



GS517 – Configuring UK MTD VAT Submission in D365FSCM - End-to-End Sandbox Setup and Validation Guide

Making Tax Digital (MTD) is a UK government initiative requiring VAT-registered businesses to keep digital records and submit VAT returns using compatible software. For businesses using **Dynamics 365 Finance & Supply Chain**, this means configuring a seamless, auditable integration with **HMRC's MTD gateway**.

In this article, we'll guide you step by step through setting up the full MTD VAT submission process in a **sandbox (test) environment**. This includes configuring electronic messaging, establishing the government connection, and simulating end-to-end VAT returns without writing a single line of code.

You'll learn how to:

- Register and authenticate your HMRC sandbox application
- Configure application parameters in Dynamics 365
- Set up the **Electronic Messaging** framework for VAT returns
- Trigger test submissions and interpret HMRC responses
- Validate your configuration using real examples and logs

Whether you're a consultant preparing a client for MTD compliance or a finance team testing your VAT return automation, this guide gives you a proven, audit-ready approach to UK MTD VAT submissions.

☒ Step 1: Import ER Configurations from Dataverse

1. Go to **Workspaces > Globalisation Studio > Repositories > Microsoft**, select **Dataverse**, and import the following 13 ER configurations files one by one, in order:

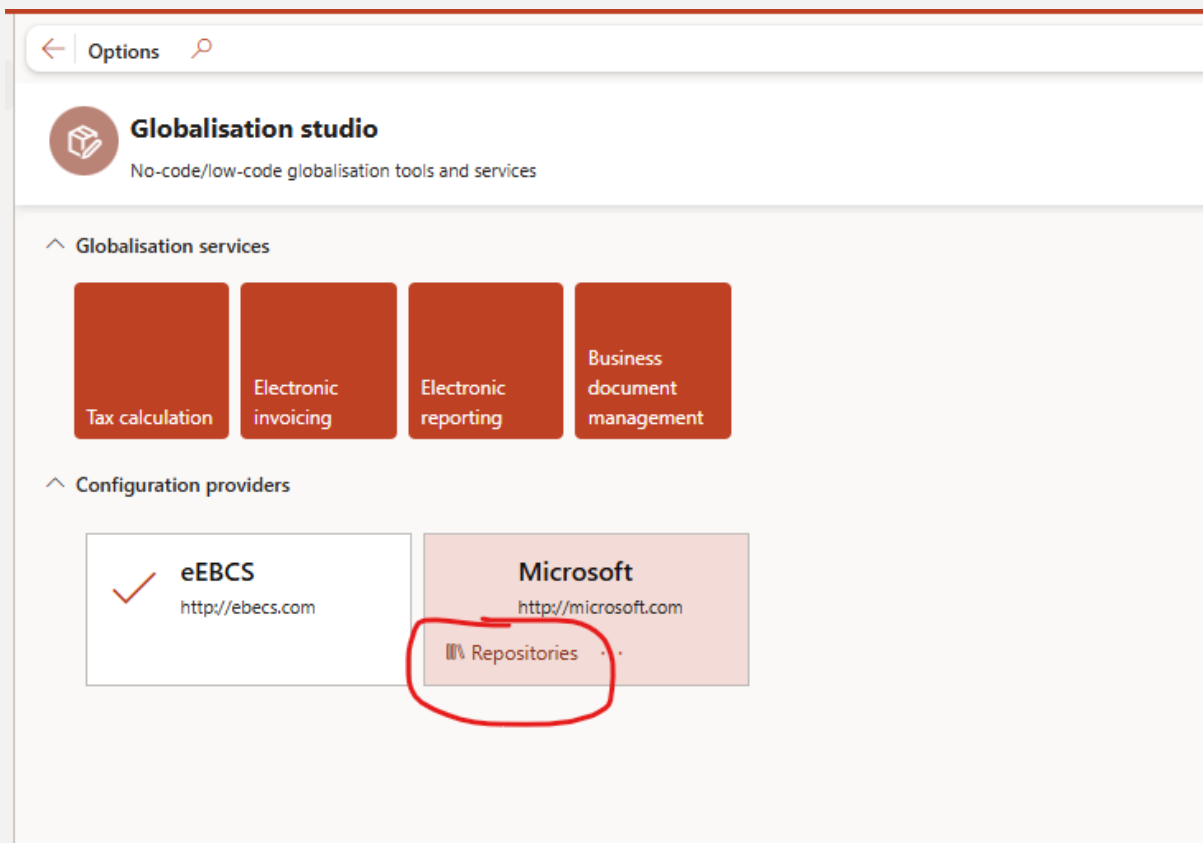
Sr No.	Name	Config Type	Functional Purpose
1	Tax declaration model	Model	Provides a standardized data structure for VAT reporting. Acts as a central schema to feed both Excel (human-readable) and JSON (machine-readable) output formats.
2	Tax declaration model mapping	Model mapping	Maps D365 transactional tax data (e.g., VAT amounts, tax direction, document type) to the tax



Sr No.	Name	Config Type	Functional Purpose
			declaration model. This is foundational for downstream reporting.
3	VAT Declaration JSON (UK)	Format (export)	Generates the final VAT Return in HMRC's required JSON format . This is the official electronic submission file sent via HMRC MTD APIs.
4	VAT Declaration Excel (UK)	Format (export)	Produces the VAT 100 return in Excel format , mimicking the traditional report. Used internally by accountants to review and validate VAT return data before submission.
5	MTD VAT interoperation (UK)	Format (export)	Generates dynamic REST API URLs used to call HMRC endpoints, such as CreateTestUser, Obligations, SubmitReturn, based on runtime data.
6	MTD VAT importing model mapping (UK)	Model mapping	Maps data from HMRC's obligations JSON response to internal data structures, enabling the import of obligation details into Electronic Messages.
7	MTD VAT obligations importing JSON (UK)	Format (import)	Parses HMRC's JSON response containing open or fulfilled VAT obligations , and creates or updates records in the Electronic Messaging framework accordingly.
8	Electronic Messages framework model	Model	Core ER model for message orchestration , used to track end-to-end VAT return workflows: message creation, data collection, reporting, submission, and responses.
9	MTD VAT model mapping	Model mapping	Connects all MTD-related import/export formats to the Electronic Messages framework and tax declaration model. Acts as the glue for the MTD pipeline.
10	MTD VAT return response importing JSON (UK)	Format (import)	Parses the HMRC response after submission (e.g., success, failure) and logs it in D365 for compliance, tracking, and audit readiness.
11	MTD VAT web request headers format (UK)	Format (export)	Dynamically builds HTTP headers such as Gov-Test-Scenario, Authorization, Content-Type—critical for authenticated calls to HMRC endpoints.



Sr No.	Name	Config Type	Functional Purpose
12	MTD VAT authorization format (UK)	Format (export)	Creates OAuth 2.0 authorization request headers needed to exchange the authorization code for an access token during login with HMRC's OAuth server.
13	MTD VAT import token format (UK)	Format (import)	Parses the access token JSON from HMRC and saves the token securely in D365. This token is then used in all subsequent API calls during the session.





