THE FOLLOW-UP TO GA4 101

INTERMEDIATE

GA4 102

Going Further with Google Analytics 4 — connecting it to Google Ads, measuring e-commerce, and turning data into decisions.

You know the mental model. Now wire it to the money: link Google Ads the right way, import the right conversions, build audiences that sell, and track a full shopping journey from first glance to receipt.

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First edition · 2026 · A plain-language companion for marketers, founders & SEOs

About this book

GA4 101 gave you the map: everything is an event, the five rooms of the interface, the vocabulary, and a plan for your first month. If that book was about understanding what GA4 *is*, this one is about making it *earn its keep*.

The questions change at the intermediate stage. You stop asking "where do I click?" and start asking "is my data clean enough to trust?", "which conversions should I send to Google Ads?", and "where exactly is this shop leaking money?" Those are the questions that move budgets and pay salaries, and they all sit at the seam where analytics meets advertising and selling.

So this book leans hard into three things you specifically need: **synchronising GA4 with Google Ads** (done properly, without the double-counting that quietly wrecks campaigns), **using Google Ads itself** as the destination for your data, and **e-commerce tracking** from the data layer all the way to the Monetisation reports. Everything else in here exists to support those three.

TIP — HOW TO READ IT

Read it once front to back to see how the pieces connect — clean data feeds good conversions, good conversions feed Smart Bidding, Smart Bidding spends your money well. Then read it a second time with GA4 *and* Google Ads open side by side, because half the intermediate skill is knowing which tab a given number lives in.

The three coloured boxes from the first book return. A blue **Key Idea** box marks something worth keeping for good. An amber **Tip** box is a practical shortcut. A red **Watch Out** box flags the places where intermediate users lose money or trust in their numbers — and at this level, the mistakes get more expensive.

KEY IDEA — ONE ASSUMPTION

This book assumes you finished GA4 101, or already know what an event, a key event, a dimension, and a property are. If any of those feels shaky, spend ten minutes with the 101 glossary first. Everything here is built on top of it.

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PART I · CHAPTER 1

Welcome Back — What Changes at the Intermediate Level

In GA4 101 the goal was orientation. You learned that GA4 records events, that key events are the ones you flag as goals, and that the Reports section reads like a funnel — Acquisition, Engagement, Monetisation, Retention. That foundation does not change. What changes is your relationship to the numbers.

A beginner asks GA4 to *describe*: how many users, which pages, what channels. An intermediate user asks GA4 to *decide*: should we spend more on this campaign, is this product page broken, which audience should we re-target? The moment a number influences a budget, two new responsibilities appear.

The first is **data quality**. When you were only watching trends, a little noise did not matter. Now that a conversion count tells a bidding algorithm how to spend real money, your own office traffic, a stray test purchase, or a mis-tagged campaign can actively cost you. Clean data stops being tidy-mindedness and becomes the thing that protects your spend.

The second is **the seam between tools**. At the intermediate level you stop living inside GA4 alone. Data flows out of it into Google Ads and back again, and most real-world mistakes happen at that border — the same purchase counted twice, an audience that never reaches the ad platform, a conversion value that does not match the bank. Half of this book is really about that border.

> **KEY IDEA — THE INTERMEDIATE MINDSET**
>
> Beginner GA4 answers "what happened?" Intermediate GA4 answers "what should we do, and can I trust the number telling us to do it?" Every chapter here serves that second question.

Here is the shape of the journey. **Part I** gets your foundation trustworthy — filtering junk, surfacing the data hidden in event parameters, and tagging your traffic so credit lands in the right place. **Part II** is the big one for you: connecting GA4 to Google Ads so the two work as a single machine. **Part III** tackles e-commerce end to end. **Part IV** steps back to attribution and to the tools that live beyond the GA4 interface. None of it is harder than 101 — it is just one floor up.

PART I · CHAPTER 2

Clean Data First — The Unglamorous Work That Pays

Nobody is excited by data hygiene, which is exactly why most accounts skip it and then quietly mistrust their own reports for years. Spend an afternoon here once and you buy yourself months of believable numbers. There are four jobs, all living in Admin, and all worth doing before you connect anything to Google Ads.

1. Filter out your own traffic

You, your colleagues, and your developers visit the site far more than any customer, and your behaviour is nothing like theirs — you bounce around, test the checkout, reload pages. Left unfiltered, this inflates engagement and can even fire test conversions. GA4 lets you define **internal traffic** (usually by your office IP addresses) and then filter it out. The filter has three states: *Testing* (you can preview the effect without removing data), *Active* (it actually excludes the traffic), and *Off*. New filters start in Testing, and a surprising number of people forget to ever switch them to Active.

> **WATCH OUT — A FILTER IN "TESTING" IS NOT PROTECTING YOU**
>
> Internal-traffic filters do nothing to your real reports until you change them from *Testing* to *Active*. If you set one up months ago and never flipped it, your own visits are still in the data. Check the state, not just that the filter exists.

2. Exclude unwanted referrals

When a customer leaves your site to pay — to PayPal, Stripe, or a bank's 3-D Secure page — and then returns, GA4 can mistakenly read the *return* as a brand-new visit referred by `paypal.com`. That starts a new session, breaks attribution, and credits your payment processor for sales your marketing actually earned. The fix is the **unwanted referrals** list in your web data stream settings: add your payment domains so GA4 ignores them as traffic sources.

