

# WABA RabbitMQ Messaging Contract

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## Nexgate ? WABA Gateway Service

“ Exchange: `whatsapp.exchange` (topic)

### Overview

Meta/WhatsApp

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▼

WABA Gateway Service

← owns Meta API, webhook endpoint

| publishes inbound events

▼

whatsapp.exchange

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├─ whatsapp.inbound.# → q.whatsapp.inbound → Nexgate consumes

├─ whatsapp.outbound.# → q.whatsapp.outbound → WABA Gateway consumes

└─ whatsapp.outbound.auth → q.whatsapp.auth → WABA Gateway consumes

“ **Note:** Inbound/outbound are from **Nexgate's perspective**.

- `inbound` = WABA Gateway publishes → Nexgate consumes
- `outbound` = Nexgate publishes → WABA Gateway consumes

# Exchange & Queues

Name	Type	Purpose
<code>whatsapp.exchange</code>	topic	Single shared exchange
<code>q.whatsapp.inbound</code>	durable	Messages coming IN to Nexgate
<code>q.whatsapp.outbound</code>	durable	Messages going OUT from Nexgate (shop chatbot)
<code>q.whatsapp.auth</code>	durable	OTP delivery for registration and login

## Routing Keys

Routing Key	Direction	Description
<code>whatsapp.inbound.message</code>	WABA Gateway → Nexgate	Customer sent a message (text, image, any media)
<code>whatsapp.inbound.status</code>	WABA Gateway → Nexgate	Delivery/read status update for Nexgate's outbound messages
<code>whatsapp.outbound.message</code>	Nexgate → WABA Gateway	Send any message to customer (template or freetext, determined by <code>type</code> field)
<code>whatsapp.outbound.auth</code>	Nexgate → WABA Gateway	Send OTP to customer via WhatsApp ( <code>nexgate_otp</code> template only)

“ Status flows **one way only** — Meta → WABA Gateway → Nexgate. Nexgate never publishes status back.

## Inbound Events (WABA Gateway publishes, Nexgate consumes)

### Common Inbound Fields

Field	Type	Required	Description
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type	WabaEventType	□	MESSAGE_RECEIVED or STATUS_WEBHOOK
messageType	WabaMessageType	□	TEXT, IMAGE, DOCUMENT, AUDIO, VIDEO
wabaAccountId	string	□	WABA business account ID
wabaNumber	string	□	Shop's WhatsApp number (E.164)
wabaUserName	string	□	Customer's WhatsApp display name
messageId	string	□	Meta message ID
from	string	□	Customer's phone number (E.164)
text	string	△	Message text (null for media messages)
status	string	△	Delivery status (only for STATUS_WEBHOOK)
media	object	△	Media payload (null for text messages)
timestamp	ISO-8601	□	Event timestamp

## Media Object (inbound)

Field	Type	Description
type	WabaMessageType	IMAGE, DOCUMENT, AUDIO, VIDEO
url	string	Media URL from Meta
mimeType	string	e.g. image/jpeg
filename	string	Original filename
sha256	string	Integrity checksum from Meta
caption	string	Optional caption from customer

## Sample: TEXT message received

**Routing key:** whatsapp.inbound.message

```
{
  "type": "MESSAGE_RECEIVED",
  "messageType": "TEXT",
```

```
"wabaAccountId": "waba-001",
"wabaNumber": "+255700000000",
"wabaUserName": "Josh",
"messageId": "msg-123",
"from": "+255712345678",
"text": "Nataka kuku na chips",
"media": null,
"timestamp": "2026-04-12T11:00:00Z"
}
```

## Sample: IMAGE message received

**Routing key:** `whatsapp.inbound.message`

```
{
  "type": "MESSAGE_RECEIVED",
  "messageType": "IMAGE",
  "wabaAccountId": "waba-001",
  "wabaNumber": "+255700000000",
  "wabaUserName": "Josh",
  "messageId": "msg-124",
  "from": "+255712345678",
  "text": null,
  "media": {
    "type": "IMAGE",
    "url": "https://example.com/image.jpg",
    "mimeType": "image/jpeg",
    "filename": "photo.jpg",
    "sha256": "abc123def456",
    "caption": "Hii ndiyo nataka"
  },
  "timestamp": "2026-04-12T11:01:00Z"
}
```

## Sample: STATUS update

**Routing key:** `whatsapp.inbound.status`

```

{
  "type": "STATUS_WEBHOOK",
  "messageType": "TEXT",
  "wabaAccountId": "waba-001",
  "wabaNumber": "+255700000000",
  "wabaUserName": "Josh",
  "messageId": "msg-123",
  "from": "+255712345678",
  "status": "delivered",
  "timestamp": "2026-04-12T11:00:30Z"
}

