

# Stripe Webhook Events Configuration Guide

---

## Required Webhook Events for Genesis Provenance

---

This guide details the exact Stripe webhook events you need to configure in your Stripe Dashboard for Genesis Provenance to function correctly.

---

### Complete Event List

---

Your Stripe webhook **must** be configured to listen for these **6 events**:

#### 1. `checkout.session.completed`

**Purpose:** Triggered when a user completes the Stripe Checkout

**What it does:**

- Creates or updates subscription in database
- Links Stripe customer to organization
- Activates subscription features

**Critical for:** Initial subscription creation, plan upgrades

---

#### 2. `customer.subscription.created`

**Purpose:** Triggered when a new subscription is created

**What it does:**

- Creates subscription record in database
- Sets initial billing period
- Activates plan features

**Critical for:** New subscription setup

---

#### 3. `customer.subscription.updated`

**Purpose:** Triggered when subscription details change

**What it does:**

- Updates subscription status (active, past\_due, canceled)
- Updates billing period dates
- Syncs plan changes
- Updates payment method status

**Critical for:** Plan changes, renewals, payment updates

---

#### 4. `customer.subscription.deleted`

**Purpose:** Triggered when a subscription is canceled

**What it does:**

- Marks subscription as canceled in database
- Sets `canceledAt` timestamp
- Triggers feature access revocation

**Critical for:** Subscription cancellations

---

#### 5. `invoice.payment_succeeded`

**Purpose:** Triggered when a subscription payment succeeds

**What it does:**

- Logs successful payment
- Confirms subscription renewal
- Updates billing period

**Critical for:** Subscription renewals, payment tracking

---

#### 6. `invoice.payment_failed`

**Purpose:** Triggered when a subscription payment fails

**What it does:**

- Updates subscription status to `past_due`
- Triggers payment retry logic
- Can trigger user notifications

**Critical for:** Payment failure handling, dunning management

---



## Step-by-Step Webhook Configuration

---

### Step 1: Access Stripe Dashboard

1. Go to <https://dashboard.stripe.com>
2. Log in to your Stripe account
3. Make sure you're in **Test Mode** (toggle in top-right) for testing

### Step 2: Navigate to Webhooks

1. Click **"Developers"** in the left sidebar
2. Click **"Webhooks"**
3. You should see your existing webhook endpoint (if any)

### Step 3: Find Your Webhook Endpoint

Look for your webhook with the URL:

```
https://app.genesisprovenance.com/api/billing/webhook
```

**If you see it:**

- Click on it to edit
- Proceed to Step 4

**If you DON'T see it:**

- Click **"Add endpoint"** button
- Enter: `https://app.genesisprovenance.com/api/billing/webhook`
- Proceed to Step 4

## Step 4: Configure Events to Listen

1. Scroll to **"Events to send"** section
2. Click **"Select events"** or **"Edit"** button
3. In the search box, search for and select each event:

**Search and Check These:**

```
☒ checkout.session.completed
☒ customer.subscription.created
☒ customer.subscription.updated
☒ customer.subscription.deleted
☒ invoice.payment_succeeded
☒ invoice.payment_failed
```

**Visual Steps:**

- Type `checkout.session.completed` in search
- Check the checkbox ☒
- Repeat for all 6 events

## Step 5: Save Configuration

1. Click **"Add events"** or **"Update events"** button at bottom
2. Review your selected events (should show 6)
3. Click **"Add endpoint"** or **"Update endpoint"**

## Step 6: Verify Webhook Secret

1. After saving, you'll see your webhook listed
2. Click on the webhook endpoint
3. Look for **"Signing secret"**
4. Click **"Reveal"** to see the secret
5. It should start with `whsec_...`

**Verify it matches your `.env` file:**

```
STRIPE_WEBHOOK_SECRET=whsec_your_secret_here
```

⚠ If it doesn't match, update your `.env` file!

---

## Verification Checklist

---

After configuration, verify:

- [ ] Webhook endpoint URL is: `https://app.genesisprovenance.com/api/billing/webhook`
  - [ ] All 6 events are selected (see list above)
  - [ ] `STRIPE_WEBHOOK_SECRET` in `.env` matches Stripe Dashboard
  - [ ] Webhook is in the correct mode (Test/Live)
  - [ ] Endpoint status shows as “Enabled”
- 

## Testing Your Webhook Configuration

---

### Test in Stripe Dashboard

#### 1. Navigate to your webhook

- Developers → Webhooks → Click your endpoint

#### 2. Send Test Webhook

- Click “**Send test webhook**” button
- Select event: `customer.subscription.created`
- Click “**Send test webhook**”

#### 3. Check Response

- You should see **200 OK** response
- If you see errors, check your server logs

### Test with Real Subscription

#### 1. Create Test Subscription

- Go to your app: `https://app.genesisprovenance.com/settings/billing`
- Click “Upgrade Plan”
- Select “Dealer” plan
- Use Stripe test card: `4242 4242 4242 4242`
- Complete checkout

#### 2. Verify in Stripe Dashboard

- Developers → Webhooks → Click your endpoint
- Click “**Logs**” tab
- You should see recent webhook events (1-2 minutes ago)
- Status should be **200 OK** (green checkmark)

#### 3. Verify in Your App

- Go to `/settings/billing`
  - Your plan should show as “Dealer”
  - Status should be “Active”
-

