

# How We Successfully Integrated ZATCA Phase II: A Stepby-Step Developer's Guide

### By Methologik — Your Trusted Technology Partner in KSA

Integrating with **ZATCA Phase II** initially felt like climbing a mountain blindfolded. The documentation was dense, the XML standards were strict, and the security requirements—hashing, base64 encoding, signing—were unforgiving. Add the transition from simulation to production, and it becomes a journey only experienced engineering teams can navigate.

At **Methologik**, we not only completed this integration successfully, but we built a repeatable, scalable framework that we now use for our clients across Saudi Arabia. This article outlines our complete technical journey, breaks down the ZATCA environments, and explains how to interact with the right APIs for full Phase II compliance.

## ✓ Understanding the ZATCA Environment Layers

ZATCA (Zakat, Tax and Customs Authority) provides **three environments**, each with a different purpose. Knowing when to use each one is the key to smooth integration.

### • 1. Simulation Environment (Pre-Production Test Mode)

**URL:** https://gw-fatoora.zatca.gov.sa/e-invoicing/simulation/

This is your **first and safest** place to start. The simulation environment allows developers to:

Test full invoice lifecycle

- Validate XML structure, UBL 2.1 compliance, and security
- Simulate clearance (for standard invoices)
- Simulate reporting (for simplified invoices)
- Validate QR code correctness
- Test hash and digital signature flows

#### **Use Case:**

- √ Internal QA
- √ Debugging XML structure
- ✓ Testing all invoice types (standard, simplified, credit & debit notes)

At Methologik, we spent considerable time here to ensure our XML generator, signing process, and invoice structure were flawless before moving forward.

### • 2. Sandbox Developer Portal (Credentials, CSR & Compliance Testing)

**URL:** https://sandbox.zatca.gov.sa/

This portal is mandatory. It is used to:

- Register your e-invoicing solution
- Generate and validate CSR certificates
- Obtain API credentials
- Run compliance tests
- Validate your implementation against official ZATCA specs

#### Sample CSR Fields (Required by ZATCA):

csr.common.name= CompanyName-TIN-VAT
csr.serial.number= 1-CN|2-CN|3-UniqueIdentifier
csr.organization.identifier= VAT Number
csr.organization.unit.name= Branch Name
csr.organization.name= Sample Company
csr.country.name= SA

csr.invoice.type= 1100

csr.location.address= ShortAddress

csr.industry.business.category= Software Development and IT Services

Methologik's team automated CSR generation and validation to simplify onboarding for clients.

#### • 3. Production Environment (Live Operations)

**URL:** <a href="https://gw-fatoora.zatca.gov.sa/e-invoicing/core/">https://gw-fatoora.zatca.gov.sa/e-invoicing/core/</a>

This is where real, legal invoices go. Once approved through the sandbox, you move to production, which handles:

- Actual B2B invoice clearance
- B2C invoice reporting
- · Real-time security validation
- · Government auditing & acknowledgment

#### **Use Case:**

- √ Final live submission
- ✓ Legally binding invoice acknowledgments
- √ 100% accurate, compliant XML execution

## Vsing the Correct APIs: Clearance vs. Reporting

ZATCA Phase II splits its functionality based on invoice type.

## ↑ 1. Clearance API – For Standard Invoices (B2B)

#### Simulation URL:

https://gw-fatoora.zatca.gov.sa/e-invoicing/simulation/invoices/clearance/single

#### Used when:

• The buyer is a registered business

- VAT can be claimed
- Invoice must be approved before being issued

#### ★ 2. Reporting API – For Simplified Invoices (B2C)

#### **Simulation URL:**

https://gw-fatoora.zatca.gov.sa/e-invoicing/simulation/invoices/reporting/single

#### Used when:

- Issued to non-registered customers
- Invoice can be reported within 24 hours
- Retail, walk-in, POS systems

Methologik built dual-mode logic in our solution to automatically choose between clearance or reporting based on invoice type.

### Key Lessons from Our Integration

#### √ 1. XML accuracy is everything

A single misplaced tag, wrong namespace, or invalid character will break your submission.

#### ✓ 2. Security requirements are strict

You must implement:

- Private keys
- CSR generation
- Digital signatures
- Hash chaining
- Base64 encoding

#### **✓** 3. Correct environment flow matters

Simulation → Sandbox → Production

Skipping any stage will block you during compliance.

#### √ 4. ZATCA's error responses are extremely helpful

Every validation error includes details. Using them properly reduces debugging time significantly.

## **ZATCA Invoice Type Codes**

### Code Description Usage

1100 Standard Tax Invoice B2B — VAT claimable

388 Simplified Tax Invoice B2C — Retail, walk-in

## ✓ Compliance Checks by Invoice Type

All test cases must be submitted to:

https://gw-fatoora.zatca.gov.sa/e-invoicing/simulation/compliance/invoices

### **Invoice Setup Required Samples**

1000 Standard Invoice, Standard Credit Note, Standard Debit Note

**0100** Simplified Invoice, Simplified Credit Note, Simplified Debit Note

1100 All 6 Standard + Simplified samples

This phase ensures your system follows ZATCA standards end-to-end.

## **⊘** Helpful ZATCA Resources

- Fatoora Portal User Manual
- XML Implementation Standard (UBL 2.1)
- ZATCA E-Invoicing Developer Guide

## ★ Summary

Successfully integrating with ZATCA Phase II requires a solid grasp of its environments, strict XML validation rules, and correct use of clearance vs. reporting APIs. Starting in simulation, completing compliance checks in the sandbox, and transitioning to production ensures a smooth and stable rollout. This guide reflects Methologik's firsthand experience — helping developers and companies fast-track their ZATCA integration journey.

## Why Choose Methologik for ZATCA Phase II Integration?

At Methologik, we bring:

## 

We have implemented multiple ZATCA-compliant solutions across retail, logistics, F&B, and enterprise systems.

## End-to-End Technical Expertise

#### Including:

- XML/UBL generation
- Invoice signing & hashing
- CSR & certificate management
- Wasl & TGA integrations
- ERP & POS integration

## Proven Implementation Framework

We already built reusable modules for clearance & reporting APIs—saving you weeks of development time.

## ♠ 100% Compliance Guarantee

We guide you through simulation, sandbox testing, compliance checks, and production golive.

## Need Help with ZATCA Phase II Integration?

Our team is ready to support your ERP, POS, e-commerce, or custom system.

**contact us:** https://methologik.com/contact-us

Let's make your system fully compliant and future-ready.