

# GENERAL (non-technical) e-INVOICING GUIDE

For Software Developers



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## 1. Version History

Version	Changes	Date
v1.0	Original document	21 <sup>st</sup> June 2023

## 2. Glossary of Terms

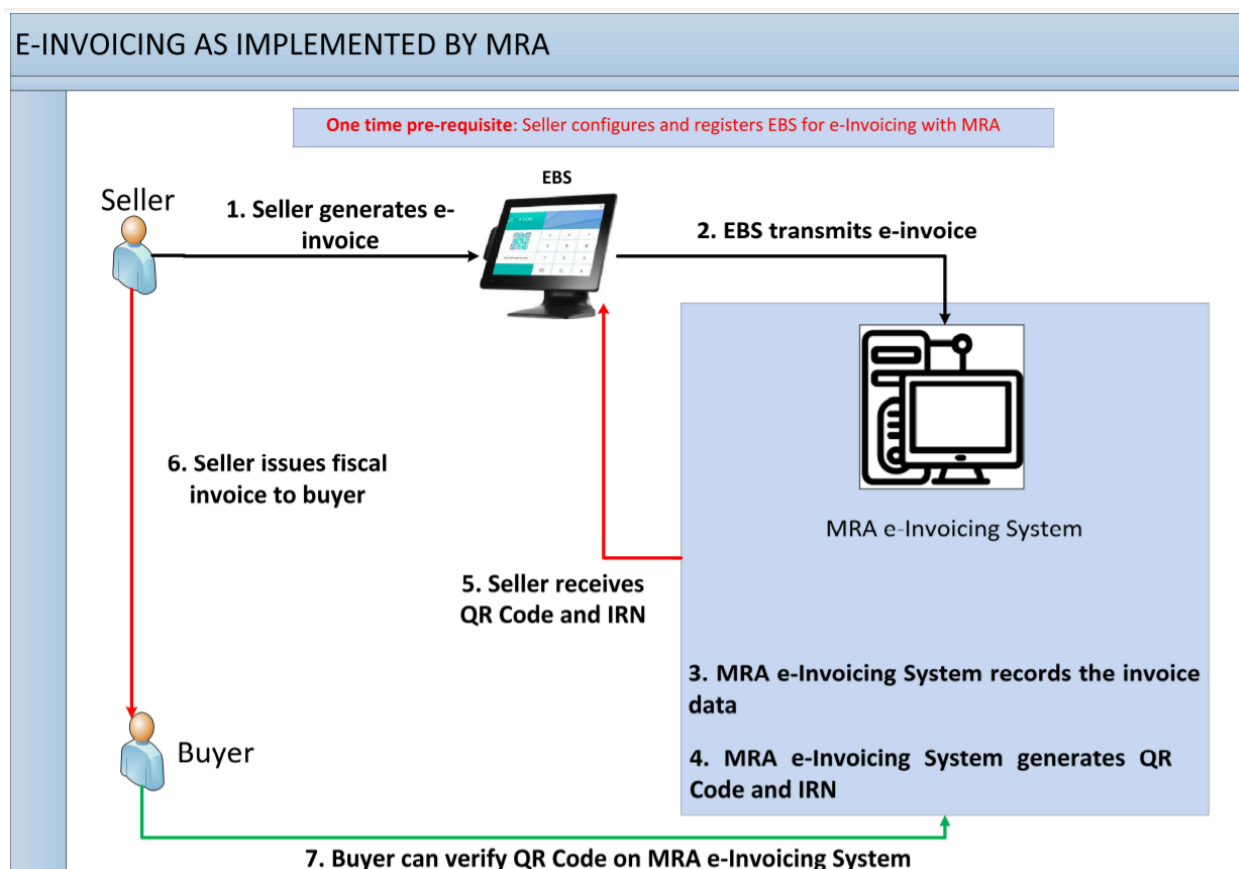
<b>TERM</b>	<b>DESCRIPTION</b>
API	Application Programming Interface
ECR	Electronic Cash Register
EBS	Electronic Billing System
ERP	Enterprise Resource Planning
ICT	Information and Communication Technology
MRA	Mauritius Revenue Authority
MRAID Portal	MRA e-Invoicing Developer Portal
OTP	One Time Password
POS	Point of Sale
QR Code	Quick Response Code
URL	Uniform Resource Locator
IRN	Invoice Registration Number

### 3. Background Information

The Mauritius Revenue Authority (MRA) is introducing an e-Invoicing system at the national level in Mauritius in a phase-wise approach. With the advent of this e-Invoicing system, providers of goods and services (that is, the sellers) will be required to fiscalise their invoices or receipts in real time with the MRA before issuing them to their customers (that is, the buyers).

