



YouTestMe

How to migrate and import QTI package into YTM

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1 Introduction

This document represents a guide on preparing the ILIAS package for import into YTM, presenting all limitations in question compatibility between ILIAS and YTM, and the process on how to import the prepared package into YTM.

2 Outlines

Before proceeding to the following steps, the reader should be aware of the limitations between the ILIAS and YTM as well as the limitations of the proposed QTI migration tool:

- The questions in the ILIAS system are not fully compatible with the question in the YTM system. The following incompatibilities will be explained in detail in [one of the next chapters](#).
- The proposed QTI migration tool may need manual adjustments before and/or after migrating from QTI 1.2.1 from the ILIAS package into QTI 2.1. All detected manual adjustments will be explained in [one of the next chapters](#).

3 Limitations between ILIAS and YTM questions

It is determined that the question structure in ILIAS is not fully compatible with the question structure in the YTM. A detailed analysis with all workarounds and ultimate solutions is yet to be done. Here are some key concepts that will help the reader create a question pool in ILIAS that is fully compatible with the YTM and can be successfully imported:

- The question pool should contain only single choice and multi-choice questions
- The questions will only have integer points

4 Limitations in the proposed QTI migration tool

The QTI migration tool is a powerful tool that helps migrate QTI v1.2.1 files to QTI v2.1, but it has the following limitations.

The non-ASCII characters are not supported, so the migrating will fail.

Here are some common non-ASCII characters: ë, ä, ç...

5 Steps

NOTE: To complete all the steps, you should have Windows 10 operating system.

5.1 Download the proposed file archive manager program (Optional)

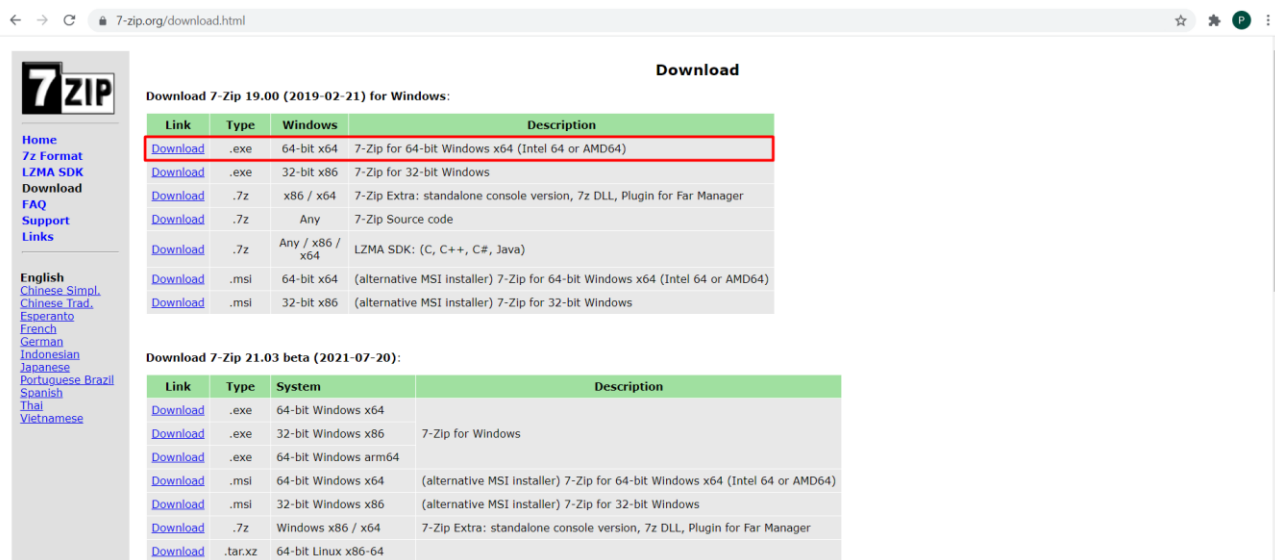
The proposed program for archive managing is a free, open-source program, “7-zip”.

This instruction is optional since any program for archive managing can be used.

Follow this link, and choose an installation file that is compatible with your operating system architecture.

<https://www.7-zip.org/download.html>

For example, choose an installer for the 64-bit Windows.