← Import all Collapse all Options

🔍 Tax declaration model

- Statistics on invoices model mapping
 - Statistics on invoices for DAS-2 model mapping
 - Statistics on invoices for RF-1321 model mapping
 - Statistics on payment practices (UK)
- Submitted document model
 - Submitted document model mapping
 - Submitted invoice report FR
- Tax Data Model
 - Tax Calculation Data Model
 - FNO Model Mapping
 - Tax Calculation Configuration
 - Tax Calculation Data Model for ISV integration
 - Tax declaration model
- Altinn VAT interoperation (NO)
- GST Report (SG)
- GST101A Declaration PDF (NZ)
- MTD VAT importing model mapping (UK)
- MTD VAT interoperation (UK)
- MTD VAT obligations importing JSON (UK)
- PND formats Online (TH)
- SST-02 Declaration Excel (MY)
- Tax declaration model mapping
- VAT Declaration Excel (BH)
- VAT Declaration Excel (DK)
- VAT Declaration XML (DK)
- VAT Declaration Excel (EG)
- VAT Declaration Excel (FR)
- VAT Declaration Excel (ID)
- VAT Declaration JSON (UK)
- VAT Declaration Excel (UK)
- VAT Declaration PDF (IT)
- VAT Declaration TXT (ES)
- VAT Declaration Excel (ES)
- VAT Declaration TXT (FI)
- VAT Declaration Excel (FI)
- VAT Declaration XML (AT)
- VAT Declaration Excel (AT)

Dataverse : Dataverse configuration repository | My view

Configuration repository

Search for each Configuration

Country/region applicability

Show not imported Show all discontinued

☐ No ☐ No

Apply filter Reset filter

Select Configuration Name & Click Import

Configurations

Import

☐ Configuration name

☐ Tax declaration model

	Description	Configuration provider	Location
Generic model for differe...	Microsoft	Dataverse Repository	

Versions

Import

Version	Status	From date	Supported until	Version created	Description	Exists
171	Shared			20/01/2025 15:54:55	ID982796	✓
170	Shared			27/11/2024 10:49:16	ID971955	
169	Shared			26/11/2024 08:27:02	ID971598	
167	Shared			18/09/2024 12:31:30	ID953489	
159	Shared			08/07/2024 12:21:31	ID939746	
156	Shared			19/02/2024 12:55:44	ID881433, ID907239	

Discontinuation details

Supported until	Discontinued date	Replacement configuration	Version	Notes
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2. After import, configurations will be accessible within 'Reporting configuration'.

Localisation configurations

Configurations

Reporting configurations

Tax configurations

Metadata configurations

Configuration providers

✓ eEBCS
http://ebeccs.com
Repositories ...

Microsoft
http://microsoft.com



The screenshot shows the Dynamics 365 Configurations page. On the left, a list of configurations is displayed, with a red circle highlighting the 'Electronic Messages framework model' and 'Tax declaration model' sections. The right pane shows the details for the 'Electronic Messages framework model' configuration, including its name, description, and a table of versions.

R...	Version	Status	Effective from
51	Shared		
50	Shared		
47	Shared		
46	Shared		
41	Shared		
34	Shared		

3. Set the following default model mappings after import:

- **Tax declaration model mapping**

The screenshot shows the Dynamics 365 Configurations page for the 'Tax declaration model mapping' configuration. The 'Default for model mapping' toggle is set to 'Yes'. The 'Versions' table shows the current version 171.349.

R...	Version	Status	Effective from	Supported until	Version created	Description
171.349	Shared				13/05/2025 13:57:17	ID908347
32.38	Shared				06/11/2019 12:07:04	KB4513052
32.37	Shared				16/10/2019 08:34:30	KB4513052, KB4525191
31.34	Shared				15/08/2019 12:58:42	KB4517350
31.33	Shared				02/08/2019 11:49:10	KB4515647
31.32	Shared				30/04/2019 15:04:39	KB4502252

- **MTD VAT model mapping**

The screenshot shows the Dynamics 365 Configurations page for the 'MTD VAT model mapping' configuration. The 'Default for model mapping' toggle is set to 'Yes'. The 'Versions' table shows the current version 46.72.

R...	Version	Status	Effective from	Supported until	Version created	Description
46.72	Shared				09/11/2021 09:49:48	KB5008136
28.57	Shared				10/03/2020 10:29:13	KB4551623
24.31	Shared				07/08/2019 15:06:58	KB4513878
22.25	Shared				04/06/2019 12:09:55	KB4504462, KB4505307
19.18	Shared				04/03/2019 13:00:09	KB4492999, KB4493076



✓ Step 2: Configure Application Specific Parameters

The Application Specific Parameters setup in UK MTD VAT ensures that each transaction type—sales, purchases, credits, exemptions, or reverse charges—is correctly classified into VAT direction (e.g., payable, receivable) based on predefined conditions. By importing the ReportFieldLookup XML file, this classification logic is applied to both the JSON format (for HMRC submission) and Excel format (for internal review), ensuring consistency across reports. It enables automatic population of HMRC MTD boxes and supports audit readiness, making the VAT return process accurate, compliant, and efficient without custom coding.

JSON Format Parameters

1. Download the UK MTD VAT ReportFieldLookup v2.xml from the LCS Shared Asset Library.

The screenshot shows the LCS Shared Asset Library interface. On the left, the 'Shared asset library' sidebar is visible. The main area displays a table of data package files. The file 'UK MTD VAT ReportFieldLookup v2' is highlighted. The right sidebar shows additional details for this asset.

Data package files	
Demo data 10.0.5 225 Ex...	✓
Demo data 10.0.5 200 Pu...	✓
Demo data 10.0.5 200 Fin...	✓
Demo data 10.0.5 200 Fin...	✓
Demo data 10.0.5 200 Fin...	✓
Demo data 10.0.5 200 Fin...	✓
Demo data 10.0.5 200 Fin...	✓
Demo data 10.0.5 200 Fin...	✓
Demo data 10.0.5 100 Sys...	✓
Demo data 10.0.5 100 Pu...	✓
IT EM Esterometro examp...	✓
UK MTD VAT ReportFieldL...	Ⓢ
VAT declaration v5.05 v5...	✓
BR SPED Reinf_Inquiry_E...	✓
BR NF-e TechnicalRespon...	Ⓢ
BR NF-e TechnicalRespon...	✓
HU RTIR setup v3 (7.3. 10...	✓
Demo data 10.0.0 300 Su...	✓
Demo data 10.0.0 900 Fin...	✓
Demo data 10.0.0 900 Fin...	✓
Demo data 10.0.0 310 Dis...	✓
Demo data 10.0.0 300 Su...	✓
Demo data 10.0.0 300 Su...	✓