In general, a seller makes use of an Accounting Package / Invoicing Solution / POS / ECR / ERP in order to invoice its customers for the sales made. In the context of the MRA e-Invoicing System, such an Accounting Package / Invoicing Solution / POS / ECR / ERP will be referred to as an Electronic Billing System (EBS).

The following diagram gives a pictorial representation of the MRA e-Invoicing System.



**Figure 1:** Pictorial representation of MRA e-Invoicing System in Mauritius

## 4. General Information on MRA e-Invoicing Developer Portal

### 4.1. Introduction

As an initial step towards the introduction of the e-Invoicing system, EBS software developers and EBS solution providers, through the MRA e-Invoicing Developer Portal, must register, customise and successfully test their EBS for compliance with the MRA e-invoicing system.

The MRA e-Invoicing Developer Portal is a dedicated online portal provided by MRA as a sandbox environment in the context of e-Invoicing for these software developers and solution providers of Electronic Billing Systems (EBS) which are used for invoicing customers after the sale of goods or services in Mauritius.

### 4.2. Aims and Scope

The aim of this document is to provide a general guidance to EBS software developers and solution providers on what is required of their EBS with the introduction of e-Invoicing in the country. This document also describes how to test the EBS once necessary amendments have been carried out to make the EBS compliant with the MRA e-Invoicing system.

### 4.3. Target Audience

This document is mainly targeted for software developers

- (a) who work for EBS manufacturers / solution providers or,
- (b) other than those in (a) above who work for the in-house ICT department of a public or private organisation using an EBS for issuing invoices or receipts.

Moreover, any other persons wishing to understand what is required of software developers to make their EBS compliant with the MRA e-Invoicing system may also find this document useful.

### 4.4. References for Further Reading

Besides this General (non-technical) e-Invoicing Guide for Software Developers, the following documents may additionally prove helpful to understand the requirements for e-Invoicing in Mauritius:-

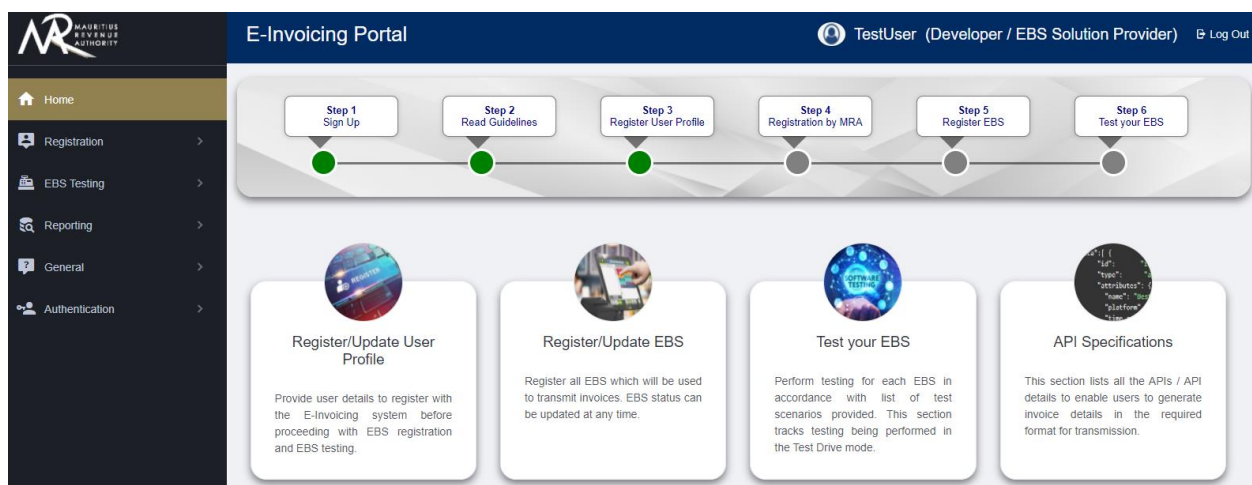
- (a) The Value Added Tax Act in Mauritius
- (b) The Functional Specifications of Electronic Billing System in Mauritius