The screenshot shows the 7-Zip website's download page. It features a navigation menu on the left with links for Home, 7z Format, LZMA SDK, Download, FAQ, Support, and Links. The main content area is titled "Download" and lists two sections of download options:

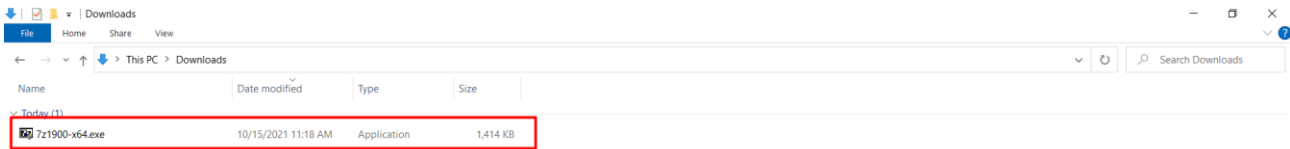
Download 7-Zip 19.00 (2019-02-21) for Windows:

Link	Type	Windows	Description
Download	.exe	64-bit x64	7-Zip for 64-bit Windows x64 (Intel 64 or AMD64)
Download	.exe	32-bit x86	7-Zip for 32-bit Windows
Download	.7z	x86 / x64	7-Zip Extra: standalone console version, 7z DLL, Plugin for Far Manager
Download	.7z	Any	7-Zip Source code
Download	.7z	Any / x86 / x64	LZMA SDK: (C, C++, C#, Java)
Download	.msi	64-bit x64	(alternative MSI Installer) 7-Zip for 64-bit Windows x64 (Intel 64 or AMD64)
Download	.msi	32-bit x86	(alternative MSI Installer) 7-Zip for 32-bit Windows

Download 7-Zip 21.03 beta (2021-07-20):

Link	Type	System	Description
Download	.exe	64-bit Windows x64	
Download	.exe	32-bit Windows x86	7-Zip for Windows
Download	.exe	64-bit Windows arm64	
Download	.msi	64-bit Windows x64	(alternative MSI Installer) 7-Zip for 64-bit Windows x64 (Intel 64 or AMD64)
Download	.msi	32-bit Windows x86	(alternative MSI Installer) 7-Zip for 32-bit Windows
Download	.7z	Windows x86 / x64	7-Zip Extra: standalone console version, 7z DLL, Plugin for Far Manager
Download	.tar.xz	64-bit Linux x86-64	

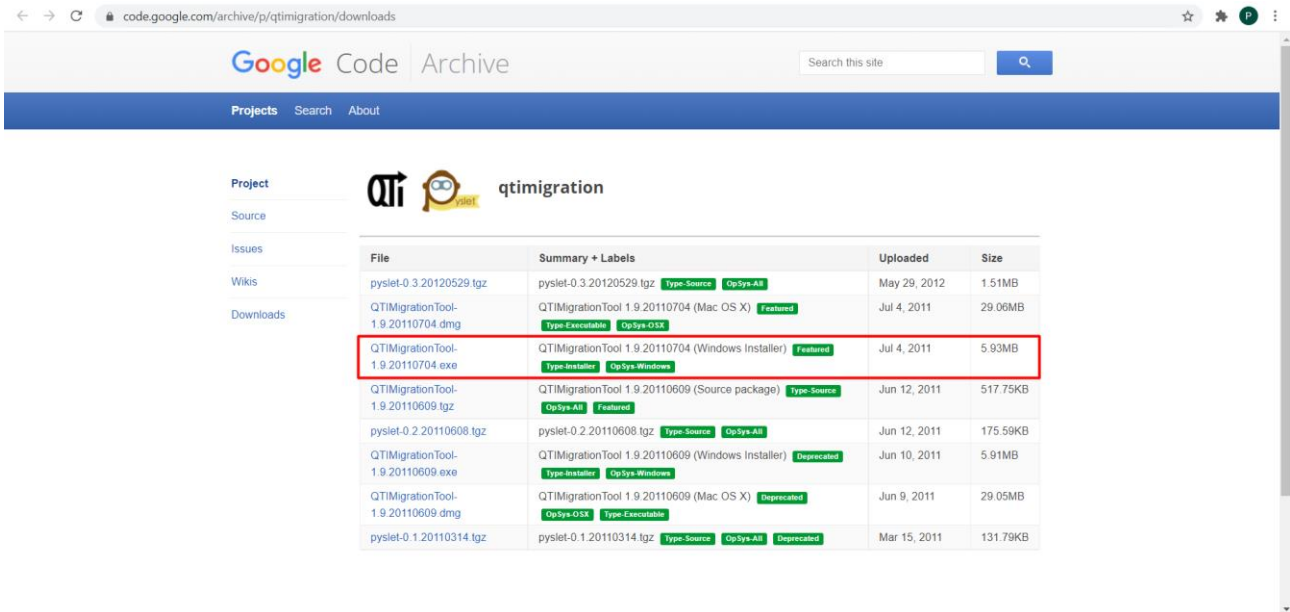
Find the installer in your local file system, and double-click it to execute. In the output dialog, select the install directory and click install. Close the dialog when the install is finished.