## Troubleshooting

---

### Issue: Webhook returns 401 Unauthorized

**Cause:** Webhook secret mismatch

**Solution:**

1. Go to Stripe Dashboard → Developers → Webhooks
2. Click your webhook endpoint
3. Reveal the “Signing secret”
4. Copy it (starts with `whsec_...`)
5. Update your `.env` file:

```
bash
```

```
STRIPE_WEBHOOK_SECRET=whsec_your_actual_secret_here
```

6. Restart your application or redeploy
- 

### Issue: Webhook returns 500 Internal Server Error

**Cause:** Application error processing webhook

**Solution:**

1. Check your server logs for detailed error messages
2. Common causes:
  - Database connection issues
  - Missing `organizationId` in subscription metadata
  - Invalid Price ID
3. Test the webhook handler locally:

```
bash
```

```
# Check logs
```

```
tail -f /var/log/nextjs/application.log | grep webhook
```

---

### Issue: Subscription not updating in app after checkout

**Cause:** Webhook events not being received

**Solution:**

1. Verify webhook endpoint URL is correct
  2. Check that all 6 events are selected
  3. Verify webhook is “Enabled” (not disabled)
  4. Check Stripe Dashboard → Webhooks → Logs for failed deliveries
  5. If you see failed attempts, click them to see the error details
- 

### Issue: Webhook logs show “No matching events”

**Cause:** Events not configured in webhook settings

**Solution:**

1. Go to your webhook in Stripe Dashboard
2. Click “Edit” or click the webhook name

3. Scroll to “Events to send”
4. Click “Select events” or “Edit events”
5. Add all 6 events from the list above
6. Click “Update endpoint”

## Security Best Practices

### 1. Always Verify Webhook Signatures

Your webhook handler ( `/app/api/billing/webhook/route.ts` ) automatically verifies signatures using:

```
stripe.webhooks.constructEvent(body, signature, webhookSecret)
```

**Never skip this verification!**

### 2. Keep Webhook Secret Secure

- Never commit `.env` file to Git  (already in `.gitignore` )
- Store secret in environment variables only
- Rotate webhook secret if compromised

### 3. Use Different Webhooks for Test/Live Mode

- **Test Mode:** `whsec_test_...`
- **Live Mode:** `whsec_live_...`

Ensure your production `.env` uses the Live mode secret.

## Monitoring Webhook Health

### Daily Checks (Recommended)

1. Go to Stripe Dashboard → Developers → Webhooks
2. Click your endpoint
3. Check “**Logs**” tab
4. Verify recent events show **200 OK** (green checkmarks)
5. Look for any failed deliveries (red X)

### Set Up Alerts (Optional)

1. In Stripe Dashboard, go to Settings → Notifications
2. Enable “Webhook endpoint failures”
3. Enter your email for alerts

## Production vs. Test Mode

### Test Mode

- **Webhook URL:** `https://app.genesisprovenance.com/api/billing/webhook`

- **Webhook Secret:** `whsec_test_...` (from Test Mode dashboard)
- **Use for:** Development, testing, staging

## Live Mode

- **Webhook URL:** Same as test ( `https://app.genesisprovenance.com/api/billing/webhook` )
- **Webhook Secret:** `whsec_live_...` (from Live Mode dashboard)
- **Use for:** Production, real customer payments

**Important:** You need to configure webhooks separately in both Test and Live modes!



## Quick Reference: Events Summary

Event	Triggers When	Database Action
<code>checkout.session.completed</code>	User completes checkout	Create/update subscription
<code>customer.subscription.created</code>	New subscription starts	Create subscription record
<code>customer.subscription.updated</code>	Subscription changes	Update status, dates, plan
<code>customer.subscription.deleted</code>	Subscription canceled	Mark as canceled
<code>invoice.payment_succeeded</code>	Payment succeeds	Log payment, update period
<code>invoice.payment_failed</code>	Payment fails	Mark as past_due



## Final Configuration Checklist

Before going to production:

### Test Mode (for development):

- ☐ Webhook endpoint created for Test Mode
- ☐ All 6 events selected
- ☐ Test mode webhook secret in `.env`
- ☐ Tested with Stripe test cards
- ☐ Verified 200 OK responses in logs

### Live Mode (for production):

- ☐ Webhook endpoint created for Live Mode
- ☐ All 6 events selected
- ☐ Live mode webhook secret in production `.env`
- ☐ DNS/SSL configured correctly
- ☐ Tested with real subscription (in test mode first!)
- ☐ Monitoring/alerts enabled

---

## Need Help?

---

### Stripe Documentation:

- Webhooks: <https://stripe.com/docs/webhooks>
- Testing Webhooks: <https://stripe.com/docs/webhooks/test>
- Event Types: <https://stripe.com/docs/api/events/types>

### Genesis Provenance Docs:

- See `CHECKOUT_TROUBLESHOOTING.md` for payment issues
- See `STRIPE_WEBHOOK_SETUP_COMPLETE.md` for webhook secret setup
- See `UPGRADE_CHECKOUT_FIX.md` for subscription sync issues

### Stripe Support:

- Dashboard: <https://dashboard.stripe.com/support>
- Email: [support@stripe.com](mailto:support@stripe.com)

---

**Last Updated:** December 2, 2025

**App Version:** Phase 5C

**Webhook Handler:** `/app/api/billing/webhook/route.ts`