# Conversions API: Direct Integration Playbook for Developers

# Introduction

Conversions API is a Facebook Business Tool that lets you share key web and offline events, or customer actions, directly from your server to Facebook's.

Conversions API works with your Facebook pixel to help improve the performance and measurement of your Facebook ad campaigns.

A direct Conversions API integration is a great choice for businesses that have developer resources available, access to their server codebase, and need the ability to customize their configuration, control what data they share to Facebook and when they share it.

Alternatively, businesses that need faster and easier Conversions API setups often use Facebook Business Partners that offer Conversions API as one of several consolidated business solutions.

Learn more about <u>comparing these two integration</u> <u>options</u> on the Facebook for Business Help Center.

<u>Watch this webinar</u> where Facebook Conversions API experts guide you through implementing the Conversions API.



# Table of contents

Preparation p.2
Implementing the API p.4
Send events p.5
Add parameters to events p.6
Test events p.9
Verify events p.10

Troubleshoot and optimal configuration p.12 Glossary and additional resources p.19



# 1. Preparation

Before you begin building your direct Conversions API integration, you'll need a Facebook pixel, Business Manager and access token.

Facebook Pixel	Business Manager
<ul> <li>Make sure you have the Facebook pixel correctly implemented in your website</li> <li>We recommend that you use the same pixel for your browser and server events</li> </ul>	<ul> <li>To use the Conversions API, you need a Business Manager account</li> <li>Business Manager is a Facebook tool that helps you organize and manage your business</li> <li>If you don't have a Business Manager account, you can create one at business.facebook.com/overview</li> </ul>



# Before you Create a Business Manager

Make sure that you have a personal Facebook account to confirm your identity.

You use your Facebook username and password to sign into Business Manager

# To create a Business Manager

- · Go to business.facebook.com/overview
- · Click Create Account
- · Enter a name for your business, your name and work email address and click Next
- Enter your business details and click Submit

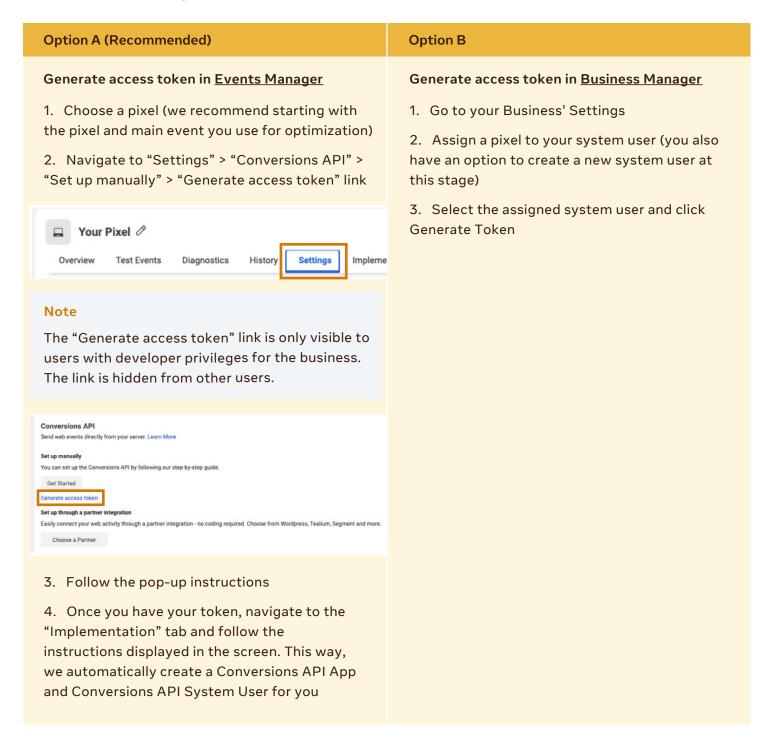
# Note

You can create only 2 Business Manager accounts. If you need more, please work with someone else in your organization to create additional Business Manager accounts.