- (c) The User manual for the MRA e-Invoicing Portal
- (d) The Technical Guide of APIs for MRA e-Invoicing System
- (e) The Data Structure of an e-Invoice (JSON format) to comply with the MRA e-Invoicing system

## 5. Overview of MRA e-Invoicing Developer Portal

The MRA e-Invoicing Developer Portal enables software developers and EBS solution providers to register their EBS and interface each registered EBS with the MRA e-invoicing system.

A screen shot of the MRA e-Invoicing Developer Portal is shown below.



**Figure 2:** Overview of MRA e-Invoicing Portal

The MRA e-Invoicing Developer Portal

- Allows the creation of **credentials** in order to sign-in to the MRA e-Invoicing Portal
- Allows the **registration of users** (software developers) and their **EBS** which they need to make e-Invoicing compliant.
- Validates the mobile number of the user through OTP
- Provides API documentation required by the software developers to enable the integration of their EBS with the MRA e-Invoicing System
- Provides the methods / URLs, JSON Schema of the request payloads, sample request payloads and sample responses for each of the APIs
- Provides a facility for developers to simulate the use of APIs
- Enables registered users to perform tests as per the MRA test script (that is, Perform a Test Drive) to verify EBS compliance
- Provides reporting facilities to view

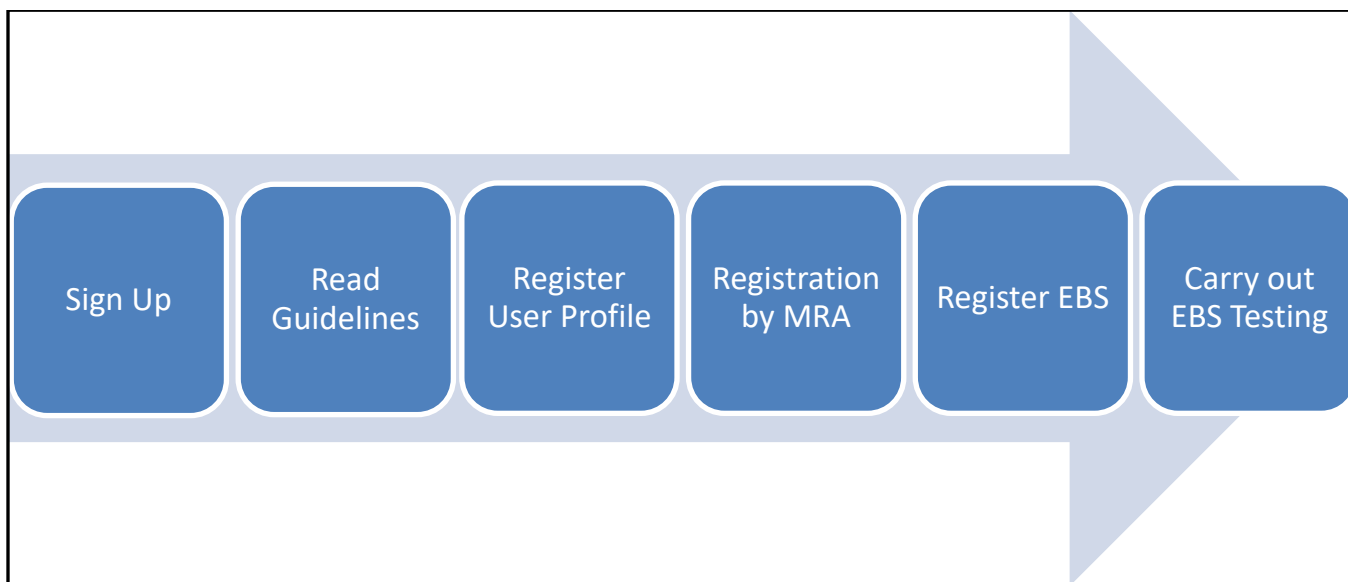
- invoices submitted successfully
  - invoices which were rejected
  - results of tests performed as per the MRA test script
  - Exception report for all unsuccessful requests on MRA e-invoicing Developer Portal
- Allows registered users to self-certify that their EBS have been made compliant with the e-Invoicing Regulations in Mauritius
  - Provides documentation on related Laws and Regulations
  - Provides a list of Frequently Asked Questions
  - Provides contact details for support from MRA