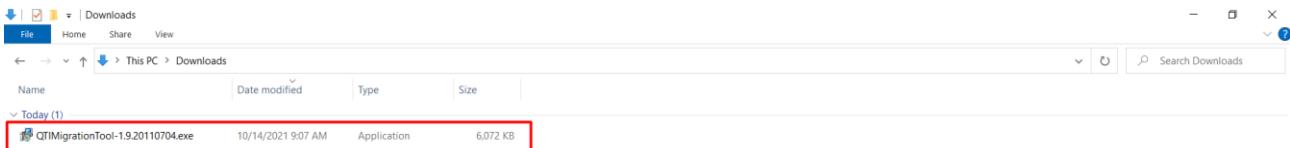
5.2 Prepare the QTI package from ILIAS

5.2.1 Download and install the QTI migration tool

Open the following link in your local browser. <https://code.google.com/archive/p/qtimigration/downloads>
Click and download the following installer.



Once you have downloaded the installer, please find it in your local file system and execute it. In this example, it will be in the Downloads folder.

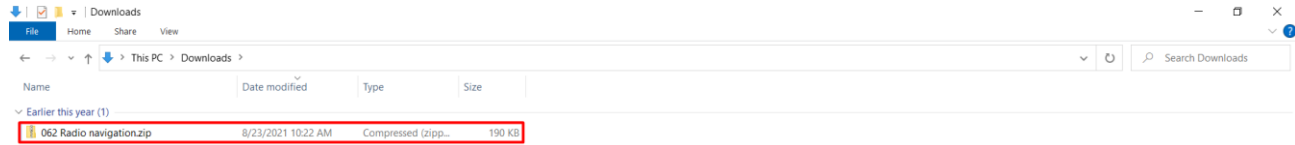


Proceed with the install (use all recommended options).

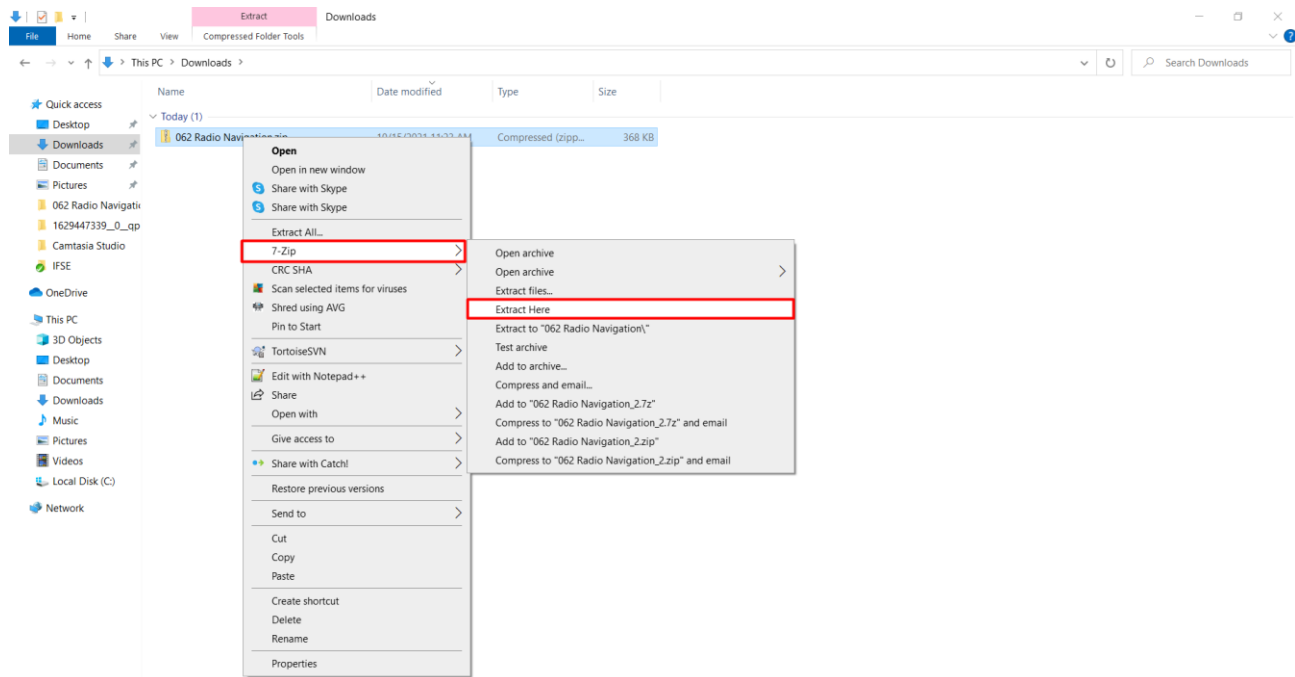
5.2.2 Prepare resources from the ILIAS package

NOTE: You should have the ILIAS question pool package ready before you can proceed to this step. Excel package is not necessary, but in this example, it is included in the package.

