTime=	Time range to cover in query	Military format (i.e., 8:00 PM = 20:00) Time must be in hh:mm format Relative to event time zone	date.fromTime=09:00&date.toTime=20:00
checkpoint=	Return events created or modified since the specified date.	Combination of date and time in GMT. This parameter is the primary method for keeping a local event database up to date.	checkpoint=2014-01-17T17:40