### **Access Token**

- To use the Conversions API, you need an access token, which is passed as a parameter in each API call
- You can generate an access token through <u>Events Manager</u> (recommended) or, if you already have your own <u>app</u> and your own <u>system user</u>, you can generate an access token inside <u>Business Manager</u>
- For either option, there is no need to go through App Review or to request any permissions

# Instructions for creating an access token:





# 2. Implementing the API

- 1 Go to Events Manager
- 2 Start by sending a test event to the API



# If this is your first time using the API

Start with a test call. You'll need a payload and a API call method:

# To create your payload from the Payload Helper tool, add your pixel ID under "Test this Payload" and click on Send to Test Events You should be able to see the event on Events Manager > Your Pixel > Test Events Learn more about the Test Events Tool Make an API call with the payload Once you are satisfied with your payload, decide how to make your call. You can use our Graph API Explorer or cURL Independently on your call method, you should call the /{pixel\_id}/events endpoint and attach the JSON data generated by the Payload Helper tool

# 3. Send events

The most important events to send using Conversions API are your optimization events (usually a conversion event like "purchase"). That said, we recommend sending events throughout your purchase funnel (as advertisers often do with the pixel).

- To send events from your server, make a POST request to this API's /events edge from this path: https://graph.facebook.com/{API\_VERSION} /{PIXEL\_ID}/events?access\_token={TOKEN}
- When you post to this edge, Facebook creates new server events
- Attach your generated secure access token using the access\_token query parameter to the request
- You can also use Graph API Explorer to POST to the /<pixel\_id>/events endpoint for testing purposes

You can also use open source editor <u>Swagger</u> to generate client-side API code for the Conversions API.

- The generated code handles the API calls, exception handling, and retries
- To use Swagger, you need Java (version 7 or higher)
- <u>Learn more about our Swagger API</u> <u>integration on github</u>



Best practices for upload times, batching, and timeouts:

event\_time should be sent as a Unix timestamp\*
in seconds indicating when the actual event
occurred.

- \*Note: Unix timestamps are timezone agnostic
- The delay between event\_time and the time you send to Facebook should be as close to 0 as possible, and no longer than 7 days (if longer than 7 days, we return an error for the entire request and process no events)

You can batch up to 1,000 events in data.

- However, we recommend sending events in real time as soon as they occur, or ideally within an hour
- If any event you send in a batch is invalid, we reject the entire batch

Network errors or malformed requests may cause dropped events.

- We recommend retrying the request in cases where the HTTP response indicates a non-client error, such as a timeout
- To account for network delays, we recommend setting a timeout of 1500 milliseconds on the request
- For the majority of requests, the response time will be under 600 milliseconds

# 4. Add parameters to all events

Customer information parameters are needed in matching events to a Facebook account. Some of these parameters are also used as deduplication keys for redundant browser + server events.

- · Only matched and processed events can be used for ads attribution and ad delivery optimization
- The more customer information parameters you add, the more effective your customer information may be at matching your server event to a Facebook account, which may improve campaign performance

Later in this guide (in the Event Match Quality (EMQ) score section), we describe how the parameters you send can improve Event Match Quality—the better your EMQ score, the more effective your event may be at matching to Facebook account. Only matched events can be used for targeting and optimization.

# Note

"Hashing needed" indicates these fields contain personally identifiable information (PII). This data must be hashed with SHA256 and UTF-8 encoding. We do not accept this data unhashed and reject the entire event.

# The following server event parameters are required and recommended:

# Required parameters (events missing these parameters will not be processed):

- client\_user\_agent (for web events) Do not hash
  - The user\_agent parameter is a field that identifies the web browser (i.e. Safari, Chrome, Firefox, etc.) on which a website event occurred
- event source url (for web events)
  - © The event\_source\_url is a field that identifies the website URL where a website event occurred. It is most appropriately set as the specific page of a specific website where the event occurred
- action source (for web and non-web events)
  - © The action\_source parameter is a field that identifies where the event occurred (i.e. website, email, phone call, store, etc.)



# Recommended parameters (events missing these parameters will still be processed, but may not be effectively matched and deduplicated):

- external id
  - © <u>external id</u> is a string that represents a user on an advertiser's system, like loyalty membership IDs, user IDs, and external cookie IDs. You can send one or more external\_IDs for a given event and we try to match it to someone on Facebook
- · event id
  - This ID can be any unique string chosen by the advertiser. event\_id is used to deduplicate events sent by both Facebook Pixel and Conversions API. event\_name is also used in deduplication