3. Handle multiple domains (cross-domain measurement)

If your journey spans more than one domain — say `yourshop.com` for browsing and `checkout-provider.com` for paying — GA4 by default treats the hop as two separate users in two separate sessions. **Cross-domain measurement**, configured in the data stream's tagging settings, stitches them into one journey so a single person is not counted as two. If everything lives on one domain, you can skip this entirely.

4. Set data retention sensibly

As mentioned in 101, GA4's retention for the granular data behind Explorations defaults to a short window (commonly two months). For most reporting this is fine, but the day you want to compare this quarter to the same quarter last year, you will wish you had extended it. Set it to the maximum your property allows, early.

TIP — DO THIS BEFORE YOU CONNECT GOOGLE ADS

Every piece of dirt in GA4 — a test purchase, a doubled session, a mis-attributed sale — gets *amplified* the moment that data starts steering ad spend. Clean the source first. It is far cheaper than discovering the mess after the algorithm has spent a month optimising toward noise.

KEY IDEA — GARBAGE IN, EXPENSIVE GARBAGE OUT

In a reporting-only world, dirty data is misleading. In a world where that data feeds Smart Bidding, dirty data is *costly*. Hygiene is not housekeeping at the intermediate level; it is risk management.

PART I · CHAPTER 3

Custom Dimensions & Metrics — Making Parameters Visible

Recall the core idea from 101: every event carries **parameters** — the extra details around the verb. A `file_download` event might carry the file's name; a custom `filter_applied` event might carry which filter. GA4 collects these parameters, but here is the catch that surprises everyone: **most custom parameters do not appear in your standard reports until you register them.**

The data is being captured. You simply cannot slice by it yet. Registering a parameter as a **custom dimension** (for text-like values) or a **custom metric** (for numbers) is what promotes it from "collected but invisible" to "available as a column or a row in your reports and Explorations."

You want to group by…	Register it as…	Example
A label / category	Custom dimension	Membership tier, article author, form name
A number to sum or average	Custom metric	Quote value, items in basket, video length

You do this in **Admin → Custom definitions**. You give the dimension a friendly report name, choose its scope (usually *Event*, sometimes *User* for things that describe the person rather than the moment), and point it at the exact parameter name your tag is sending. From then on the value shows up wherever dimensions live.

WATCH OUT — TWO REAL LIMITS AND ONE TRAP

A standard property allows a limited number of custom dimensions and metrics (custom dimensions cap at 50 event-scoped on the free tier), so do not register everything "just in case." And registration is *not* retroactive: a newly registered dimension only shows data from the moment you create it forward. The trap is registering a parameter you forgot to actually send — the dimension appears in menus but stays stubbornly "(not set)".

Why this matters more than it sounds

Custom dimensions are how you answer the business-specific questions the standard reports never anticipated. "Which membership tier generates the most revenue?" "Do quotes above £5,000 convert differently?" "Which blog author drives the most newsletter sign-ups?" None of these exist out of the box — but if you are sending the parameter and you register it, every one becomes a two-minute Exploration.

KEY IDEA — COLLECTED IS NOT THE SAME AS VISIBLE

GA4 quietly stores far more than it shows. Custom dimensions and metrics are the switch that turns a captured parameter into something you can actually report on. If a value you know you are sending is missing from your reports, this is almost always why.

Channels, UTMs & the Truth About "Direct"

Before you connect Google Ads, you need to understand how GA4 decides where a visit "came from," because that decision is the foundation of every attribution number you will later argue about. GA4 sorts traffic into **channels** — Organic Search, Paid Search, Organic Social, Email, Referral, Direct, and so on — using a rulebook called the **Default Channel Grouping**. It reads signals on the incoming link and files the visit accordingly.

UTMs: telling GA4 what a link is

For traffic you control — an email, a paid post, a partner link — you should label the URL yourself with **UTM parameters**. These are tags appended to a link that explicitly state the source, medium, and campaign:

```
// A properly tagged newsletter link
https://yourshop.com/spring-sale
  ?utm_source=newsletter
  &utm_medium=email
  &utm_campaign=spring_2026
```

The three that matter most are `utm_source` (where, e.g. *newsletter*), `utm_medium` (the type, e.g. *email*, *cpc*, *social*), and `utm_campaign` (which initiative). Medium is the one GA4 leans on hardest to pick a channel, so a typo there — `e-mail` instead of `email` — can quietly misfile a whole campaign.

TIP — PICK A CONVENTION AND NEVER DEVIATE

GA4 treats `Email`, `email`, and `e-mail` as three different mediums. Agree on lowercase, agree on exact spellings, and keep a shared sheet of your UTM values. Inconsistent tagging is the single biggest cause of messy, untrustworthy channel reports — and it is entirely self-inflicted.

The truth about "Direct"

Direct is GA4's "*I don't know*" bucket. Some of it is genuinely people typing your address or using a bookmark. But a large slice is traffic whose origin was lost — links from apps, untagged emails, clicks where the referrer was stripped for privacy. So when Direct looks suspiciously large, the honest reading is usually "a chunk of this is untagged or unknowable," not "look how loyal our audience is."

WATCH OUT — AUTO-TAGGING VS UTMS FOR GOOGLE ADS

Do *not* manually add UTMs to your Google Ads URLs. Google Ads has its own mechanism called **auto-tagging** (the `gclid` parameter) that passes far richer data into GA4 than UTMs can, and it is what makes the Ads ↔ GA4 link work. Manual UTMs on Ads links can actually overwrite the `gclid` and break your cost and conversion matching. Leave auto-tagging on; UTMs are for your *non-Google-Ads* traffic.