### 5.1. Accessing the MRA e-Invoicing Developer Portal

The MRA e-Invoicing Developer Portal can be accessed through any up-to-date browser like Google Chrome, Mozilla Firefox and Microsoft Edge.

The URL of the Developer portal is <https://vfiscportal.mra.mu/invoice-portal/home>

### 5.2. Overview of steps to make EBS Compliant with the MRA e-Invoicing System



**Figure 3:** Overview of steps to make an EBS compliant



### Steps to be performed by Software Developers of EBS on MRA e-Invoicing Developer Portal :-

After having accessed the MRAID Portal, you need to click on the menu option **Sign Up** to create a user name (if you do not already have one) for carrying out sandbox testing.

Once you have successfully signed up, you can subsequently login on the MRAID Portal by clicking on the menu option **Sign In** to input the username (and password) created during the Sign Up process.

Note that you need to acknowledge having **read the guidelines** and agree to the terms and conditions of this Portal in order to be able to proceed successfully.

As part of the **User Profile Registration** process, you are required to provide your details and the details of the company for which you work including contact details.

This will automatically trigger a registration process at MRA in order to allow the new user to proceed further. The user will be informed by email when the registration process has been completed by MRA.

Once the registration process is completed, you need to input the details of the EBS for which tests will be performed when you **Register your EBS**. After you have clicked on the **Save EBS Details** button, you will be provided with a unique EBS MRA ID which you will need to save on the EBS and use while testing your EBS.

Necessary changes should then be done by software developers on the EBS for it to transmit, using the appropriate MRA Application Programming Interface (API), its invoices, debit notes, credit notes, pro-forma invoices and training invoices in the JSON format provided on the MRAID Portal. Note that there are two MRA APIs for this purpose, namely one for authentication and one for invoice transmission.

Subsequently, software developers can **test their EBS while it is in SANDBOX mode** on the MRAID Portal.

After testing of an EBS in SANDBOX mode has been carried out to the satisfaction of the software developer and all of the tests in the MRA test script provided on the MRAID Portal are conclusive, the software developer may then change its mode to **“TEST DRIVE”** in order to attempt the test drive.

Finally, when the EBS has passed the abovementioned self-certification test (that is, the test drive), the software developer will be required to inform MRA through a **self-certification** process on the MRAID Portal that the EBS is now compliant with the MRA e-Invoicing system.

### 5.3. Laws and Regulations

This section of the MRAID Portal contains links to view Laws and Regulations related to e-Invoicing in Mauritius.

### 5.4. Frequently Asked Questions

This section of the MRAID Portal contains all questions frequently asked by software developers. It provides a first level support to EBS developers in case they have any doubts or need any clarifications.

### 5.5. Request for Support from MRA

This section of the MRAID Portal provides the contact details of team who will be providing support to software developers who face issues on the Portal. The support includes providing clarifications about the requirements of MRA in respect of the MRA e-invoicing system.

However, note that the support excludes providing consultancy services to software developers in making changes to their EBS.

### 5.6. API Integration - List of APIs used for e-Invoicing

This section of the MRAID Portal provides the technical specifications of all APIs published by MRA which have to be called by an EBS for it to be compliant with the e-Invoicing Regulations.

There are two APIs:

- Authentication API
- Invoice Transmission API

It is mandatory for an EBS to call the Authentication API to get a token and subsequent calls to the Invoice Transmission API should carry that token until the token expires. When a token has expired, the Authentication API should be called for a new token.

Details about the API are present in “**The Technical Specifications of APIs for MRA e-Invoicing System**” document.