Additional details

UK MTD VAT ReportFieldLookup v2

Description: -

Asset ID: 174c12c5-d0d7-4cdd-911c-f79d80501c06

Validation status: Invalid

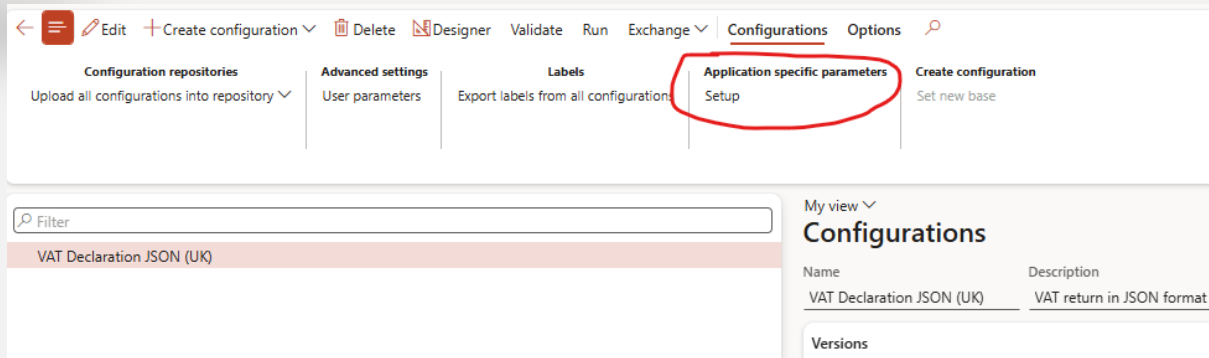
Created by: Anastasia Yashenina

Created Date: 29/07/2019 09:12

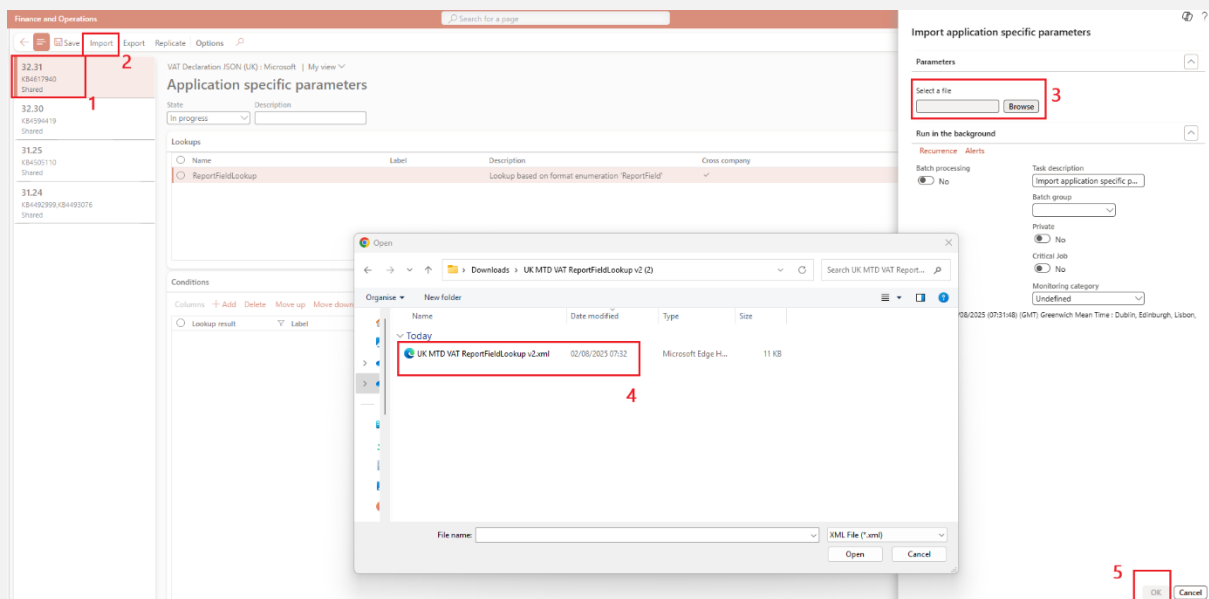
Modified by: Anastasia Yashenina

Modified at: 29/07/2019 09:12

2. Open **Electronic Reporting > VAT Declaration JSON (UK) > Application specific parameters > Setup**



3. Select the correct version and click **Import**



4. After import, set **State** to **Completed**
Conditions are now imported



VAT Declaration JSON (UK) : Microsoft | My view

Application specific parameters

State: **Completed** Description:

Lookups

Name	Label	Description	Cross company
ReportFieldLookup		Lookup based on format enumeration 'ReportField'	✓

Conditions

Columns: + Add - Delete Move up Move down

Lookup result	Label	Description	Line	VAT code (Code)	Name
VATDue	Sales	Goods and Servic...	1	*Not blank*	SalesCreditNote
VATDue	Sales	Goods and Servic...	2	*Not blank*	Sales
VATReclaimed	Purchase	Domestic purchase	3	*Not blank*	Purchase
VATReclaimed	Purchase	Domestic purchase	4	*Not blank*	PurchaseCreditNote
VATDueEC	Purchase from EC	Acquisitions from...	5	*Not blank*	UseTax
VATDueEC	Purchase from EC	Acquisitions from...	6	*Not blank*	UseTaxCreditNote
ECSupplies	Sales to EC	Supplies to Europ...	7	*Not blank*	SaleExempt
ECSupplies	Sales to EC	Supplies to Europ...	8	*Not blank*	SalesExemptCreditNote
VATDue	Sales	Goods and Servic...	9	*Not blank*	SalesReverseCharge
VATDue	Sales	Goods and Servic...	10	*Not blank*	SalesReverseChargeCredit...
VATReclaimed	Purchase	Domestic purchase	11	*Not blank*	PurchaseReverseCharge
VATReclaimed	Purchase	Domestic purchase	12	*Not blank*	PurchaseReverseChargeCr...
VATReclaimed	Purchase	Domestic purchase	13	*Not blank*	PurchaseExempt
VATReclaimed	Purchase	Domestic purchase	14	*Not blank*	PurchaseExemptCreditNote
Other	Other	Other	15	*Not blank*	*Not blank*

Excel Format Parameters

1. We need to import same conditions for Excel format parameters too
2. Open **VAT Declaration Excel (UK) > Application specific parameters > Setup**

Configuration repositories | Advanced settings | Labels | **Application specific parameters** | Create configuration

Upload all configurations into repository | User parameters | Export labels from all configurations | Setup | Set new base

Filter

VAT Declaration Excel (UK)

My view

Configurations

Name: VAT Declaration Excel (UK) Description:

Versions

R...	Version	Status	Effective from
	32.30.16	Shared	
	31.25.4	Shared	
	31.24.3	Shared	

3. Select the correct version and click **Import**
4. Set **State to Completed**



VAT Declaration Excel (UK) : Microsoft | My view

Application specific parameters

State: Completed Description:

Lookups

Name	Label	Description	Cross company
ReportFieldLookup		Lookup based on format enumeration 'ReportField'	✓

Conditions

Columns: [+ Add](#) [Delete](#) [Move up](#) [Move down](#)

Lookup result	Label	Description	Line	VAT code (Code)	Name
VATDue	Sales	Goods and Servic...	1	*Not blank*	SalesCreditNote
VATDue	Sales	Goods and Servic...	2	*Not blank*	Sales
VATReclaimed	Purchase	Domestic purchase	3	*Not blank*	Purchase
VATReclaimed	Purchase	Domestic purchase	4	*Not blank*	PurchaseCreditNote
VATDueEC	Purchase from EC	Acquisitions from...	5	*Not blank*	UseTax
VATDueEC	Purchase from EC	Acquisitions from...	6	*Not blank*	UseTaxCreditNote
ECSupplies	Sales to EC	Supplies to Europ...	7	*Not blank*	SaleExempt
ECSupplies	Sales to EC	Supplies to Europ...	8	*Not blank*	SalesExemptCreditNote
VATDue	Sales	Goods and Servic...	9	*Not blank*	SalesReverseCharge
VATDue	Sales	Goods and Servic...	10	*Not blank*	SalesReverseChargeCredit...
VATReclaimed	Purchase	Domestic purchase	11	*Not blank*	PurchaseReverseCharge
VATReclaimed	Purchase	Domestic purchase	12	*Not blank*	PurchaseReverseChargeCr...
VATReclaimed	Purchase	Domestic purchase	13	*Not blank*	PurchaseExempt
VATReclaimed	Purchase	Domestic purchase	14	*Not blank*	PurchaseExemptCreditNote
Other	Other	Other	15	*Not blank*	*Not blank*

✓ Step 3: Import Data Entities (Electronic Messaging Setup)

- Preload all the required MTD configuration records—such as electronic message processing actions, additional fields, and web service settings—into your Dynamics 365 Finance environment using a standardized data package. This ensures a consistent, error-free setup of the UK MTD VAT framework without manual data entry. It lays the foundation for interoperability with HMRC by importing preconfigured message structures and tax automation logic critical for VAT obligation retrieval and submission. Refreshing and synchronizing mappings ensures compatibility with your current environment schema.

- Download the **UK MTD VAT setup_v2.zip** data package from LCS > Shared Assets Library.