You can also build a **custom channel group** in Admin if the defaults do not match your business — for instance, splitting "Paid Social" away from "Organic Social," or carving out an "Affiliate" channel. This reclassification can even be applied to historical data, which the default grouping cannot. Most people never need it; know it exists for the day you do.

KEY IDEA — ATTRIBUTION STARTS AT THE LINK

Every credit fight downstream — which channel earned the sale, what to fund next month — is only as good as the labelling on the incoming link. Disciplined UTMs for your own traffic and auto-tagging for Google Ads are the unglamorous habits that make the whole attribution story trustworthy.

The Google Ads Link, Done Right

This is where GA4 stops being a mirror and starts being an engine. Linking GA4 to Google Ads creates a two-way pipe, and understanding exactly what flows in each direction is the difference between an account that runs smoothly and one that quietly fights itself. Three kinds of data move across the link:

Direction	What flows	Why it matters
Ads → GA4	Cost, clicks, impressions, campaign structure	You can finally see spend *and* behaviour together, and compute true return on ad spend
GA4 → Ads	Key events imported as conversions	Your real business goals become the thing campaigns optimise toward (Chapter 6)
GA4 → Ads	Audiences for remarketing	You can advertise to specific groups, like cart-abandoners (Chapter 8)

Making the link

The link is created in GA4, not in Google Ads, and it takes about five minutes.

1. Open the link settings. In GA4, go to **Admin → Product Links → Google Ads Links**, then click **Link** and choose your Google Ads account. You need edit access in GA4 and admin access in the Ads account for the same Google login.

2. Enable auto-tagging. The link offers to turn on auto-tagging if it is not already active. Say yes — this is the `gclid` from Chapter 4, and without it cost and conversion data cannot match up.

3. Turn on personalised advertising. This is the setting that lets your GA4 *audiences* flow to Google Ads. If you skip it, you can still import conversions, but your remarketing lists will never arrive in the ad platform.

4. Wait, then verify. The link activates within roughly 24–48 hours. After that, the Advertising section in GA4 fills with data and an "Analytics" source appears in the Google Ads conversions area.

WATCH OUT — PERSONALISED ADVERTISING IS THE SILENT SWITCH

Linking and importing conversions can succeed while audience sharing silently fails, because audience sharing depends on the separate "enable personalised advertising" toggle. If you have built audiences in GA4 and they never show up in Google Ads, this toggle — not the link itself — is almost always the cause.

What you unlock

Once the link is live, the GA4 **Advertising** section becomes genuinely useful: you can see which campaigns drive key events, compare attribution models against your real conversions, and trace the paths customers take across paid and organic. And inside Google Ads, you gain the option to optimise toward the actual outcomes GA4 measures, rather than crude proxies like clicks. The next three chapters are about using each of those three flows well.

KEY IDEA — A PIPE, NOT A COPY

The Google Ads link does not duplicate GA4 inside Ads. It connects two systems that count differently and lets specific, chosen data cross between them. Knowing *what* crosses — cost in, conversions and audiences out — is the whole mental model. The mistakes all come from misunderstanding that boundary.

Importing Key Events as Conversions (and Not Double-Counting)

This chapter contains the single most expensive mistake in the whole GA4–Google Ads relationship, so read it twice. The good news first: once the link from Chapter 5 is live, importing your GA4 key events into Google Ads is a few clicks. In Google Ads, go to **Goals → Conversions → Create conversion action → Import → Google Analytics 4 properties**, then tick the key events you want to bring across.

Remember the naming from 101: what GA4 calls a **key event**, Google Ads calls a **conversion**. Same action, different room. Importing is simply teaching Google Ads to treat your GA4 key event as one of its conversions.

The double-counting trap

Here is how money gets wasted. Many sites already have a **native Google Ads conversion tag** firing on the same action — a purchase, say — that GA4 also records as a key event. Import the GA4 purchase on top of that, and Google Ads now counts *every sale twice*. The bidding algorithm believes you are converting at double your true rate, bids accordingly, and your cost per real sale climbs while the dashboard looks deceptively healthy.

WATCH OUT — NEVER TRACK THE SAME ACTION IN BOTH SYSTEMS AS PRIMARY

For any given conversion, pick *one* source of truth. Either the native Google Ads tag fires it, or the imported GA4 key event does — not both as primary conversions. If you want to keep both for analysis, set the imported GA4 version to **Secondary** so it is visible but excluded from bidding. Two primary conversions for one purchase is the classic, costly error.

Native tag or GA4 import? The 2026 view

Both routes work; they trade off differently.

Source	Strengths	Weaknesses
Native Ads tag	Fires at click level with minimal delay; fastest, most reliable signal for Smart Bidding; best for purchase tracking	No cross-channel view; lives only in Ads
Imported GA4 key event	Cross-channel attribution; consistent definition across reports; less tag maintenance	GA4 applies its own attribution and modelling, so counts can differ from what Ads sees

The common 2026 recommendation: for hard revenue actions like *purchase*, lean on the **native Google Ads tag** as the primary bidding signal because of its speed and reliability, and bring the GA4 key event in as *secondary* for the richer analysis. For lead-gen and softer goals, importing GA4 key events is often perfectly good as primary. The principle underneath both: one primary signal per action, chosen deliberately.

