

Audience size differences between Google Analytics and Google Ads

Chapter 5

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Learning Objectives

- Link a Firebase project to a GA4 property and explain why the connection is required before data streams activate
- Identify which Firebase events are automatically collected vs which require custom instrumentation
- Validate custom events in GA4 DebugView using ADB debug mode on Android
- Deploy new event tracking in a mobile app using the GTM Firebase tag type without a new app release
- Build a behavioral retargeting audience in GA4 and verify it meets the Google Ads 100-user eligibility threshold

Linking Firebase to GA4: The One-to-One Foundation

- Select your GA4 account and property (or create one), then confirm.
- You can also initiate the link from GA4 at Admin → Property → Product links → Firebase links.
- Budget up to 24 hours after the initial link before events appear in GA4 reports.

What Auto-Fires vs What You Instrument

- Once the Firebase Analytics SDK initializes, a set of events fires with zero instrumentation.
- Some are platform-specific: `app_clear_data` is Android-only; `firebase_in_app_message_action` fires only on iOS.
- These free events establish your install-to-session baseline immediately.

Custom Events: Naming Rules and Limits

- Custom event names are case-sensitive, must start with a letter, and cap at 40 characters.
- Each event supports up to 25 parameters.

Validating Events with DebugView

- In production, the Firebase SDK batches events and uploads approximately every hour — far too slow for QA.
- Enable debug mode on an Android test device with a single ADB command:
- Events now upload in near-real time.
- In GA4, navigate to Reports → DebugView and select your device from the DEBUG DEVICE dropdown.

GTM for Mobile: The Firebase Tag Type

- Mobile GTM works differently from web GTM.
- Web containers fire HTTP requests to collection endpoints on each page load.
- Full setup details are in Google Tag Manager for Android v5.

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