# When hashed PII is available, add the following parameters

# Additional parameters to add for improved event matching:

Email address (em) - Hashing needed
Phone number (ph) - Hashing needed
Gender (ge) - Hashing needed
Date of Birth (db) - Hashing needed
First name (fn) - Hashing needed
Last name (1n) - Hashing needed
City (ct) - Hashing needed
State (st) - Hashing needed

Zip (zp) - Hashing needed
Country (country) - Hashing needed
Client IP address (client\_ip\_address) - Do not hash
Click ID (fbc) - Do not hash
Browser ID (fbp) - Do not hash
External ID (external\_id) - Hashing recommended
Subscription ID (subscription\_id) - Do not hash
Lead ID (lead\_id) - Do not hash
FB Login ID (fb login id) - Do not hash

# When hashed PII is NOT available, add the following parameters

# Additional parameters to add for improved event matching:

```
IP address (client_ip_address) - Do not hash
Click ID (fbc) - Do not hash
Browser ID (fbp) - Do not hash
External ID (external_id) - Hashing recommended
```

# **Limited Data Use:**

The Limited Data Use feature gives businesses more control over how their data is used in our systems, for example, to support businesses in complying with the California Consumer Privacy Act (CCPA).

<u>Learn more about data processing options for users in California</u> on Facebook for Developers.

# Parameters used as Deduplication Keys

Because we recommend using a pixel + Conversions API connection for as many of your events as possible, these redundant events require deduplication by using a consistent event naming convention and one of the following sets of deduplication keys:

# **Option A (Recommended)**

# **Duplicate Event name and Event ID**

# **Deduplication method**

Events received within 48 hours of one another containing the same event\_name, same event\_id and sent to the same pixel ID are considered duplicates, and we discard the latter of the two.

# **Deduplication Keys**

event\_name
event\_id

# **Option B**

# Duplicate Event name and Facebook Browser ID or External ID

# **Deduplication method**

You must use event\_name along with the fbp and/or external\_id consistently across browser and server events. A browser event must arrive first and if a server event is received before the corresponding browser event, it may be double counted. Because of these limitations, we recommend Option A.

# **Deduplication Keys**

event\_name
fbp and/or external\_id
event\_time





# 5. Test events

Check that events are processed and deduplicated correctly using the <u>Test Events</u> tool.

- Go to Events Manager > Data Sources > Your Pixel > Test Events
- · The Test Events tool generates a test ID
- Send the test ID as a test\_event\_code parameter to start seeing event activity appear in the Test
   Events window



Your test events should show up in the Test Events tool within 30 seconds after you send a test event.

- If they don't, make sure your payload is structured correctly using the Payload Helper tool
- $\cdot$  Test information remains in the Test Events tool for 24 hours or until you clear it by clicking "Clear Activity"

# Note

Events sent with test\_event\_code are processed and used for targeting and ads measurement.

# 6. Verify events

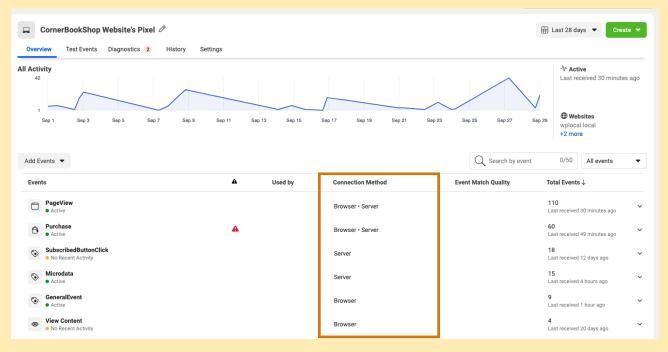
After you start sending events, you should be able to verify them within 20 minutes.

- Go to Events Manager > Data Sources > click on the pixel corresponding to the PIXEL\_ID in your POST request
- For each pixel, go to Overview > Events > Connection Method
- Under "Connection Method," you'll see "Browser," "Server" or "Browser + Server"



# **Best practice**

We recommend using a "Browser + Server" connection method for as many of your events as possible. Events with a browser-only connection are more susceptible to being missed or unattributed due to a customer's poor internet connection, page load errors and 3rd party cookie deprecation by web browsers.