TIP — IMPORT FEW, IMPORT MEANINGFUL

The same discipline from 101 applies with sharper teeth here: importing every key event as a conversion confuses the bidding algorithm. Feed Smart Bidding the three-to-five actions that truly represent value. Everything else can stay a key event in GA4 for analysis without ever becoming a bidding signal.

KEY IDEA — ONE ACTION, ONE PRIMARY SIGNAL

The whole conversion-import discipline reduces to one sentence: every conversion action should have exactly one primary source feeding the bidding algorithm. Decide whether that source is the native tag or the GA4 import, make the other one secondary or remove it, and most "my Ads numbers make no sense" problems vanish.

Smart Bidding & the Signals You Feed It

Now you understand why the conversion data in the last chapter mattered so much. **Smart Bidding** is Google Ads' family of automated strategies — Target CPA, Target ROAS, Maximise Conversions, Maximise Conversion Value — that set a bid for *every individual auction* using machine learning. It is extraordinarily powerful, and it is only as good as the conversion signal you give it. This chapter is the "why clean data mattered" payoff of Part I.

How the signal becomes a bid

When someone is about to see your ad, Smart Bidding estimates how likely that specific person is to convert — using device, location, time, query, audience, and dozens of other clues — and bids more for the people who look likely to buy and less for those who do not. The conversions you imported in Chapter 6 are the training data for that estimate. Feed it accurate conversions and it learns your real customer; feed it doubled or dirty conversions and it learns a fiction.

Strategy	Optimises for	Best when
Maximise Conversions	Most conversions for the budget	Lead-gen; you value every conversion equally
Target CPA	Conversions at a set cost each	You know what a lead or sale is worth to you
Maximise Conversion Value	Most total revenue	E-commerce with varying order values
Target ROAS	A set return per unit of spend	E-commerce with a clear profit target

Why conversion value changes everything

"Maximise Conversions" treats a £5 sale and a £500 sale as identical wins. The value-based strategies do not — and that is why, for e-commerce, sending an accurate **conversion value** with every purchase (the `value` parameter you will meet in Chapter 10) is transformative. With value flowing, Target ROAS can chase profitable revenue rather than a pile of cheap orders. This is the bridge between Part II and Part III: good e-commerce tracking is what makes value-based bidding possible.

WATCH OUT — ALGORITHMS LEARN YOUR MISTAKES FAITHFULLY

Smart Bidding will optimise toward whatever you tell it is a conversion, including a test purchase from your own office, a doubled count, or a "thank you" page that re-loads twice. It cannot tell a real signal from a corrupted one. This is precisely why Chapters 2 and 6 came first: the algorithm trusts your data completely, so the data has to deserve it.

TIP — GIVE IT ROOM AND TIME

Smart Bidding needs a meaningful volume of conversions to learn from, and it needs a learning period of a couple of weeks after big changes. Resist the urge to switch strategies weekly or to panic during the learning phase — constant changes reset the learning and leave the algorithm perpetually confused.

KEY IDEA — YOU ARE NOT BIDDING; YOU ARE TEACHING

At the intermediate level your job is not to set bids — the machine does that better than any human could across millions of auctions. Your job is to feed it a clean, accurate, correctly-valued conversion signal. Get the signal right and Smart Bidding does the rest. Get it wrong and no amount of manual tweaking will save the account.

Audiences for Remarketing

The third thing that flows across the Google Ads link is **audiences**. In 101 you met the idea: an audience is a segment with a future job — a living, self-updating list of people defined by what they did. Here we put it to work, because once an audience reaches Google Ads it becomes something you can advertise to directly. That is **remarketing**, and it is usually the highest-return advertising a business can do, because you are talking to people who already showed interest.

Building an audience

In **Admin → Audiences → New audience**, you define membership by conditions on events and dimensions. The classic, money-making example is cart abandonment:

```
// "Cart abandoners" audience
Include users where event = add_to_cart
Exclude users where event = purchase
Membership duration: 30 days
```

This list now updates itself: someone who adds to cart joins, and the moment they purchase they drop out — so you never waste budget advertising to people who already bought. You can build dozens of these: viewed a product but did not add to cart, read three articles but never subscribed, bought once but not in 90 days.

Predictive audiences

GA4 can go a step further using its machine-learning **predictive metrics** — most usefully *purchase probability* and *churn probability*. Once your property has enough data to train them, you can build audiences like "likely 7-day purchasers" or "likely to churn," and target ads at people the model thinks are about to act. These need a reasonable volume of positive and negative examples before they switch on, so they suit established sites more than brand-new ones.

WATCH OUT — AUDIENCES ARE NOT RETROACTIVE

When you create an audience, it begins gathering members from that day forward (with a small backfill for people who already qualify). You cannot conjure a fully-populated list of last year's cart abandoners. The practical lesson: build the audiences you think you will eventually want *now*, even before you run the campaign, so the list is ready and sizeable when you need it.

TIP — MIND THE MINIMUM SIZE

Google Ads will not serve ads to an audience until it reaches a minimum size (typically around 1,000 active members for the Display and search networks). Tiny, hyper-specific audiences may simply never become eligible. If a remarketing campaign refuses to spend, an undersized audience is a prime suspect.

KEY IDEA — FROM REAR-VIEW MIRROR TO STEERING WHEEL

Conversions tell Google Ads what success looks like; audiences tell it *who* to chase. Together they turn GA4 from a report you read after the fact into a system that actively directs your spend toward the people most likely to act. This is the moment analytics starts paying for itself.