## 5.7. EBS Testing

This section of the MRAID Portal

- Describes how software developers will carry out sandbox testing
- Describes the MRA test script against which a self-certification test (referred to as “test drive”) will be performed by the software developers on their EBS

After the testing of an EBS in **SANDBOX** mode has been successful and all of the tests in the MRA test script are conclusive, the software developer may then change its mode to “**TEST DRIVE**” in order to attempt the test drive.

The aim of this testing is for the software developers to verify whether they have successfully made the required changes to their EBS to make the EBS compliant with the MRA e-Invoicing system.

## 5.8. View the results of the self-certification test

While software developers are carrying out the test drive on their EBS, they will get the results of the tests as and when the tests are being completed on the MRAID Portal.

Note that failure on any one test will result in the EBS failing that particular test drive. In such a case, the software developer is strongly recommended to go back to the sandbox mode to test the EBS against all the tests required by the MRA test script. When the EBS in a sandbox mode has passed all of the tests in the MRA test script, the software developer may then change its mode to “Test Drive” in order to attempt the test drive again.

## 5.9. Self-certification of EBS by software developer

Software developers will have to diligently carry out the appropriate changes to their EBS to make them e-invoicing compliant in Mauritius. Once an EBS has been tested to the satisfaction of the software developer and has passed the abovementioned self-certification test (that is, the test drive), the software developer will be required to inform MRA on the MRA e-Invoicing Developer Portal that the EBS is now compliant with the MRA e-Invoicing system in Mauritius.

Note that MRA is **not** a certifying body for EBS. The onus is on software developers to certify that their EBS is compliant with the MRA e-Invoicing System.

## 6. Recommended User Journey on the MRA e-Invoicing Developer Portal

STEP	DESCRIPTION of STEP
1.	Sign Up on MRAID Portal.
2.	Sign In on MRAID Portal.
3.	Read and understand the guides for software developers on the MRAID Portal.
4.	Register User Profile on MRAID Portal.
5.	After receipt of email notifying that MRA has completed the user registration process, register the EBS which needs to be made compliant with the MRA e-Invoicing system.
6.	Make necessary changes to the EBS for it to generate invoice or receipt in raw JSON format as per the Technical Guide of APIs for MRA e-Invoicing System.
7.	Prepare the JSON in Step 6 by following the guidelines as per MRA Technical Guides.
8.	Test acceptance by MRAID Portal of the encrypted JSON string in Step 7 using the Swagger tool available on the “Sandbox Testing” menu of the MRAID Portal. Note that <u>this step is optional</u> but is useful to quickly check compliance of encrypted JSON string with MRA e-Invoicing Technical Guides.
9.	Make necessary changes to EBS for it to use the APIs published on the MRAID Portal to send the encrypted invoice data prepared in Step 7.
10.	With the EBS in Sandbox mode, send the encrypted JSON prepared in Step 7 to MRAID Portal using the published API for invoice transmission.
11.	Obtain the MRA generated Invoice Registration Number (IRN) and QR Code for the submitted encrypted invoice / receipt file from the API called in Step 10.
12.	Affix the MRA generated IRN and QR Code received in Step 11 at the top of the invoice to be provided to the customer (buyer).
13.	Repeat Steps 10 to 12 for a comprehensive set of testing scenarios (including MRA test script).
14.	Change the EBS mode from “Sandbox” to “Test Drive” when EBS is found to be ready for the Test Drive.
15.	Prepare invoices as per MRA test script provided on the MRAID Portal.
16.	Perform the Test Drive using the invoices prepared in Step 14.
17.	Repeat Steps 14 to 15 for all test scenarios on the MRA Test Script.

STEP	DESCRIPTION of STEP
18.	View results of Test Drive as and when a test scenario has been completed. Note that failure on any one test scenario requires the Test Drive to be retaken from scratch (Reset Status of an EBS).
19.	If unsuccessful, repeat Test Drive until successful. Go back to Sandbox testing for further tests before re-attempting the Test Drive.
20.	After a successful Test Drive, confirm on the MRAID Portal that the EBS tested is now compliant with the MRA e-Invoicing system.