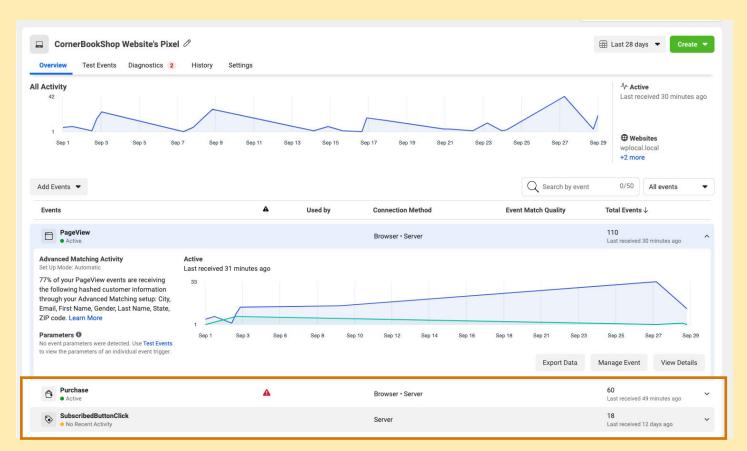




# **Best practice**

Click on each event to see more details and recent activity, such as:

- Aggregated event parameters
- · Percent of Events received, and from which connection method (Pixel or Conversions API)
- "Events processed or ignored from each connection method
- Event Match Quality score (out of 10), including how it's calculated and used, and tips for increasing it (for instance, by specifying additional customer information parameters to add to the event)



# 7. Troubleshoot and Optimal Configuration

The Conversions API returns minimal data to conserve network bandwidth. If the event payload is valid, a 2xx HTTP response code is returned.

- If invalid, a 4xx HTTP response code is returned, with minimal error details in the response body
- You can get more detailed information for debugging any request by making a POST request to /events/?trace= in Graph API Explorer
- Options for trace include:
- 1 Error
- 2 Info
- 3 Debug



# **Best practice**

Monitor your Conversions API connection by visiting the Diagnostics tab in Events Manager regularly. Hover over the "!" icon to learn more about an issue and recommendations to improve it.

# Common Conversions API diagnostic messages include:

# Diagnostic message in Events Manager

Missing <EVENT> user data parameters

Event from server missing <KEY> parameter

# Context

1 or more events are missing required user data parameters.

Note: even 1 problem event can cause a diagnostic to appear

# **Proposed resolution**

100% of events received should include required parameters (refer to diagnostic to determine which event is problematic)

Server sending invalid match key parameters for events

Event sending invalid <KEY> parameter

1 or more events are missing required user data parameters.

Note: even 1 problem event can cause a diagnostic to appear



Correct formatting of parameters (refer to diagnostic to determine which event is problematic)

Event delay from server



Your server is sending events more than 24 hours after the actual event has occurred



Send events as close to real-time as possible.

Same event ID received for many event instances



Your pixel or server has used the same Event ID multiple times



Use unique Event IDs for each event.

Server External ID Not Matching to Pixel External ID for Event



The External ID provided in the pixel does not match any sent via the Server



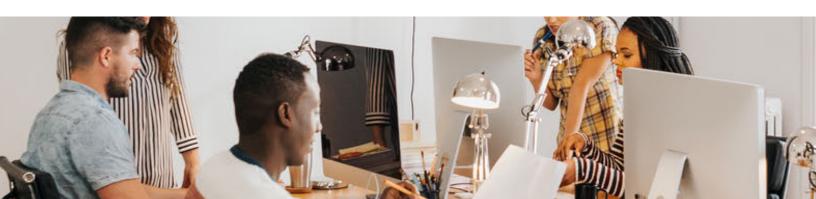
Use consistent External ID across browser & server events.

# Optimal configuration criteria

Event redundancy	The portion of browser events that are shared with a "browser + server" connection method (ieally, at least 90%)
Event deduplication	The portion of redundant events that are effectively identified with identical event names and event IDs, external IDs or Facebook Browser IDs (ideally, at least 50%)
Data freshness	How long ago your event occured (ideally, 0 minutes, i.e. real time, and no longer than 7 days)
Event Match Quality (EMQ)	A score that indicates how effective your event's customer information may be at matching it to a Facebook account (ideally 6.0 or higher)

# Note

See below for additional details about using these criteria for achieving an optimal Conversions API configuration.