Enhanced Conversions & Consent Mode v2

Two modern features sit at the intersection of measurement, privacy law, and ad performance. They sound technical and forbidding, but the ideas are simple, and ignoring them in 2026 leaves both accuracy and money on the table.

Enhanced conversions — recovering the lost

Cookies and cross-device journeys mean a real chunk of genuine conversions never get matched back to the click that caused them. **Enhanced conversions** patch this. When a conversion happens, your site sends Google a *hashed* (irreversibly scrambled) piece of first-party data the customer already gave you — typically their email — alongside the conversion. Google matches that hash against its own logged-in users and recovers attribution that would otherwise vanish. The hashing means Google never receives the raw email; only a one-way fingerprint of it.

The payoff is concrete: advertisers typically see a measurable uplift in reported conversions after enabling it, and — more importantly — Smart Bidding gets a fuller, truer picture to optimise against. If you collect emails at checkout or on a lead form, this is close to free performance.

Consent Mode v2 — measuring within the rules

If you have any visitors in the EEA or the UK, **Consent Mode v2** is not optional — it has been legally required for using Google's advertising and measurement features with European users since 2024. The idea: your cookie banner communicates each visitor's consent choices to Google's tags through a set of signals (whether they allowed analytics storage, ad storage, and ad personalisation). The tags then adjust their behaviour to honour that choice.

When a user declines, the tags do not write cookies — but they can still send *cookieless pings*, and GA4 uses **behavioural and conversion modelling** to estimate the contribution of users it can no longer track individually. This is how you stay compliant *and* keep usable, if modelled, numbers. The alternative — no consent mode — increasingly means lost conversions, broken audiences, and, in Europe, legal exposure.

WATCH OUT — MODELLED DATA BEHAVES DIFFERENTLY

Once modelling kicks in, some reports show estimated rather than strictly observed figures, and very small segments may not get modelled at all (there is not enough signal to estimate from). This is a feature, not a bug — it is GA4 being honest that it cannot see everyone — but it is another reason the numbers will never perfectly tie out to your shopping cart. Compare trends, not exact totals.

TIP — A SENSIBLE DEFAULT ORDER

If you run ads to European users: implement Consent Mode v2 first (it is the legal floor), then layer enhanced conversions on top (it is the performance ceiling). For US-only advertisers, Consent Mode is not strictly mandatory yet, but enhanced conversions are still worth turning on purely for the accuracy and bidding gains.

KEY IDEA — PRIVACY AND PERFORMANCE ARE NOW THE SAME PROJECT

The old assumption that you must choose between respecting privacy and measuring well is out of date. Enhanced conversions and Consent Mode are Google's answer: collect consent honestly, send only hashed first-party data, and let modelling fill the gaps. Done right, you are both more compliant and better-measured than the account that ignored all this.

E-commerce Tracking — The Data Layer & the Event Sequence

If you sell things online, this is the part of GA4 that pays your wages. But e-commerce data does not appear by magic — it is the one area where GA4's automatic and enhanced events are not enough. Someone has to send a specific set of **recommended e-commerce events**, each carrying a precisely-shaped payload, at each step of the shopping journey. Get the shape right and the entire Monetisation section and every value-based bidding strategy springs to life. Get it wrong and the reports stay stubbornly empty.

The data layer: the shop's narrator

The mechanism is the **data layer** — a small JavaScript object on your page that describes what is happening in a structured way that Google Tag Manager can read and forward to GA4. Think of it as a narrator standing in your shop, announcing each meaningful moment in a standard vocabulary: "a product was viewed; here are its details," "this was added to the cart," "checkout has begun." Your developer (or your platform) pushes these announcements; GTM listens and relays them to GA4.

The items array: the heart of it all

Every e-commerce event carries an `items` array — a list of the products involved, each described with the same standard fields. This consistency is what lets GA4 follow a single product from a list view all the way to purchase.

```
// The shape of one item — reused at every step
items: [
  {
    item_id: "SKU_12345",
    item_name: "Stan and Friends Tee",
    item_brand: "Acme",
    item_category: "Apparel",
    item_variant: "green",
    price: 29.99,
    quantity: 1
  }
]
```

The sequence, step by step

A full shopping journey is a chain of recommended events, each firing at the right moment with the items involved. Send the whole chain and GA4 can build the purchase funnel; send only `purchase` and you will see revenue but never learn *where* people drop off.

Step in journey	Event name	Key parameters
Sees a product list / category	view_item_list	items, item_list_name
Clicks a product in the list	select_item	items, item_list_name
Views a product page	view_item	currency, value, items
Adds to cart	add_to_cart	currency, value, items
Opens the cart	view_cart	currency, value, items
Starts checkout	begin_checkout	currency, value, coupon, items
Enters shipping / payment	add_shipping_info / add_payment_info	currency, value, items
Completes the order	purchase	transaction_id, value, currency, tax, shipping, items

Here is the most important event — `purchase` — shown as it appears in the data layer. Note `transaction_id`, `value`, and `currency`: these three are what feed revenue reports and value-based Smart Bidding.

```
// Fired once, on the order-confirmation page
dataLayer.push({ ecommerce: null });  // clear any old data
dataLayer.push({
  event: "purchase",
  ecommerce: {
    transaction_id: "T_20260601_889",
    value: 64.97,
    currency: "USD",
    tax: 5.20,
    shipping: 4.99,
    items: [ /* the items array from above */ ]
  }
});
```

WATCH OUT — THREE ERRORS THAT WRECK E-COMMERCE DATA

Missing `currency`: send `value` without `currency` and GA4 may discard the revenue entirely. Always send both together. **Reused `transaction_id`:** if the confirmation page reloads or the customer refreshes, the same purchase can fire twice; a unique, stable transaction ID lets GA4 de-duplicate. **Inconsistent `item_id`:** if the ID for a product changes between `view_item` and `purchase`, GA4 cannot connect the journey and your funnel breaks.