Shared asset library

Select asset type

- Asset type
- Commerce Cloud Scale Unit Extension
- Cortana intelligence application
- Data package (287)**
- Database backup
- Downloadable VHD
- Dynamics 365 Retail SDK
- e-Commerce package
- GER Configuration
- Localised financial report
- Marketing asset
- Model
- NuGet packages
- Power BI report model
- Retail Self-service package
- Software deployable package
- Solution package

Data package files

File name	Version	Global	Published	Created	Modified
Demo data 10.0.0 200 Fin...	✓	1	Global	Published	23/04/2019
Demo data 10.0.0 100 Sys...	✓	1	Global	Published	23/04/2019
Demo data 10.0.0 900 Pu...	✓	1	Global	Published	23/04/2019
Demo data 10.0.0 200 Pu...	✓	1	Global	Published	23/04/2019
Demo data 10.0.0 100 Pu...	✓	1	Global	Published	23/04/2019
RU Indirect taxes return v...	✓	1	Global	Published	22/04/2019
RU Profit Tax 5.07 (2016) ...	✓	1	Global	Published	22/04/2019
UK_MTD_VAT_AX2012R3...	✗	1	Global	Published	11/04/2019
RU Transport tax declarati...	✓	1	Global	Published	08/04/2019
RU Land tax declaration v...	✓	1	Global	Published	08/04/2019
ES SII setup v5 version 1...	✓	1	Global	Published	08/04/2019
UK MTD VAT setup_v2	✓	1	Global	Published	03/04/2019
RU Property tax declarati...	✓	1	Global	Published	12/03/2019
RU Accounting reporting ...	✓	1	Global	Published	07/03/2019
RU FIAS - fiasCSV_part3	✗	1	Global	Published	27/02/2019
RU FIAS - FiasTransformat...	✗	1	Global	Published	27/02/2019
RU FIAS - fiasCSV_part2	✗	1	Global	Published	27/02/2019
RU FIAS - FiasMetadataPa...	✗	1	Global	Published	27/02/2019
RU FIAS - fiasCSV_part1	✗	1	Global	Published	27/02/2019
RU FIAS - addrObjCSV	✗	1	Global	Published	27/02/2019
RTIR setup v2	✓	1	Global	Published	26/02/2019
ES SII setup v5 version 1...	✓	1	Global	Published	26/02/2019
ES SII setup v4 version 1...	✓	1	Global	Published	22/01/2019

Additional details

UK MTD VAT ReportFieldLookup v2

Description

Asset ID
174c12c5-d0d7-4cdd-911c-f79d80501c06

Validation status
Invalid

Created by
Anastasia Yashenina

Created Date
29/07/2019 09:12

Modified by
Anastasia Yashenina

Modified at
29/07/2019 09:12

2. Go to **Data Management > Create Import project** and select the package.
3. Modify target mapping → **Generate mapping from scratch**
4. Set **Truncate entity data to Yes** and import.

Choosing to truncate entity data will result in deletion of data in the selected data entities before new data is imported.

Import | AX: Operations | My view

Imp_UK MTD VAT setup_v2 : UK MTD VAT setup_v2

Import

Group name: **Imp_UK MTD VAT setup_v2** 1

Description: UK MTD VAT setup_v2

Data project operation type: Import

Project category: Project

Truncate entity data 2: ☒ Yes

Group ID: BD4358F6-7591-4EF4-A12E-...

Selected entities

Default refresh type: View map

View map

Executi... ↑ Level in ex... Sequence Obsolete Source data format Skip staging Sheet lookup Disable Application module

Job DETAILS

Source data format: Package 3

UPLOAD IMPORT FILES

Upload data file: Upload and add 4

Close

Open

File name: UK MTD VAT setup_v2 (1).zip

zip Archive (*.zip)

Open Cancel 6



Choosing to truncate entity data will result in deletion of data in the selected data entities before new data is imported.

Import | AX: Operations | My view

Imp_UK MTD VAT setup_v2 : Electronic messages setup for t...

Import

Group name: Imp_UK MTD VAT setup_v2 | Description: Electronic messages setup fo... | Data project operation type: Import | Project category: Project | Truncate entity data: Yes | Group ID: (B04358F6-7591-4EF4-A12E-...)

Selected entities

Entity	Default refresh type	View map	Executi...	Level in ex...	Sequence	Obsolete	Source data format	Skip staging	Sheet lookup	Disable	Application module
Electronic message item types	Incremental push only		1	1	1		EXCEL		Electronic_message_item...		Electronic messages
Electronic message item statuses	Incremental push only		1	1	2		EXCEL		Electronic_message_item...		Electronic messages
Electronic message statuses	Incremental push only		1	1	3		EXCEL		Electronic_message_statu...		Electronic messages
Message item additional fields	Incremental push only		1	1	4		EXCEL		Message_item_additional...		Electronic messages
Action populate records	Incremental push only		1	1	6		EXCEL		Action_populate_records\$		Electronic messages
Action populate records task	Incremental push only		1	1	7		EXCEL		Action_populate_records...		Electronic messages
Web applications	Incremental push only		1	1	8		EXCEL		Web_applications\$		Electronic messages
Web service settings	Incremental push only		1	1	9		EXCEL		Web_service_settings\$		Electronic messages
Electronic message action	Incremental push only		1	1	10		EXCEL		Electronic_message_actio...		Electronic messages
Available statuses for action to change electronic messages	Incremental push only		1	1	11		EXCEL		Available_statuses_for_act...		Electronic messages
Available statuses for action after change electronic messages	Incremental push only		1	1	12		EXCEL		Available_statuses_for_act...		Electronic messages
Electronic message processing	Incremental push only		1	1	13		EXCEL		Electronic_message_proce...		Electronic messages
Electronic processing action inseparable sequences	Incremental push only		1	1	14		EXCEL		Electronic_processing_acti...		Electronic messages
Electronic processing actions	Incremental push only		1	1	15		EXCEL		Electronic_processing_acti...		Electronic messages
Electronic message additional fields for processing	Incremental push only		1	1	16		EXCEL		Electronic_message_addit...		Electronic messages

Lines Header

Execution summary :: Import

Data project name: Imp_UK MTD VAT setup_v2 | Job ID: Imp_UK MTD VAT setup_v2-2... | Execution status: Succeeded | Refresh

Start time: 02/08/2025 14:38:23 | End time: 02/08/2025 14:47:45 | With errors: 0

Entity processing status

View staging data Filter

Entity	Status	Job details	Pending	In staging	Created	Updated	Total
Electronic message item types	✓ Succeeded		0	1	1	0	1
Electronic message item statuses	✓ Succeeded		0	6	6	0	6
Electronic message statuses	✓ Succeeded		0	24	24	0	24
Message item additional fields	✓ Succeeded		0	5	5	0	5
Action populate records	✓ Succeeded		0	1	1	0	1

Child entities

Note: Import may need to be run twice for complete success.

✓ Step 4: Configure General Ledger Parameters

Number Sequences

Number sequences is to define unique identifiers for electronic messages and their individual items within the MTD VAT processing framework. These number sequences ensure traceability, proper logging, and system consistency during message creation and tracking. Since each VAT return and obligation includes multiple messages and line items, distinct sequencing is required. Note that **continuous number sequences are not supported**, ensuring flexibility and reducing conflicts during message generation and reprocessing.