# **Optimal** configuration

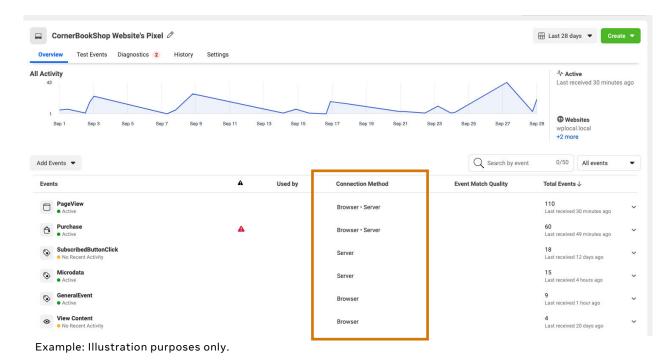
Follow the below recommendations to optimize your configuration, which may improve your ad performance.

# **Event Redundancy**

For the most reliable data connection, we recommend using a "browser + server" connection method for all events.

# Check this by looking at Connection Method:

i. Go to Events Manager > Data Sources > Connection Method:

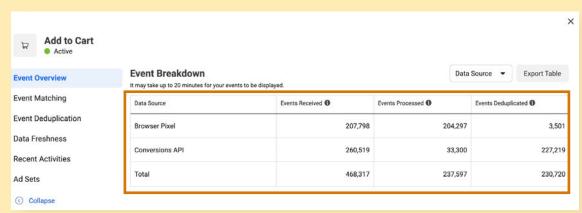


# **Event Deduplication**

As recommended, events are shared redundantly using a "browser + server connection," and therefore, our system must understand that these redundant events describe a single customer action (event instance) by deduplicating them.

# Check this by looking at Event Overview

1. Go to Events Manager > Data Sources > Your Pixel > View Details > Event Overview



- 2. Use the **Event Breakdown** table to monitor your event volume:
  - **Events Received**: The total number of events received from browser (i.e. Pixel) and server (i.e. Conversions API). Some events may not be counted here due to errors
    - © Events received using Conversions API should be at least equal if not higher than events received using Browser Pixel
  - **1 Events Processed**: The number of events received from browsers and servers excluding any duplicates. **These are the events used for measurement and optimization** (Events Processed = Events Received Events Deduplicated)
  - Events Deduplicated: The number of events received and identified as duplicates and therefore not processed



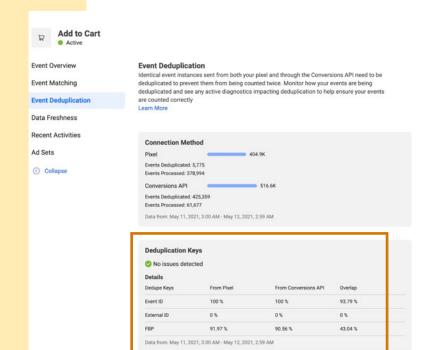


To improve event deduplication, check your event's **Deduplication Keys** 

Go to Events Manager > Data Sources > Your Pixel > View Details > Event
 Deduplication > Deduplication Keys

The lower portion of the Event Deduplication window displays:

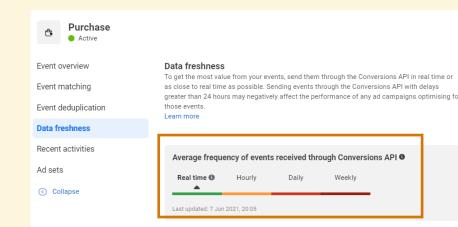
- 2. Deduplication Key % (per connection method):
  - In the example, 100% of browser events from Pixel contain Event ID and 100% of server events from Conversions API contain Event ID
  - The higher the percentage, the better
  - We recommend sending Deduplication Keys for all of your events (ideally 100%)
- 3. Overlap %:
  - Overlap represents the percentage of Deduplication Keys received using both Pixel and Conversions API
- 4. In this screenshot, 93.79% of events from Pixel and Conversions API contain identical Event IDs.
- 5. For example, if you send 80 purchase events from Pixel and 100 purchase events from Conversions API, you would ideally have 100% overlap, or 80 Deduplication Keys: 1 for each pair of redundant purchase events.
  - 100% overlap = 80 unique Deduplication Keys / 80 pairs of redundant events
  - Having low overlap (e.g. for the above example, if your overlap was 40%) indicates you aren't sharing as many Deduplication Keys as you are sending pairs of redundant events
    - 40% overlap = 32 unique
       Deduplication Keys / 80 pairs of redundant events





### **Data Freshness**

- The delay between the time each event was shared with Facebook versus the time it actually occurred is important for how effectively our system learns and optimizes delivery for your campaign.
- · Check this by looking at Data Freshness.
  - Go to Events Manager > Data
     Sources > Your Pixel > View Details >
     Data Freshness
  - 2. We recommend as close to Real Time as possible



Example: Illustration purposes only.