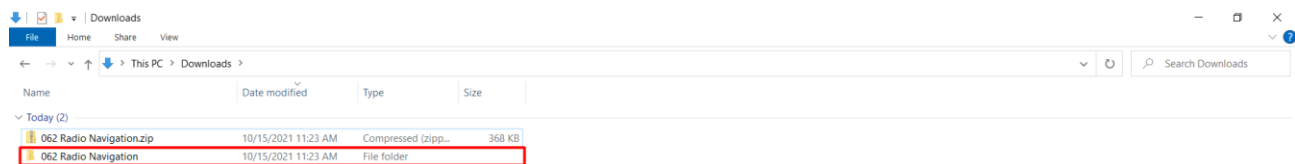
Find the ILIAS question pool package in your local system. For example, it will be in the Downloads folder.



Extract the package using the file archive manager.



Double click on the extracted folder.

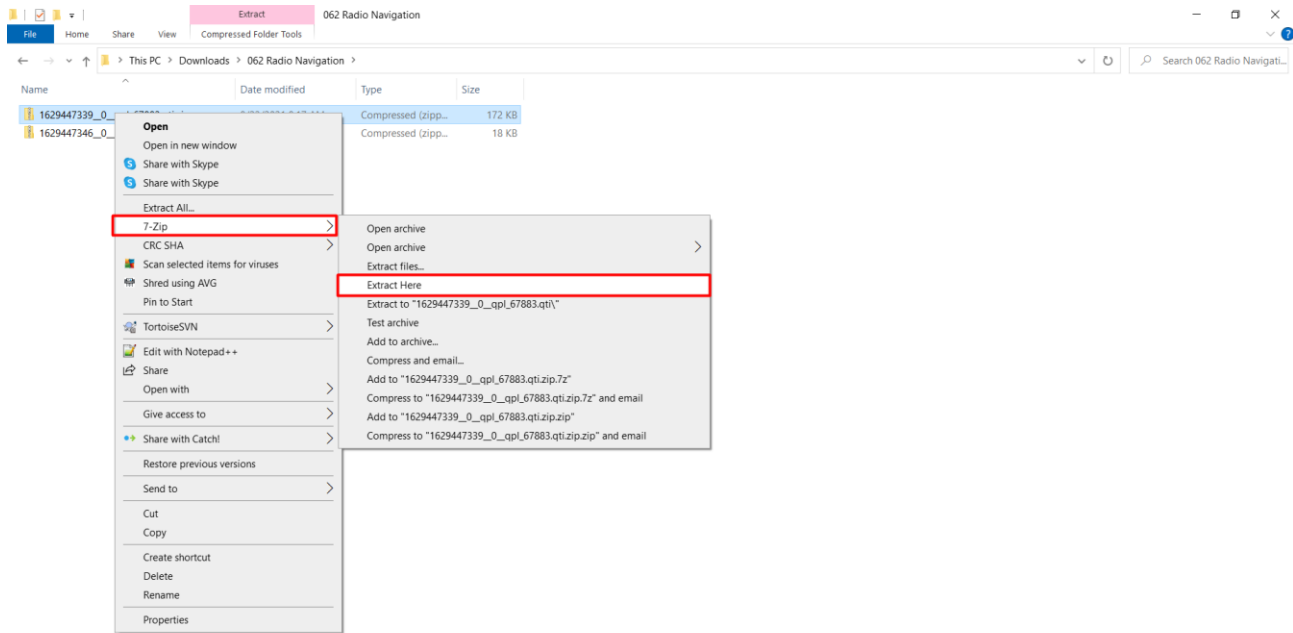
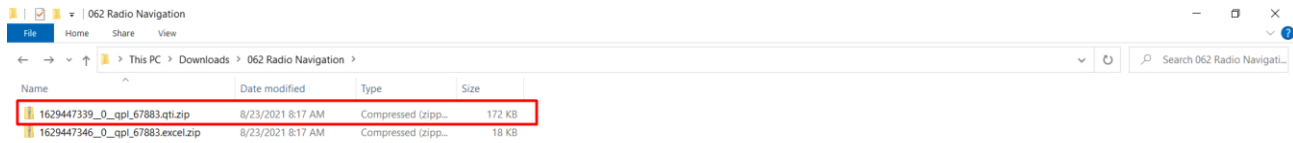


The structure of the folder should look like this.