Configure under **Tax > Setup > General ledger parameters > Number sequences tab**:

- Message



- Message item

My view ▾

General ledger parameters

Ledger

VAT

Withholding tax

Stock dimensions

Reverse charge

Number sequences

Batch transfer rules

Chart of accounts and dimensions

Standard Audit File for Tax (SAF-T)

Ledger settlements

Financial tags

Set up number sequences for General ledger documents and tasks

Reference	Number sequence ...	Description used when posting
Temporary voucher number	Gene_14CAP	Number sequence used temporarily on journal
Rule	Gene_22CAP	Unique key for allocation rules. The key
Basis rule	Gene_24CAP	Unique key for allocation basis rules.
Elimination rule		Unique key for elimination rules. The
General journal transfer	Gene_16CAP	Unique key for generating general ledger entries
Advanced ledger entry		Unique key for advanced ledger entries
Advanced ledger entry vo...		Unique key for advanced ledger entry
Upload journal number		Upload journal number
Subledger journal entry	Gene_18CAP	Ledger - journal batch number.
VAT payment	Tax_2CAP	Unique key for vouchers, used when posting VAT
Withholding tax payment ...		Unique key for vouchers, used when posting VAT
Tax communication ID		Unique key for identification of tax
Annual sales list ID		Identification of the Belgian annual sales list.
Message	CAP_Tax_10	Unique key for message
Message item	CAP_Tax_11	Unique key for message item
Ledger settlements		Unique key for vouchers, used when posting



CAP_Tax_10 : MTD-Message

Identification

Number sequence code

CAP_Tax_10

Name

MTD-Message

Scope parameters

Scope

Company

Company

CAP

Segments

+ Add Remove Move up Move down

	Segment		Value	Length
	Company	▼	MTD	3
	Constant	▼	-	1
	Alphanumeric	▼	#####	6

Format

MTD-#####

References

+ Add Remove

	Area	Reference	Reuse numbers
<input checked="" type="radio"/>	Tax	Message	

General

SETUP

In use

☒ Yes

Manual

☐ No

Stopped

☐ No

Continuous

☐ No

ALLOW USER CHANGES

To a lower number

☐ No

To a higher number

☐ No

NUMBER ALLOCATION

Smallest

1

Largest

999999

Next

201



Number sequences | My view ▾

CAP_Tax_11 : MTD-Message Item

Identification

Number sequence code

NAME

CAP_Tax_11

MTD-Message Item

Scope parameters

Scope

Company

Company

CAP

Segments

+ Add

Remove

Move up

Move down

	Segment		Value	Length
	Company	▾	MTDI	4
	Constant	▾	-	1
	Alphanumeric	▾	#####	5

Format

MTDI-#####

References

+ Add ▾

Remove

	Reference	Reuse numbers	Use same number a
<input type="radio"/> Area			
<input checked="" type="radio"/> Tax	Message item		

General

SETUP

In use

Manual

☒ No

☒ No

Stopped

Continuous

☒ No

☒ No

ALLOW USER CHANGES

To a lower number

To a higher number

☒ No

☒ No

NUMBER ALLOCATION

Smallest

Largest

Next

1

99999

1

Excel VAT Report

VAT statement format mapping is to allow Dynamics 365 Finance to generate the VAT 100 report in **Excel format** using Electronic Reporting (ER), instead of the default SSRS version. By linking the **VAT Declaration Excel (UK)** format in General ledger parameters, users can produce a more user-friendly and auditable Excel version of the VAT return. This mapping is critical for



environments using MTD, but it needs to be re-established after database refreshes, especially when moving from UAT to PROD, as ER links to Excel files can break during environment copies.

Go to **Tax > Setup > General ledger parameters > Sales tax tab**, and select:

- **VAT statement format mapping** → VAT Declaration Excel (UK)

My view
General ledger parameters

Ledger

Set up VAT and VAT group information

VAT

General

Withholding tax
Stock dimensions
Reverse charge
Number sequences
Batch transfer rules
Chart of accounts and dimensions
Standard Audit File for Tax (SAF-T)
Ledger settlements
Financial tags

Item VAT group
Legal entity for intercompany tax...
Calculation date type
Calculation method
Amounts include VAT
Delayed tax calculation
Apply VAT taxation rules
Conditional VAT
Apply Canadian harmonized sale...
Check tax code
Check VAT transaction
Tax direction requirement
Validate VAT code
VAT conversion
Combine transactions for tax sett...
Populate financial dimensions fr...

Tax options

SETTLEMENT DISCOUNT
Reverse VAT on settlement disco...
Deduct settlement discount befo...

CUSTOMER SETTLEMENT DISCOUNT
Settlement discount is calculated...
Mandatory item VAT groups

SUPPLIER SETTLEMENT DISCOUNT
Settlement discount is calculated...

PAYMENT
VAT on overpayment or underpa...

INVOICE
VAT amount per invoice line

SPECIAL REPORT
Include corrections

ELECTRONIC REPORTING
VAT statement format mapping
VAT Declaration Excel (UK)

✓ Step 5: Define Sales Tax Settlement Periods

Defining Sales tax settlement periods in the **Populate VAT return records** action is to ensure that only the relevant VAT transactions from a specific settlement period are collected and reported to HMRC for MTD. Without this filter, Dynamics 365 would include **all** tax transactions from the legal entity, risking incorrect VAT returns. By setting the settlement period in the query of the data source setup, the system accurately isolates and populates transactions only for the defined reporting period, ensuring compliance and data integrity during VAT return generation.

1. Go to **Tax > Setup > Electronic messages > Populate records actions**

My view
Populate records action

Filter

Populate VAT return records
Populate VAT return records from Sale...

Name
Populate VAT return records

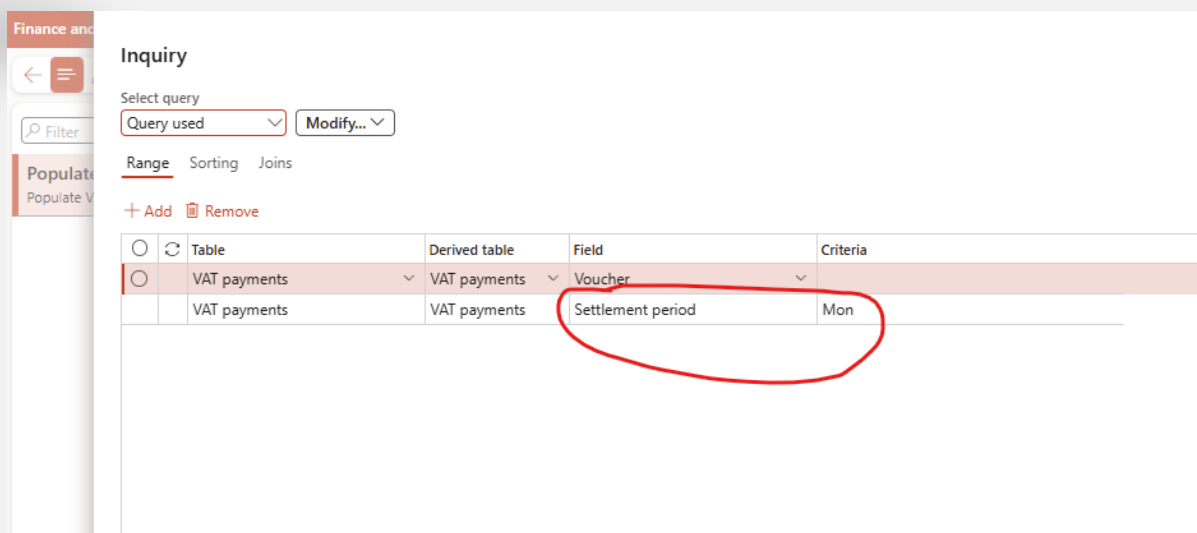
Description
Populate VAT return records f...

Datasources setup

+ Add - Remove Edit query

Name	Message item type	Account type	Master table name	Document number field	Document date field	Document account field	User query
VAT payment	VAT return	All	TaxReportVoucher	Voucher	TransDate	TaxPeriod	✓

2. For action **Populate VAT return records**, define the applicable **Sales tax settlement period**



✓ Step 6: Assign Security Roles

Setting up security roles for Electronic messages processing is to control who can access and operate UK MTD VAT submissions in both sandbox and production environments. By assigning specific roles (e.g., Tax Accountant) to each processing definition (e.g., *UK MTD VAT TEST* or *UK MTD VAT returns*), you ensure only authorized users can initiate, generate, or submit VAT returns. Without assigning roles, only system administrators can access these processes, which can restrict operational flexibility and delay reporting. This setup aligns with security best practices and supports compliance auditing.

a. For Sandbox/Production Processing

1. Go to **Tax > Setup > Electronic messages > Electronic message processing**
2. Assign roles (e.g. Tax Accountant) to:
 - UK MTD VAT TEST
 - UK MTD VAT returns

For Access Token

Setting up security roles to access the token of a web application is to grant specific users or roles permission to interact with HMRC's MTD services via the configured web application in Dynamics 365. This ensures that only authorized roles (e.g., Tax Accountant) can perform actions like requesting authorization codes or submitting VAT returns. If no roles are assigned, only system administrators can use the web application, which limits operational access. Assigning roles here supports secure, delegated access and aligns with role-based access control (RBAC) principles.