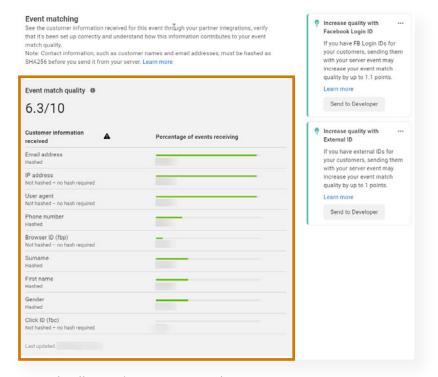
# **Event Match Quality (EMQ) score**

**Event Match Quality is scored from 1 to 10**, indicating how effective your server event's customer information parameters may be at matching it to a Facebook account.

Only matched events can be used for ads attribution and ad delivery optimization, and the higher the matching quality, the better.

Check this by looking at Event Match Quality

- Go to Events Manager > Data Sources
   Your Pixel > View Details > Event
   Matching
- 2. Look at each type of customer Information received and the percentage of events receiving it: the more types of customer information received and higher the percentage of events receiving each type, the better



We recommend achieving an EMQ score of 6.0 or higher by adding as many available customer information parameters as possible to every server event.

You'll see recommendations along the right hand side of this window for improving your EMQ score. Typically, adding the following parameters can help improve your event's EMQ score:

- Client user agent (client\_user\_agent)
- 2. IP address (client\_ip\_address)

For example, a business observed an increase in its event's EMQ score from 5.0 to 9.0 by simply adding client user agent and IP address:\*

# Example of customer information parameters received from an event with a 5.0 EMQ score:

Email address (em)

Phone number (ph)

First name (fn)

Last name (ln)



# Adding client user agent and IP address increased the event's EMQ score to 9.0:

Email address (em)

Phone number (ph)

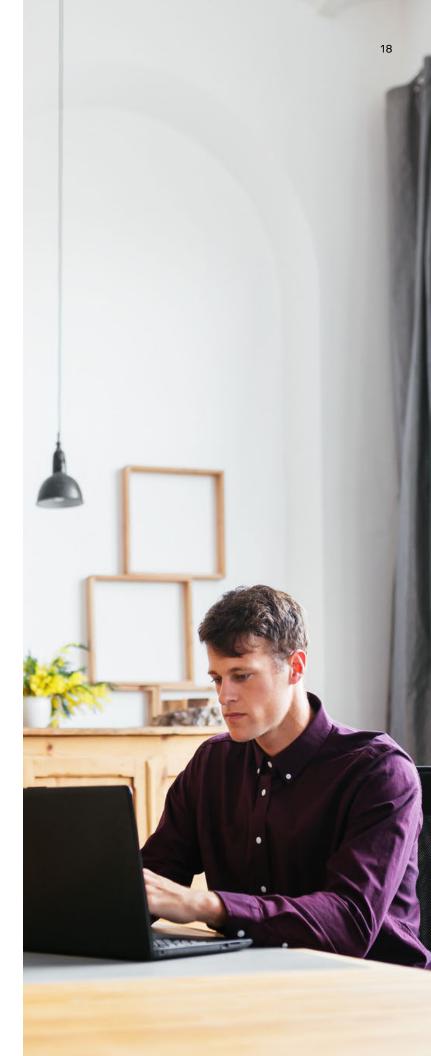
First name (fn)

Last name (ln)

Client user agent (client\_user\_agent)

IP address (client\_ip\_address)

<sup>\*</sup>Source: Facebook data, 28k weekly ads campaign that were optimized for the standard purchase events from Conversions API, July 2020 - September 2020 (Accessed May 2021)