TIP — MOST PLATFORMS DO MOST OF THIS FOR YOU

If you run Shopify, WooCommerce, or a similar platform — often with the Google & YouTube channel or a GTM template — much of this data layer is generated automatically. Your job becomes *verifying* it rather than building it from scratch: open GA4's **DebugView**, walk through a test purchase, and confirm each event fires once with the right values. Verification is the intermediate skill; hand-coding is rarely necessary.

KEY IDEA — THE CHAIN IS THE VALUE

Anyone can track a purchase. The intermediate move is tracking the *whole chain* — list view, product view, add to cart, begin checkout, purchase — because only the full chain reveals where money leaks. A purchase event alone tells you that you made sales; the chain tells you why you did not make more.

Reading the Monetisation Reports

Once the events from Chapter 10 are flowing, the **Monetisation** group in Reports — empty and greyed-out for non-sellers — comes alive. It is organised to answer the three questions every shop owner actually has: what am I earning, what are people buying, and where in checkout am I losing them?

E-commerce purchases — what sells

This is your product-performance report. Each row is a product, and the columns trace it through the funnel: how many times it was viewed (*items viewed*), added to cart (*items added to cart*), and bought (*items purchased*), alongside the revenue it earned. The most useful column is the quiet one: the **cart-to-view rate** and **purchase-to-view rate**, which expose products people look at but never buy — usually a pricing, imagery, or stock problem hiding in plain sight.

Purchase journey & checkout journey — where you leak

These funnel-style reports show the percentage of users progressing from one stage to the next: session start → product view → add to cart → begin checkout → purchase. The value is entirely in the *drop-offs*. A big fall between "add to cart" and "begin checkout" points at the cart page; a big fall *within* checkout points at the form, shipping costs, or a forced account sign-up. The report does not fix the leak, but it tells you precisely which wall to inspect.

Report	Answers	The column to watch
Overview	Total revenue, AOV, the headline trend	Average purchase revenue (AOV)
E-commerce purchases	Which products perform	Purchase-to-view rate
Purchase journey	Where buyers fall out of the funnel	The biggest stage-to-stage drop
Checkout journey	Where checkout specifically fails	Drop within checkout steps
Promotions	Whether on-site promos work	Promotion click-through & revenue

WATCH OUT — YOUR REVENUE WILL NEVER EXACTLY MATCH YOUR SHOP

GA4 revenue and your e-commerce platform's revenue will always differ a little, and that is normal — consent rejections, ad blockers, modelling, and refunds all pull them apart. Use GA4 revenue to understand *relationships* (which channel, product, or audience drives value) and your shop's back office for the *exact* books. Treating GA4 as your accounting ledger is a guaranteed source of frustration, exactly as 101 warned.

TIP — CROSS REVENUE WITH ACQUISITION

The most powerful intermediate move is combining Monetisation with the channel data from Part I: revenue *by* session source / medium. That single view tells you which marketing channels bring not just traffic but *buyers* — and once Google Ads is linked, which campaigns specifically pay for themselves. That is the report that ends most "where should we spend?" arguments.

KEY IDEA — RATES OVER TOTALS

Beginners stare at total revenue. Intermediate users stare at *rates* — view-to-cart, cart-to-purchase, stage-to-stage drop-off — because rates point at specific, fixable problems. A revenue total tells you how you did; a conversion rate tells you what to do next.

E-commerce Explorations — Finding the Leak

The standard Monetisation reports tell you *that* a funnel leaks. Explorations let you interrogate *why*, by slicing the journey any way you like. Three Exploration techniques from 101 earn their keep here.

Funnel exploration — the abandonment X-ray

Build a funnel from your real e-commerce events — `view_item` → `add_to_cart` → `begin_checkout` → `purchase` — and GA4 shows the count and percentage surviving each step. Now add a **breakdown** dimension, and the report transforms. Break the funnel down by *device category* and you might discover mobile users abandon checkout at twice the desktop rate — a flashing sign that your mobile checkout form needs work. Break it down by *session source* and you can see whether paid traffic abandons more than organic. The breakdown is where the diagnosis lives.

> **TIP — MAKE THE FUNNEL "OPEN" TO SEE RE-ENTRY**
>
> A funnel exploration can be *closed* (users must enter at step one) or *open* (they can join at any step). For checkout analysis, try an open funnel — it reveals people who arrive straight at a product page from an ad and skip your homepage entirely, a journey a closed funnel would hide.

Path exploration — the unexpected route

Set the *ending* point to `purchase` and work backwards, and path exploration reveals the real routes buyers take — often surprising. Perhaps most purchasers pass through a particular comparison page, or a size-guide, before buying. That page is now a candidate to promote more prominently. Conversely, set the start point to a key product and watch where people go *instead* of buying.

Segment overlap & cohorts — who actually buys

Overlap three segments — say "mobile users," "purchasers," and "paid-social visitors" — and the intersecting circles can reveal, brutally, that almost none of your paid-social traffic ever buys, even though it drives lots of sessions. And a **cohort exploration** grouped by acquisition week, measuring repeat purchases, answers the retention question that totals hide: are the customers you acquire coming back, or are you refilling a leaky bucket?