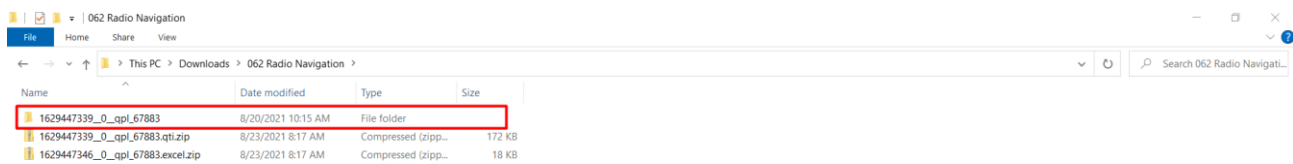


Extract the QTI package.

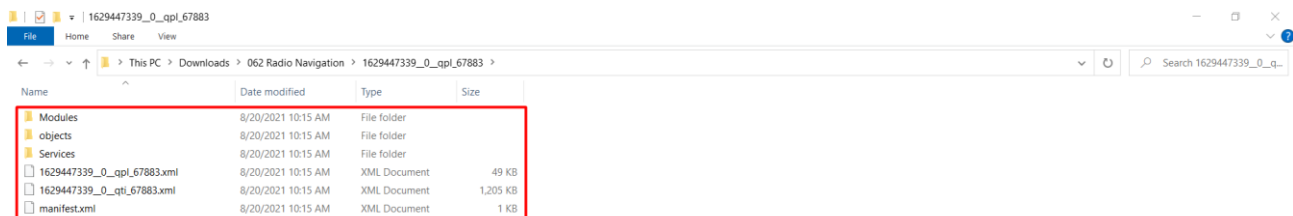
Note: The previous steps in this chapter would be skipped if there is only the QTI package.



Double-click on the extracted QTI folder.



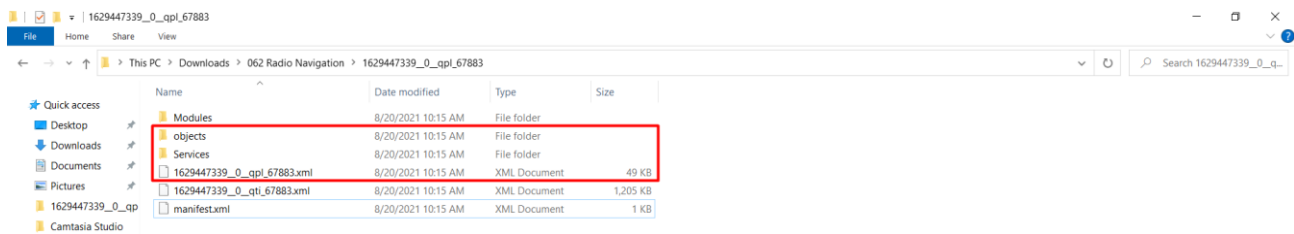
The structure of the QTI folder should look like this.



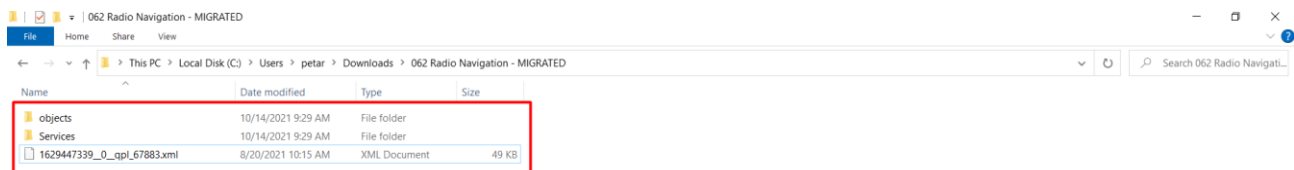
You can now create a new folder that will be used to put all the necessary resources for the import into YTM. In this example, the new folder will be created in the Downloads folder.



Copy “objects” and “Services” folders and the “QPL” file into the newly created folder.



The structure of the newly created folder should now look like this.



5.2.3 Migrate QTI ILIAS file to QTI 2.1

To migrate the QTI file, you first need to download the QTI XML schema file and place it into the same folder as the QTI file.