```

“ Possible `status` values: `sent`, `delivered`, `read`, `failed`

# Outbound Events (Nexgate publishes, WABA Gateway consumes)

## Common Outbound Fields

Field	Type	Required	Description
<code>type</code>	<code>WabaEventType</code>	□	<code>SEND_TEMPLATE</code> , <code>SEND_FREETEXT</code> , or <code>SEND_AUTH_OTP</code>
<code>messageType</code>	<code>WabaMessageType</code>	□	<code>TEXT</code> , <code>TEMPLATE</code> , <code>IMAGE</code> , <code>DOCUMENT</code> , <code>AUDIO</code> , <code>VIDEO</code>
<code>wabaAccountId</code>	string	□	WABA business account ID
<code>wabaNumber</code>	string	□	WhatsApp number to send from (E.164)
<code>phoneNumberId</code>	string	△	Meta phone number ID — present on <code>SEND_AUTH_OTP</code> events only, use directly without DB lookup
<code>appId</code>	string	△	Meta app ID — present on <code>SEND_AUTH_OTP</code> events only
<code>to</code>	string	□	Customer's phone number (E.164)

Field	Type	Required	Description
<code>correlationId</code>	string	△	Order/booking/session ID for tracing
<code>text</code>	string	△	Message text (for <code>SEND_FREETEXT</code> + <code>TEXT</code> )
<code>template</code>	object	△	Template payload (for <code>SEND_TEMPLATE</code> and <code>SEND_AUTH_OTP</code> )
<code>media</code>	object	△	Media payload (for image/document/audio/video)

“ For `SEND_TEMPLATE` and `SEND_FREETEXT` (shop chatbot), `phoneNumberId` and `appId` will be `null` — look them up from DB via `wabaNumber` as normal. For `SEND_AUTH_OTP`, `phoneNumberId` and `appId` are always populated — use them directly, no DB lookup needed.

## Template Object (outbound)

Field	Type	Description
<code>templateName</code>	<code>WabaTemplateName</code>	Enum — see reference table below
<code>languageCode</code>	string	e.g. <code>en</code> , <code>sw</code>
<code>params</code>	map	Named params mapped to Meta <code>{{1}}</code> <code>{{2}}</code> by WABA Gateway

## Media Object (outbound)

Field	Type	Description
<code>url</code>	string	Publicly accessible media URL
<code>mimeType</code>	string	e.g. <code>image/jpeg</code>
<code>filename</code>	string	Filename for documents
<code>caption</code>	string	Optional caption

## Sample: SEND\_FREETEXT (plain text)

**Routing key:** `whatsapp.outbound.message`

```
{
  "type": "SEND_FREETEXT",
  "messageType": "TEXT",
  "wabaAccountId": "waba-001",
  "wabaNumber": "+255700000000",
  "to": "+255712345678",
  "correlationId": "session-001",
  "text": "Habari! Tunayo kuku na chips. Bei ni 5,000 TZS."
}
```

## Sample: SEND\_TEMPLATE — shop\_details

**Routing key:** `whatsapp.outbound.message`

```
{
  "type": "SEND_TEMPLATE",
  "messageType": "TEMPLATE",
  "wabaAccountId": "waba-001",
  "wabaNumber": "+255700000000",
  "to": "+255712345678",
  "correlationId": "session-002",
  "template": {
    "templateName": "SHOP_DETAILS",
    "languageCode": "en",
    "params": {
      "1": "Josh",
      "2": "Mode Bites"
    }
  }
}
```

“ Template body: `Hello {{1}}! Welcome to *{{2}}*, browse our products and find what suits you.`

# Sample: SEND\_TEMPLATE — product\_results\_found

**Routing key:** whatsapp.outbound.message

```
{
  "type": "SEND_TEMPLATE",
  "messageType": "TEMPLATE",
  "wabaAccountId": "waba-001",
  "wabaNumber": "+255700000000",
  "to": "+255712345678",
  "correlationId": "session-003",
  "template": {
    "templateName": "PRODUCT_RESULTS_FOUND",
    "languageCode": "en",
    "params": {
      "1": "Josh",
      "2": "2",
      "3": "kuku",
      "4": "Mode Bites",
      "5": "Kuku Choma"
    }
  }
}
```

Template body: Hello {{1}}! We found {{2}} products matching "{{3}}" in {{4}}. Here are a few matches: {{5}}\*. Tap below to see all results!