Go to **Tax > Setup > Electronic messages > Web applications** and assign roles to Sandbox and Production web apps.



The screenshot shows the 'Web applications' configuration page in Dynamics 365. The left sidebar lists 'Sandbox HMRC' under 'Dynamics 365 for Finance an...'. The main area shows the application name 'Sandbox HMRC' and description 'HMRC sandbox for Dynamics...'. Below this, the 'Security roles' section is expanded, showing a table with one role: 'CAP_Accounting mana...' with a description 'Reviews accounting, cust...'. The 'General' and 'Action log' sections are also visible.

Security role	Description
CAP_Accounting mana...	Reviews accounting, cust...

☑ Step 7: Register Developer App on HMRC Dev Hub

Register your application on the HMRC Developer Hub so that it can communicate securely with HMRC's MTD (Making Tax Digital) APIs. By creating an application and managing its API subscriptions, you enable it to access the required endpoints such as VAT submission and test user creation. This setup provides critical authentication details—**Client ID**, **Client secret**, and **Server token**—which are needed to authorize API requests from Dynamics 365. Setting the environment to **Sandbox** allows safe testing before going live. Adding the redirect URL ensures OAuth authentication flows work correctly.

Registration

1. Register at [HMRC Developer Hub](#)
2. Login (Note – Enable MFA is option but recommended)



[Home](#) > [Applications](#) [yogesh patel](#) [Sign out](#)

Manage applications

[View all applications](#)

[Add an application to the sandbox](#)

Manage account

Manage profile

[Email preferences](#)

[Change password](#)

[Security preferences](#)

Manage profile

Profile details

Name	yogesh patel	Change
Email address	yogesh.patel@ [redacted] .com	

Delete account

You can ask us to delete your account and we will respond within 2 working days.

[Request account deletion](#)

[Is this page not working properly?](#)

Add an application

Add an application

Application name

Description (optional)
This won't be shown to your application's users.


Choose an environment for your application

☒ **Sandbox**
Allows you to call sandbox APIs to test your application

☐ **Production**
Allows you to call production APIs to access live data

[Add](#) [Cancel](#)



 **GOV.UK**

HMRC Developer Hub

Getting started | API documentation | Applications | Support | Service availability

Your [feedback \(opens in new tab\)](#) will help us to improve this service.

[Home](#) > [Applications](#) [yogesh patel](#) [Sign out](#)

**C UAT
Environment 25**

[Application details](#)

[Credentials](#)

[Client ID](#)

[Client secrets](#)

[API subscriptions](#)

[Redirect URIs](#)

[IP allow list](#)

[Team members](#)

[Delete application](#)

Manage applications

[View all applications](#)

[Add an application to the sandbox](#)

Manage account

[Manage profile](#)

[Email preferences](#)

Application details

Application: C UAT Environment 25
Environment: Sandbox

Created 29 June 2025
Last API call 30 June 2025

Application details	Change
Application ID	7f000a7e-0000-4000-807f-700400000000
Application name	C UAT Environment 25
Application description	C UAT Environment 25
Privacy policy URL	None provided
Terms and conditions URL	None provided
Application grant length	18 months



Manage API Subscription

C [redacted] UAT Environment [redacted] 25

Application details

Credentials

Client ID

Client secrets

API subscriptions

Redirect URIs

IP allow list

Team members

Delete application

Manage applications

View all applications

Add an application to the sandbox

Manage account

Manage profile

Email preferences

Manage API subscriptions

Application: C [redacted] UAT Environment [redacted] 25
Environment: Sandbox

You must subscribe to an API so your application can access it. You'll receive notifications about its lifecycle events, such as new version introductions and old version retirements.

Learn more about our APIs in [API documentation](#).

Example API

Use Hello World to test your software connects to HMRC

[Show all sections](#)

Hello World

0 subscriptions

[Show](#)

APIs for accessing secure data

APIs that access secure data and require authentication

1. API Subscription > Enable:
 - VAT (MTD) 1.0 (Beta)
 - Create Test User 1.0 (Beta)



VAT (MTD)

1 subscription

⬆ Hide

[1.0 \(Beta\)](#)

Yes

No

APIs with only open access endpoints

You do not need an application or subscription to use open access endpoints

⬇ Show all sections

Agent Authorisation Test Support

⬇ Show

Check an EORI Number

⬇ Show

APIs for testing your service

Set up test data to accept or reject requests or check your fraud prevention headers

⬇ Show all sections

Create Test User

1 subscription

⬆ Hide

[1.0 \(Beta\)](#)

Yes

No

2. Save credentials:

- Client ID (Save offline)



- Client Secret (Save offline)
- Add Redirect URL: urn:ietf:wg:oauth:2.0:oob

Comline UAT Environment 325

Application details

Credentials

Client ID

Client secrets

API subscriptions

Redirect URIs

IP allow list

Team members

Delete application

Manage API subscriptions

Application: Comline UAT Environment
Environment: Sandbox

You must subscribe to an API so your application can receive notifications about its lifecycle events, such as old version retirements.

Learn more about our APIs in [API documentation](#)

Example API

Use Hello World to test your software connection

[Show all sections](#)

✓ Step 8: Initialize Web Applications in D365FO

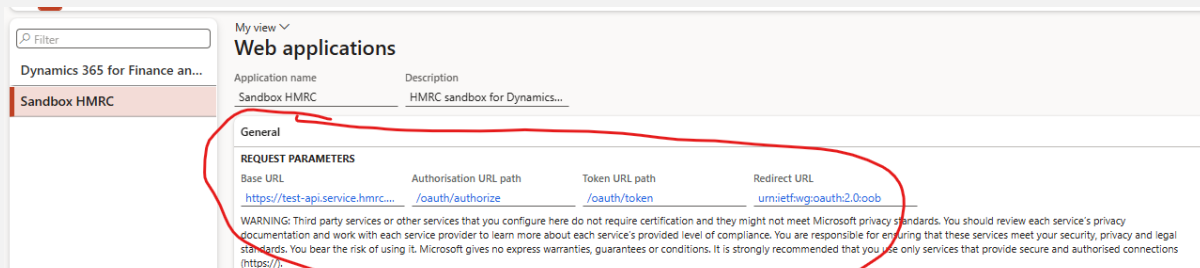
Initialize and configure your HMRC web application credentials within Dynamics 365 Finance so the system can authenticate and securely interact with HMRC's MTD APIs. For the **Sandbox**, credentials (Client ID, Secret, Token) are manually entered for testing. For **Production**, credentials must be securely initialized using the InitProdWebAppl executable class and stored in encrypted format, ensuring compliance with HMRC security requirements. This setup is essential to enable OAuth-based authorization and allow the system to send VAT submissions or retrieve obligations from HMRC.

Sandbox App Setup

1. Fill in credentials under **Tax > Setup > Electronic messages > Web applications**
2. Ensure these fields are filled:
 - Base URL - <https://test-api.service.hmrc.gov.uk>



- Auth URL path - /oauth/authorize
- Token URL path - /oauth/token
- Redirect URL - urn:ietf:wg:oauth:2.0:oob



☑ Step 9: Get Authorization and Access Token

Simulate and authorize HMRC sandbox connectivity for UK MTD VAT testing in Dynamics 365 Finance. It involves generating a test user (User ID, Password, and VRN) using Electronic Messages, configuring the legal entity with the VRN, and obtaining an authorization code to securely link D365FO with HMRC's sandbox environment. This setup ensures your system can send and retrieve test data using HMRC APIs in a controlled environment before going live in production. The authorization code is a mandatory OAuth step and is valid for only 10 minutes.