Open the following link in your local browser.

https://www.imsglobal.org/sites/default/files/question/qtiv1p2p1/XMLSchemav1p2p1/xmla/ims_qtiasiv1p2p1schema/dtds/qtiasifullncdtd/ims_qtiasiv1p2p1.dtd

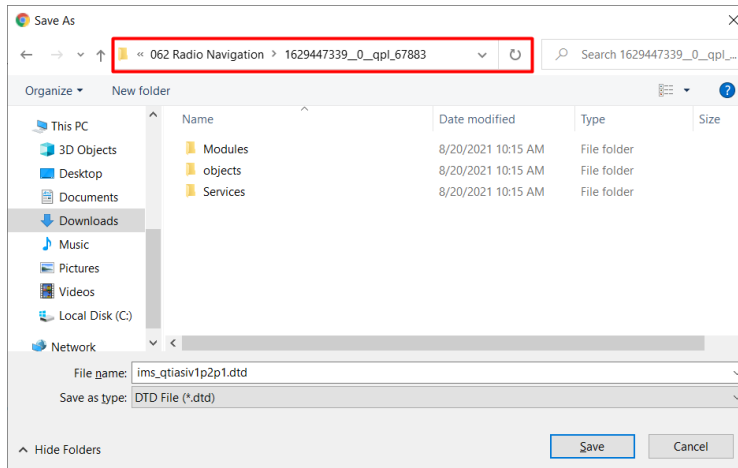
After opening, the following page should appear.

```

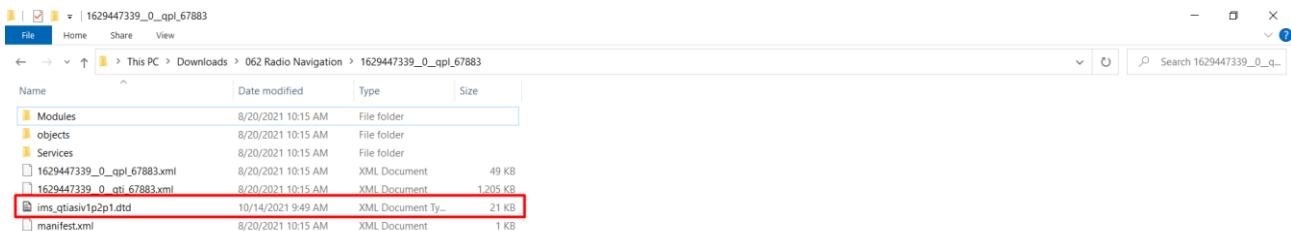
<?xml version='1.0' encoding='UTF-8' ?>
<!--Generated by Turbo XML 2.3.1.100.-->
<ELEMENT questestinterop (qticomment?, (objectbank | assessment | (section | item)+))>
<ENTITY % I_Testoperator " testoperator (EQ | NEQ | LT | LTE | GT | GTE ) #REQUIRED">
<ENTITY % I_Pname " pname CDATA #REQUIRED">
<ENTITY % I_Class " class CDATA 'Block'">
<ENTITY % I_Mdoperator " mdoperator (EQ | NEQ | LT | LTE | GT | GTE ) #REQUIRED">
<ENTITY % I_Mdname " mdname CDATA #REQUIRED">
<ENTITY % I_Title " title CDATA #IMPLIED">
<ENTITY % I_Label " label CDATA #IMPLIED">
<ENTITY % I_Ident " ident CDATA #REQUIRED">
<ENTITY % I_View " view (All |
Administrator |
AdminAuthority |
Assessor |
Author |
Candidate |
InviigilatorProctor |
Psychometrician |
Scorer |
Tutor ) 'All'">
<ENTITY % I_FeedbackSwitch " feedbackswitch (Yes | No ) 'Yes'">
<ENTITY % I_HintSwitch " hintswitch (Yes | No ) 'Yes'">
<ENTITY % I_SolutionSwitch " solutionswitch (Yes | No ) 'Yes'">
<ENTITY % I_Rcardinality " rcardinality (Single | Multiple | Ordered ) 'Single'">
<ENTITY % I_Rtiming " rtiming (Yes | No ) 'No'">
<ENTITY % I_Uri " uri CDATA #IMPLIED">

```

To download this file, you can type **“Ctrl+S”**, and the download dialog should appear. Download in the same folder where the QTI file from the ILIAS package is.

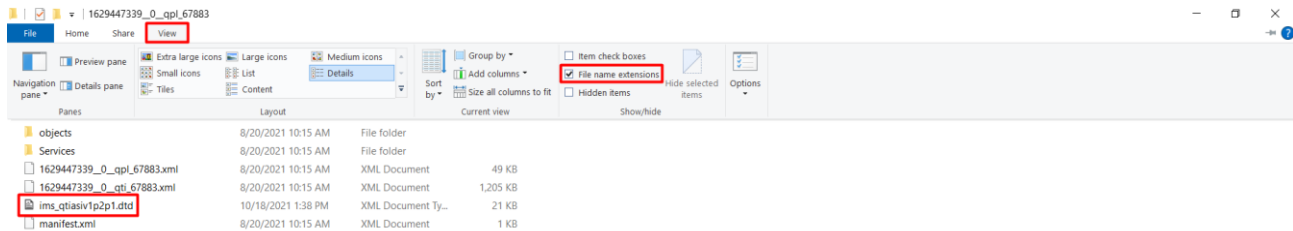


The structure of the ILIAS QTI folder should now look like this.