WATCH OUT — FUNNELS NEED THE FULL EVENT CHAIN

Every diagnosis in this chapter depends on having sent the *whole* e-commerce sequence from Chapter 10. If your implementation only fires `purchase`, you can build a funnel but the middle steps will be empty and useless. This is the concrete reason the chain matters: the Explorations that find your leaks are only as good as the events feeding them.

KEY IDEA — REPORTS DESCRIBE, EXPLORATIONS DIAGNOSE

Use the Monetisation reports to spot that something is wrong, then move to Explorations to find out why — by breaking the funnel down, tracing the paths, and overlapping the segments. The standard reports are the symptom; Explorations are the diagnosis. That two-step rhythm is the core intermediate analytics skill.

Attribution, One Level Deeper

GA4 101 introduced attribution as the question of credit, and gave you the two essentials: the model changes the numbers, and GA4 defaults to data-driven. At the intermediate level — especially now that real ad money depends on these numbers — three more ideas are worth holding.

The conversion paths report

In the Advertising section, the **conversion paths** report shows the actual sequences of channels that led to your key events — for example, *Organic Social → Organic Search → Direct → purchase*. It splits each path into early, mid, and late touchpoints, so you can see which channels *open* relationships versus which ones *close* them. This is the antidote to last-click thinking: it shows you the awareness-building channels that a last-click model would unfairly starve of credit.

Lookback windows

Attribution only considers touchpoints within a **lookback window** — the period before a conversion that GA4 examines for contributing clicks and interactions. If your sales cycle is long (expensive products, B2B), a short window will miss the early touches that actually started the journey. You can adjust this in Admin's attribution settings; matching the window to your real buying cycle is an intermediate refinement worth making deliberately.

WATCH OUT — SMALL SITES QUIETLY RUN LAST-CLICK

As 101 flagged, data-driven attribution only engages once a property has enough conversions to model from. Below that threshold GA4 silently falls back to last-click — so a small shop may believe it is running sophisticated attribution while actually running the simplest model there is. If your conversion-path data looks suspiciously end-loaded, low volume is usually the reason.

Two systems will never agree — and that is fine

GA4 and Google Ads attribute differently, count differently, and model differently, so their conversion numbers will never perfectly match. This is not a bug to be fixed; it is the nature of two tools measuring overlapping things with different rules. The professional habit is to pick the right tool for each job — Google Ads for in-platform bidding decisions, GA4 for cross-channel understanding — and to compare each tool against *its own history*, never against the other.

KEY IDEA — ATTRIBUTION IS A LENS, NOT A FACT

Every attribution model is a defensible opinion about how to share credit, not a measurement of truth. The intermediate skill is not finding the "correct" model — there isn't one — but choosing one deliberately, understanding what it flatters and what it starves, and staying consistent so your month-to-month comparisons remain honest.

Beyond the Interface — Looker Studio & BigQuery

The GA4 interface is excellent for exploring and diagnosing, and clumsy for two things: presenting to other people, and answering questions that GA4's own reporting limits will not allow. Two free Google tools solve those, and knowing when to reach for each is an intermediate judgement.

Looker Studio — for presenting

Looker Studio (formerly Data Studio) connects directly to your GA4 property and turns its data into shareable, always-current dashboards. Instead of taking screenshots for a monthly report, you build the dashboard once and send a link that updates itself. It is the right tool the moment a human *other than you* needs to see the numbers — a client, a boss, a board. Crucially, it can blend GA4 data with Google Ads, Search Console, and spreadsheets in one view, so "spend next to revenue" becomes a single chart rather than a manual reconciliation.

BigQuery — for the raw truth

The GA4 interface aggregates and samples and caps how many rows it will show. **BigQuery** is Google's data warehouse, and GA4 can export *every single raw event* into it for free at most volumes. Once your events are in BigQuery, an analyst can query them with SQL with none of the interface's limits — joining sessions across years, calculating bespoke metrics, building models the GA4 UI cannot express. You do not need it to do good work, but the day a stakeholder asks a question the interface simply refuses to answer, BigQuery is the answer.

Reach for…	When you need to…
GA4 interface	Explore, diagnose, answer a question for yourself, quickly
Looker Studio	Present to others; combine GA4 with Ads & Search Console; recurring reports
BigQuery	Escape sampling and row limits; raw event-level analysis; custom modelling

TIP — TURN ON THE BIGQUERY EXPORT EARLY, EVEN IF YOU WON'T USE IT YET

The BigQuery export is not retroactive: it only captures events from the day you enable it forward. Switching it on costs nothing and quietly banks raw history you may be grateful for in a year. If there is any chance you will ever want event-level data, enable the export now and let it accumulate.

KEY IDEA — THE INTERFACE IS THE START, NOT THE CEILING

GA4's own screens are where you think; Looker Studio is where you communicate; BigQuery is where you go when the questions outgrow both. Knowing which of the three a task belongs to — rather than forcing everything through the interface — is what separates an intermediate practitioner from a beginner.

Your Next 30 Days (Intermediate Plan)

As before, reading builds understanding and clicking builds skill. This month-long plan turns the book into competence. It assumes you have a live GA4 property and, ideally, a Google Ads account to connect. Half an hour a day is plenty.

Week 1 — Clean the foundation

- Set up and *activate* an internal-traffic filter (Chapter 2), and confirm it is not stuck in Testing.
- Add your payment processors to the unwanted-referrals list, and set data retention to maximum.
- Register two or three custom dimensions for parameters you already send but cannot yet report on.