# **GLOSSARY / ADDITIONAL RESOURCES**

# **Terms of Use**

# **Facebook Business Tools Terms**

https://www.facebook.com/legal/terms/businesstools

# **Adopting Conversions API**

# **About Conversions API**

https://www.facebook.com/business/help/AboutConversionsAPI

# **Decide if Conversions API Is Right for Your Business**

https://www.facebook.com/business/help/ConsiderConversionsAPI

# **Compare Conversions API Setup Options**

https://www.facebook.com/business/help/CompareConversionsAPISetups

# **About Partner Integrations for Web**

https://www.facebook.com/business/help/WebPartnerIntegrations

# **Conversions API Case Studies**

https://www.facebook.com/business/success/categories/conversions-api

# **Best Practices**

# **Best Practices for Conversions API**

https://developers.facebook.com/docs/marketing-api/conversions-api/best-practices

# Best Practices for Privacy and Data Use for Facebook Business Tools

https://www.facebook.com/business/help/PrivacyBestPractices

# **Cookie Consent**

https://developers.facebook.com/docs/app-events/cookies/

# **Using the Conversions API**

# Implement Conversions API Using Personalized Instructions in Events Manager

https://www.facebook.com/business/help/ImplementConversionsAPI

# Navigate Events Manager for Facebook Pixel and Conversions API

https://www.facebook.com/business/help/EventsManagerforWeb

# Using the API > Send requests

https://developers.facebook.com/docs/marketing-api/conversions-api/using-the-api#send

# Using the test events tool

https://www.facebook.com/business/help/ServerTestEventsTool

# **Batch Requests**

https://developers.facebook.com/docs/marketing-api/conversions-api/using-the-api#batch-requests

# **About Deduplication for Facebook Pixel and Conversions API Events**

https://www.facebook.com/business/help/WebEventDeduplication

# **Event Deduplication Options**

https://developers.facebook.com/docs/marketing-api/conversions-api/deduplicate-pixel-and-server-events

# **Add Parameters for Deduplication**

https://developers.facebook.com/docs/marketing-api/conversions-api/guides/end-to-end-implementation#add-parameters-for-dedup

# Deduplicate pixel and server events

https://developers.facebook.com/docs/marketing-api/conversions-api/deduplicate-pixel-and-server-events#deduplication-best-practices

# Recommended and Maximum Delay Times for Web and Offline Events

https://www.facebook.com/business/help/RecommendedDelayTimes

# **Upload Time versus Event Transaction Time**

https://developers.facebook.com/docs/marketing-api/conversions-api/using-the-api#event-transaction-time

# **Parameters**

https://developers.facebook.com/docs/marketing-api/conversions-api/parameters

# Hashing

https://developers.facebook.com/docs/marketing-api/conversions-api/using-the-api#hashing

# **Connect Your Shopify Account to Facebook**

https://www.facebook.com/business/help/ConnectShopify

# **Troubleshooting**

# Troubleshoot the Facebook Event Setup Tool for Web

https://www.facebook.com/business/help/TroubleshootEventSetupTool

# **Troubleshoot Facebook Pixel Error and Warning Messages**

https://www.facebook.com/business/help/PixelErrors

# **Rate limiting**

https://developers.facebook.com/docs/marketing-apis/rate-limiting

# **Error codes**

https://developers.facebook.com/docs/marketing-api/error-reference

# **Throttling errors**

https://developers.facebook.com/docs/marketing-apis/rate-limiting#throttlingerrors

# **Dropped events**

https://developers.facebook.com/docs/marketing-api/conversions-api/using-the-api#dropped-events

# **Training**

# Webinar: How to Use the Conversions API: A Developer's Guide

https://www.facebook.com/business/m/sessionsforsuccess/conversions-api

# Facebook Blueprint: Stronger Connections with Conversions API

https://www.facebookblueprint.com/student/path/219717-stronger-connections-with-the-conversions-api

# Facebook Blueprint: Setup, Implement and Verify the Conversions API

https://www.facebookblueprint.com/student/path/219714-setup-implement-and-verify-the-conversions-api

# Facebook Blueprint: Troubleshoot the Conversions API

https://www.facebookblueprint.com/student/path/219715-troubleshoot-the-conversions-api

# Video Tutorial: Test Your First Conversions API Call

https://developers.facebook.com/docs/marketing-api/conversions-api/using-the-api#video

# Support

# **Developer Support**

https://developers.facebook.com/support/

# **Developer Community Forum**

https://developers.facebook.com/community