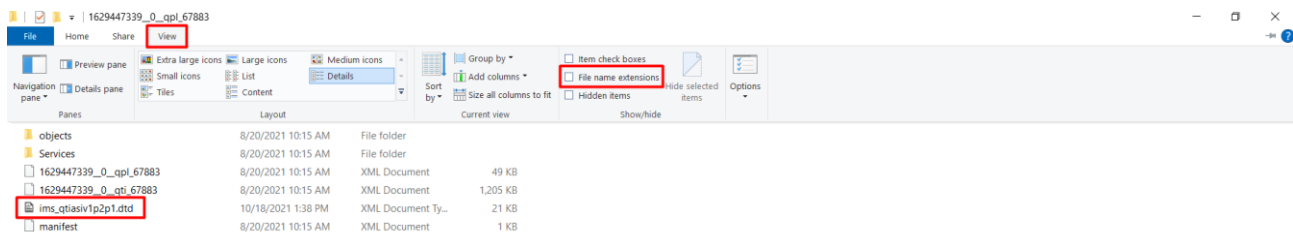


NOTE: Dependent on the Windows operating system, the file may be downloaded as a TXT file. If this is the case, the migration tool will not recognize it as a DTD file. The file should be saved as a DTD file in most cases.

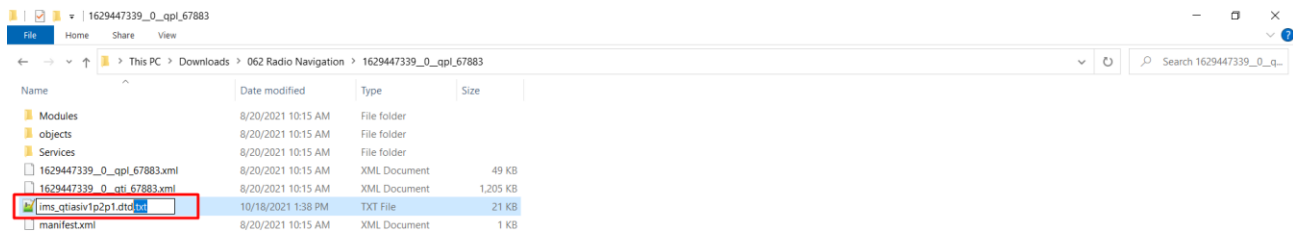
You can enable the **“File name extensions”** options in the Windows file explorer under the View tab to check this.



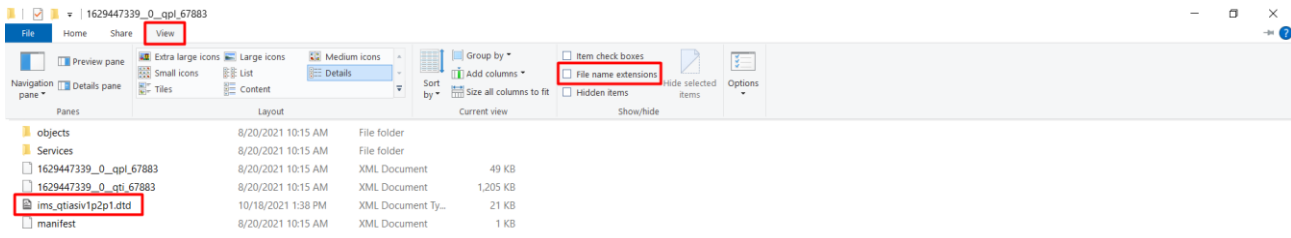
The name of the file in the previous picture would be the correct one. If that is the case, you can now deselect the **“File name extensions.”** and proceed to the next step.