Week 2 — Wire up Google Ads

- Create the Google Ads link (Chapter 5), confirming auto-tagging and personalised advertising are both on.
- Audit your conversions: for every action, make sure exactly one primary source feeds bidding — no double counts (Chapter 6).
- Build one remarketing audience — cart abandoners is the classic — and check it appears in Google Ads (Chapter 8).

Week 3 — Verify e-commerce (or your key events)

- Open DebugView and walk a test purchase end to end; confirm each event in the Chapter 10 sequence fires once with `value` and `currency`.
- Open the Monetisation reports and find your single biggest funnel drop-off (Chapter 11).
- If you run ads, enable enhanced conversions; if you have European visitors, confirm Consent Mode v2 is in place (Chapter 9).

Week 4 — Diagnose and present

- Build a funnel exploration of your purchase journey and break it down by device to find your worst-performing segment (Chapter 12).
- Build one Looker Studio dashboard that puts ad spend next to revenue by channel (Chapter 14).
- Write a one-page, plain-English summary: what leaks, what pays, and the one change you will make next month.

KEY IDEA — SHIP ONE DECISION

The whole point of intermediate GA4 is to *change something*. By the end of the month you should not just understand your data better — you should have made one concrete decision because of it: paused a wasteful campaign, fixed a leaking checkout step, or moved budget toward a channel that actually pays. A decision shipped beats a dashboard admired, every time.

Intermediate Glossary

The 101 glossary still applies. These are the new terms this book introduced, in deliberately plain language.

Term	Plain-English meaning
Auto-tagging	Google Ads automatically adding a `gclid` to its links so GA4 can match clicks, cost, and conversions. Leave it on; do not add manual UTMs to Ads links.
gclid	The unique click ID auto-tagging attaches to a Google Ads link — the thread that ties an ad click to later behaviour in GA4.
UTM parameters	Manual labels (source, medium, campaign) you append to your *own* links so GA4 knows where the traffic came from.
Default Channel Grouping	GA4's rulebook for sorting traffic into channels (Organic Search, Email, Direct…).
Custom dimension / metric	A registered event parameter, promoted from "collected but invisible" to usable in reports. Dimensions for labels, metrics for numbers.
Internal traffic filter	A rule that removes your own team's visits from reports — useless until switched from Testing to Active.
Unwanted referrals	Domains (e.g. payment processors) you tell GA4 to ignore as traffic sources so they don't break sessions.
Cross-domain measurement	Stitching a journey that spans two domains into one user and session.
Conversion (in Ads)	What Google Ads calls a GA4 key event once imported. Same action, different room.
Primary / Secondary conversion	Primary conversions feed Smart Bidding; secondary ones are visible but excluded from bidding. One primary source per action.
Smart Bidding	Google Ads' automated, per-auction bidding driven by your conversion signal (Target CPA, Target ROAS, and friends).
Conversion value	The revenue attached to a conversion (`value`) — what makes value-based bidding like Target ROAS possible.
Audience	A living, self-updating group of users defined by behaviour, sharable to Google Ads for remarketing.
Predictive audience	An audience built from GA4's ML predictions, e.g. likely purchasers or likely churners.
Enhanced conversions	Sending hashed first-party data (e.g. email) with a conversion so Google can recover otherwise-lost attribution.
Consent Mode v2	

	Google's system for honouring cookie-consent choices; legally required for European users. Enables modelling of declined traffic.
Data layer	A structured JavaScript object describing on-page events, read by Google Tag Manager and forwarded to GA4.
items array	The standard list of products carried by every e-commerce event — the thread that follows a product through the funnel.
transaction_id	A unique ID per order that lets GA4 de-duplicate purchases if a confirmation page reloads.
DebugView	The GA4 screen that shows events in real time as you test — the place to verify e-commerce tracking.
Lookback window	How far back attribution looks for contributing touchpoints before a conversion.
Conversion paths	The Advertising report showing the real channel sequences that led to conversions.
Looker Studio	Free Google tool for building shareable, auto-updating dashboards from GA4 and other sources.
BigQuery	Google's data warehouse; GA4 can export raw events into it for limitless SQL analysis.

A Closing Word

If GA4 101 made you literate, GA4 102 was meant to make you dangerous — in the good way.

You now know how to make your data trustworthy before anyone bets money on it, how to connect GA4 and Google Ads into a single machine without the double-counting that quietly drains accounts, how to feed Smart Bidding a clean and correctly-valued signal, and how to track a shopping journey from the first glance at a product list to the receipt — and then find exactly where that journey leaks.

The tools will keep moving. Google will rename "conversions" again, shuffle the menus, retire an attribution model, and ship some new machine-learning feature with a confident name. It always does. But the things this book is really about do not move: clean inputs beat clever analysis, one primary signal per conversion, value-based bidding needs values, and the full event chain is what turns a revenue total into a diagnosis.

Own those principles and you will adapt to every interface change Google throws at you, because you will understand *why* each feature exists rather than merely *where* its button used to be.

The rest, as ever, is practice. Open GA4 with a real question, follow it across into Google Ads, change one thing because of what you found — and let the results teach you the next question. That loop, repeated, is the whole craft. It is also, it turns out, a genuinely satisfying way to spend a Tuesday afternoon.

— mimozabilisim.com

GA4 102 · Going Further with Google Analytics 4 · First edition · 2026
The companion to GA4 101 · Google Analytics 4 Fundamentals