# Sample: SEND\_TEMPLATE — products\_not\_found

**Routing key:** whatsapp.outbound.message

```
{
  "type": "SEND_TEMPLATE",
  "messageType": "TEMPLATE",
```

```
"wabaAccountId": "waba-001",
"wabaNumber": "+255700000000",
"to": "+255712345678",
"correlationId": "session-004",
"template": {
  "templateName": "PRODUCTS_NOT_FOUND",
  "languageCode": "en",
  "params": {
    "1": "Josh",
    "2": "cake",
    "3": "Mode Bites",
    "4": "Kuku Choma"
  }
}
}
```

“ Template body: Hello {{1}}, We couldn't find \*'{{2}}'\* in \*'{{3}}'\* right now.  
You might be interested in: \*'{{4}}'\*

## Sample: SEND\_TEMPLATE — fallback\_text

**Routing key:** whatsapp.outbound.message

```
{
  "type": "SEND_TEMPLATE",
  "messageType": "TEMPLATE",
  "wabaAccountId": "waba-001",
  "wabaNumber": "+255700000000",
  "to": "+255712345678",
  "correlationId": "session-005",
  "template": {
    "templateName": "FALLBACK_TEXT",
    "languageCode": "en",
    "params": {
      "1": "Josh",
      "2": "sawa asante"
    }
  }
}
```

```
}  
}
```

“ Template body: `Hi {{1}}, thanks for your message: "{{2}}". We're not sure how to help with that – feel free to ask about our products or shop.`

### When is this sent?

- AI is **enabled** but cannot classify the message as a product search or shop details request (e.g. greetings, thanks, unclear/off-topic messages)
- AI is **disabled** — every inbound message defaults to this template, with the raw customer text passed as `{{2}}`

## Sample: SEND\_AUTH\_OTP

Routing key: `whatsapp.outbound.auth`

```
{  
  "type": "SEND_AUTH_OTP",  
  "messageType": "TEMPLATE",  
  "wabaAccountId": "nexgate-waba-account-id",  
  "wabaNumber": "+255700000001",  
  "phoneNumberId": "nexgate-phone-number-id",  
  "appId": "nexgate-app-id",  
  "to": "+255712345678",  
  "correlationId": "+255712345678",  
  "template": {  
    "templateName": "NEXGATE_OTP",  
    "languageCode": "en",  
    "params": {  
      "1": "847291"  
    }  
  }  
}
```

Template body: 847291 is your verification code. For your security, do not share this code. Expires in 10 minutes.

This event always uses the **NextGate platform WABA account**, not a shop account. `phoneNumberId` and `appId` are always present — use them directly without any DB lookup.

## Sample: SEND\_FREETEXT (image)

**Routing key:** `whatsapp.outbound.message`

```
{
  "type": "SEND_FREETEXT",
  "messageType": "IMAGE",
  "wabaAccountId": "waba-001",
  "wabaNumber": "+255700000000",
  "to": "+255712345678",
  "correlationId": "session-006",
  "media": {
    "url": "https://cdn.nexgate.co.tz/menu.jpg",
    "mimeType": "image/jpeg",
    "filename": "menu.jpg",
    "caption": "Menu ya leo"
  }
}
```

## Enums Reference

### WabaEventType

Value	Routing Key	Direction
<code>MESSAGE_RECEIVED</code>	<code>whatsapp.inbound.message</code>	WABA Gateway → Nexgate
<code>STATUS_WEBHOOK</code>	<code>whatsapp.inbound.status</code>	WABA Gateway → Nexgate
<code>SEND_TEMPLATE</code>	<code>whatsapp.outbound.message</code>	Nexgate → WABA Gateway
<code>SEND_FREETEXT</code>	<code>whatsapp.outbound.message</code>	Nexgate → WABA Gateway

Value	Routing Key	Direction
SEND_AUTH_OTP	whatsapp.outbound.auth	Nexgate → WABA Gateway

## WabaMessageType

Value	Description
TEXT	Plain text message
TEMPLATE	Meta approved template
IMAGE	Image (jpg, png)
DOCUMENT	PDF, docx etc
AUDIO	Voice/audio message
VIDEO	Video message

## WabaTemplateName

Value	Meta Template Name	Variables
SHOP_DETAILS	shop_details	{{1}} customerName, {{2}} shopName
PRODUCTS_NOT_FOUND	products_not_found	{{1}} customerName, {{2}} searchQuery, {{3}} shopName, {{4}} suggestedProducts
PRODUCT_RESULTS_FOUND	product_results_found	{{1}} customerName, {{2}} productCount, {{3}} searchQuery, {{4}} shopName, {{5}} topProducts
FALLBACK_TEXT	fallback_text	{{1}} customerName, {{2}} originalMessage
NEXGATE_OTP	nexgate_otp	{{1}} otp code

## Notes

- All phone numbers must be in **E.164 format** e.g. +255712345678
- correlationId should be the session/order/booking ID for end-to-end tracing
- Free text messages (SEND\_FREETEXT) are only valid within the **24-hour session window** after customer last messaged
- Template messages (SEND\_TEMPLATE and SEND\_AUTH\_OTP) can be sent anytime
- wabaUserName is the customer's WhatsApp display name — pass it to personalize template greetings

- `SEND_AUTH_OTP` events arrive on `q.whatsapp.auth` — handle them separately from shop messages on `q.whatsapp.outbound`
- For `SEND_AUTH_OTP`, never attempt a DB lookup for `phoneNumberId` or `appId` — they are always present in the event