Create Test User

1. Go to - <https://developer.service.hmrc.gov.uk/api-test-user>



developer.service.hmrc.gov.uk/api-test-user

Your [feedback \(opens in new tab\)](#) will help us to improve this service.

[yogesh patel](#) [Sign out](#)

Create a test user

A test user is a dummy HMRC online service user ID used for [testing in the sandbox](#). This includes granting authority to your software to interact with our [user-restricted endpoints](#).

A test user ID has:

- a type - individual, organisation or agent
- a password
- a set of service enrolments and related tax identifiers needed for different APIs

You must use the [Create Test User API](#) to:

- create a test user which is an agent
- create a test user for use in automated testing
- select individual service enrolments

You can create multiple test users which will be generated in a default test state.

Test users can be reused, so we recommend checking if you have any unused test users before creating a new one.

Test users that have not been used in testing for 90 days will be deleted.

Choose a type of test user

☐ Individual
▶ [What dummy data is generated?](#)

☒ Organisation
▶ [What dummy data is generated?](#)

[Is this page not working properly? \(opens in new tab\)](#)

[Create](#)

Obtain VRN (VAT Registration Number)

1. Save Username, Password and VRN (VAT Registration Number) details



Your [feedback \(opens in new tab\)](#) will help us to improve this service.

[Register](#) [Sign in](#)

Generated organisation

Use these credentials in the [OAuth Authorize flow](#) to generate an OAuth access token for this organisation.

User ID

692206572343

Password

xDnQQAHVlHWw

LISA Manager Reference Number

Z5544

Email Address

harley.jerry@example.com

VAT Registration Date

2024-08-02

Pension Scheme Administrator Identifier

a5165454

Self Assessment UTR



Add VRN to Legal Entity

Setup Registration Type

My view ▼

Registration types

Name Description

MTD Collection YP ✎

Applicable countries/regions, uses, and validation rules

+ Add ✎ Remove

Country/region	Tax authority	Restricted to	Format	Can be up...	Unique	Primary fo...
GBR	HMRC	None				

Setup Registration Category

Registration categories

My view * ▼

🔍 Filter

Registration type	Restricted to	Registration category
MTD Coll... GBR	None	VAT ID

Add VRN in Legal entity Registration ID

- Go to legal entity > Registration ID

Finance and Operations

← ☰ ✎ Edit + New ✎ Delete View in hierarchy ▼ Registration IDs Registration ID search Electronic document

🔍 Filter

Yellow Ltd

My view ▼

Legal entities

Name Company

Yellow s Ltd Yellow

General

Memo Search name Use

Comline 🔍



- Add Registration ID

Location ID: 000001 Name or description: Comline Auto Parts Limited Purpose: Business;Consignment;Deli...

Address

Country/region: GBR Postcode: Street: Primary: Yes Primary for country/region: No

Contact information

+ Add Remove Advanced

Description	Type	Contact number/address	Extension	Primary
We didn't find anything to show here.				

Registration ID

+ Add Remove Edit

Current records

Overview General

Registration type	Registration number	Description	Section	Issuing agency	Issued date
MTD Collect GBR	431073980	MTD Sandbox			

Get Authorization Code

- Go to Web applications > Get Authorization code

Get authorisation code Obtain access token Refresh access token Options

Web applications

Application name	Description
Sandbox HMRC	HMRC sandbox for Dynamics...

General

REQUEST PARAMETERS

Base URL	Authorisation URL path	Token URL path	Redirect URL
https://test-api.service.hmrc...	/oauth/authorize	/oauth/token	urn:ietf:wg:oauth:2.0:oob

WARNING: Third party services or other services that you configure here do not require certification and they might not meet Microsoft privacy standards. You should review each service's privacy documentation and work with each service provider to learn more about each service's provided level of compliance. You are responsible for ensuring that these services meet your security, privacy and legal standards. You bear the risk of using it. Microsoft gives no express warranties, guarantees or conditions. It is strongly recommended that you use only services that provide secure and authorised connections (https://).

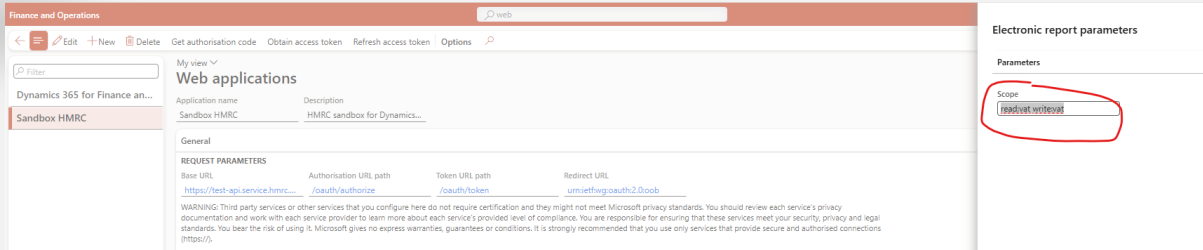
Access token receipt date and time
30/06/2025 17:20:31

Access token validity period (sec)
14400

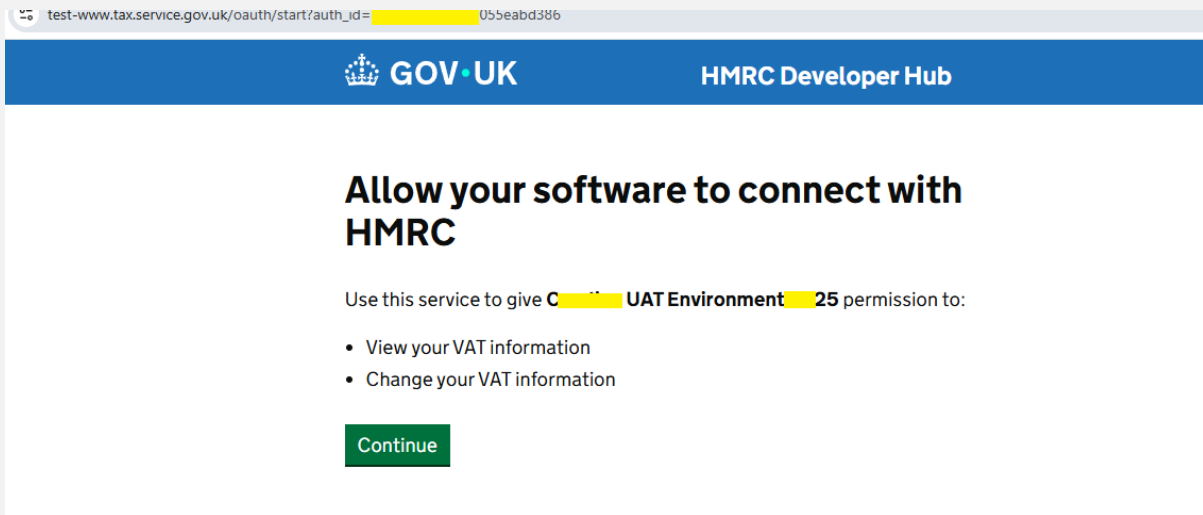
AccessToken

AccessTokenDateTime

- Add Scope – **read:vat write:vat**



- New browser tab opens – Allow D365 to connect with HMRC



- Ready to sign in with Test user we created above



What you will need

You will need the correct HMRC user ID and password. For example, if you want to authorise VAT software, use your VAT HMRC user ID and password.

If you are a tax agent, [check you are using the right account \(opens in new tab\)](#).

You might need to confirm who you are by answering some security questions on, for example, your passport, P60 or other documents.

[Sign in to the HMRC online service](#)

- Enter Test user credentials



Sign in

Enter your Test User credentials to sign in.

User ID

Password

Sign in

Problems signing in

[Don't have Test User credentials \(opens in new tab\)](#)

- Give Permission

Allow your software to connect with HMRC

I give C... UAT Environment ... permission to:

- View your VAT information
- Change your VAT information

Give permission

Do not give permission

- Authorization code generated – copy and save it



Note - Authorization code is valid for **10 minutes**

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HMRC Developer Hub

You gave permission to

Comline UAT Environment 0625

Copy the authorisation code below and paste it into **Comline UAT Environment 0625** when prompted.

56[REDACTED]a03994

Copy

Once you have copied it, close this window.

Obtain Access Token

- Click on Obtain access Token

← Edit + New Delete

Get authorisation code **Obtain access token** Refresh access token Options

Filter

Dynamics 365 for Finance an...

Sandbox HMRC

My view

Web applications

Application name	Description
Sandbox HMRC	HMRC sandbox for Dynamics...

General

REQUEST PARAMETERS

Base URL	Authorisation URL path	Token URL path	Redirect URL
https://test-api.service.hmrc...	/oauth/authorize	/oauth/token	urn:ietf:wg:oauth:2.0:oob

- Paste Authorization code copied above



Finance and Operations

Web applications

Application name: Sandbox HMRC

Description: HMRC sandbox for Dynamics...

General

REQUEST PARAMETERS

Base URL: <https://test-api.service.hmrc.gov.uk>

Authorization URL path: </oauth/authorize>

Token URL path: </oauth/token>

Redirect URL: <urn:ietf:wg:oauth:2.0:oob>

WARNING: Third party services or other services that you configure here do not require certification and they might not meet Microsoft privacy standards. You should review each service's privacy documentation and work with each service provider to learn more about each service's provided level of compliance. You are responsible for ensuring that these services meet your security, privacy and legal standards. You bear the risk of using it. Microsoft gives no express warranties, guarantees or conditions. It is strongly recommended that you use only services that provide secure and authorized connections (https://).

Access token receipt date and time: 30/06/2025 17:20:31

Access token validity period (sec): 14400

AccessToken: [REDACTED]

Access token date time: [REDACTED]

ATValidityPeriod: 0

AUTHORIZATION PARAMETERS

Client ID: [REDACTED]

Client secret: [REDACTED]

Server token: [REDACTED]

ACCESS TOKEN DETAILS

Granted scope: readvat writevat

Access token will expire in: 0 days, 4 hours, 0 minutes

ELECTRONIC REPORTING PARAMETERS

Authorization format mapping: MTD VAT authorization format

Import token model mapping: MTD VAT imp, MTD VAT tok

WEB REQUEST PARAMETERS

Accept: application/vnd.hmrc.1.0+json

Content type: application/json

Security roles: [REDACTED]

Electronic report parameters

Parameters

Authorization code: 56873859b5804016825275488f

OK Cancel

- The Access token request is sent to HMRC, and D365FO automatically saves the Access token from HMRC's response.

WEB APPLICATIONS

Application name: Sandbox HMRC

Description: HMRC sandbox for Dynamics 365

General

REQUEST PARAMETERS

Base URL: <https://test-api.service.hmrc.gov.uk>

Authorization URL path: </oauth/authorize>

Token URL path: </oauth/token>

Redirect URL: <urn:ietf:wg:oauth:2.0:oob>

WARNING: Third party services or other services that you configure here do not require certification and they might not meet Microsoft privacy standards. You should review each service's privacy documentation and work with each service provider to learn more about each service's provided level of compliance. You are responsible for ensuring that these services meet your security, privacy and legal standards. You bear the risk of using it. Microsoft gives no express warranties, guarantees or conditions. It is strongly recommended that you use only services that provide secure and authorized connections (https://).

AUTHORIZATION PARAMETERS

Client ID: [REDACTED]

Client secret: [REDACTED]

Server token: [REDACTED]

ACCESS TOKEN DETAILS

Granted scope: readvat writevat

Access token will expire in: 0 days, 4 hours, 0 minutes

ELECTRONIC REPORTING PARAMETERS

Authorization format mapping: MTD VAT authorization format

Import token model mapping: MTD VAT imp, MTD VAT tok

WEB REQUEST PARAMETERS

Accept: application/vnd.hmrc.1.0+json

Content type: application/json

- Access tokens remain valid for 4 hours. When an access token expires, clicking the Refresh access token button generates a new token, which is then valid for another 4 hours.



Step 10: Retrieve VAT Obligations

Retrieve a list of open and completed VAT obligations directly from HMRC using Electronic Messages in D365FO. This process allows the system to fetch period-specific VAT reporting obligations, synchronize them with Dynamics, and prepare for return generation. HMRC returns this data using a hidden periodKey, which is securely managed in the system. Based on the response, new electronic messages are automatically created or updated to reflect the correct reporting period, status, and due dates, ensuring accurate alignment between D365 and HMRC's VAT timeline.

1. Go to **Tax > Electronic messages**
2. Create new message with action: **Create VAT obligation request**

Run processing

Parameters

PROCESSING

Processing

UK MTD VAT TEST

ACTION

Choose action


Yes ☐

Action

Create VAT obligation request

Messages

+ New

 Delete

Collect data





Generate report

Send report

Import response

Update status

Message items

	Message	Description	Message status	From date	To date
	MTD-000001		Completed test user request		
	MTD-000002		New obligation request		

3. Fill **From date** and **To date**.

From Date – Required. The start date of the period you want to check VAT obligations for

To Date – Required. The end date of the period you want to check VAT obligations for

Description – Optional. short note or title to describe this request.

✓	MTD-000002	Steve Byrne TEST 16/07/19	New obligation request	1/4/2019	6/30/2019	
---	------------	---------------------------	------------------------	----------	-----------	--

4. Run **Send report** → obligations will be created or updated in the system

My view ▾

Electronic messages

Messages

[+ New](#) [Delete](#) [Collect data](#) [Generate report](#) [Send report](#) [Import response](#) [Update status](#) [Message items](#)

Message	Description	Message status



5. Run Processing (Action is automatically defined)

Run processing

Parameters

PROCESSING

Processing

UK MTD VAT TEST

ACTION

Choose action

Yes ☐

Action

Test retrieve VAT obligations

6. HMRC Response as below

Messages						
+ New	Delete	Collect data	Generate report	Send report	Import response	Update status
Message	Description	Message status	From date	To date	Message items	
MTD-000001		Completed test user request				
MTD-000002		Completed VAT obligations request	4/1/20	6/30/20		
MTD-000003		Completed VAT return	1/1/2017	3/31/2017		
MTD-000004		New VAT return	4/1/2017	6/30/2017		

Action log						
Action	Status from	Status to	Created by	Created date and time	Resp	
Create VAT obligation request		New obligation request		7/16/20		
Test retrieve VAT obligations	New obligation request	Retrieved VAT obligation		7/16/20		
Import VAT obligations	Retrieved VAT obligation	Completed VAT obligations req...		7/16/20		

HMRC tells us we've already submitted a VAT return for Jan–Mar 2017 and still have one open for Apr–Jun 2017. These dates appear because HMRC's test system uses old dummy data.

Each VAT return has a hidden **periodKey**, which uniquely identifies the return period. D365 stores this key securely and hides it from users, as required by HMRC.

When importing VAT obligations:

- If a return is missing but required, it creates a new message.
- If a return is already submitted, it marks it as completed.
- If one exists, it updates its status and due dates based on HMRC's reply

❏ Conclusion

Once all the steps above are completed and tested using HMRC's sandbox, your system is fully prepared to submit UK VAT returns using MTD in both test and live environments. You now have



a robust, auditable, and secure electronic VAT process—end-to-end inside Dynamics 365 Finance.

Coming Up Next

In [GS518 – Integrating External APIs with Logic Apps and Electronic Reporting](#), we'll show you how to go beyond standard setups and connect Dynamics 365 to external APIs—without writing code.

You'll learn how to:

- Trigger an Azure Logic App from D365
- Send and parse JSON using ER formats
- Handle access token responses
- Log everything using Electronic Messaging

 Continue reading: [GS518 – External API Integration](#) →