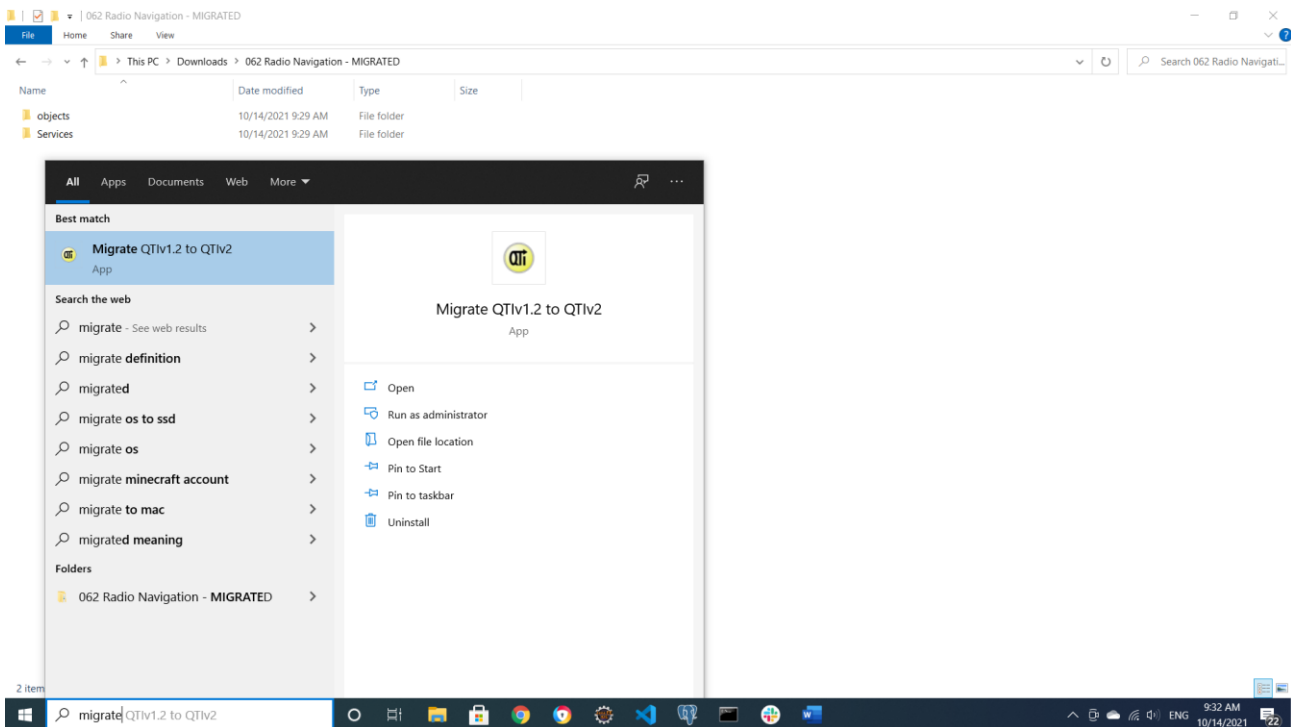
If the file has a .txt extension, you can just delete that extension.



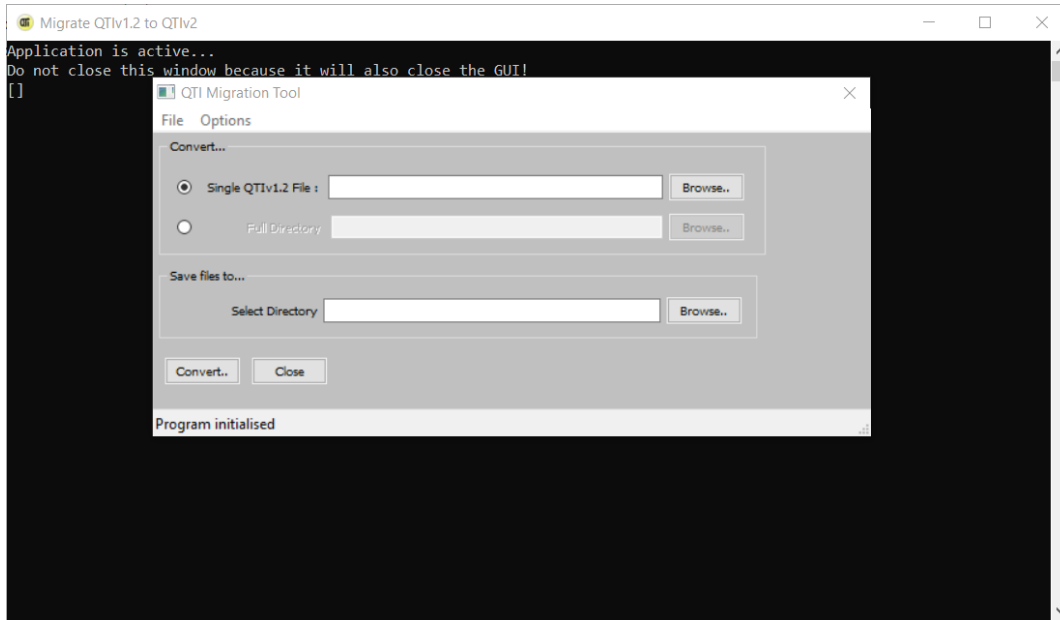
You can now deselect the **“File name extensions.”** and proceed to the next step.



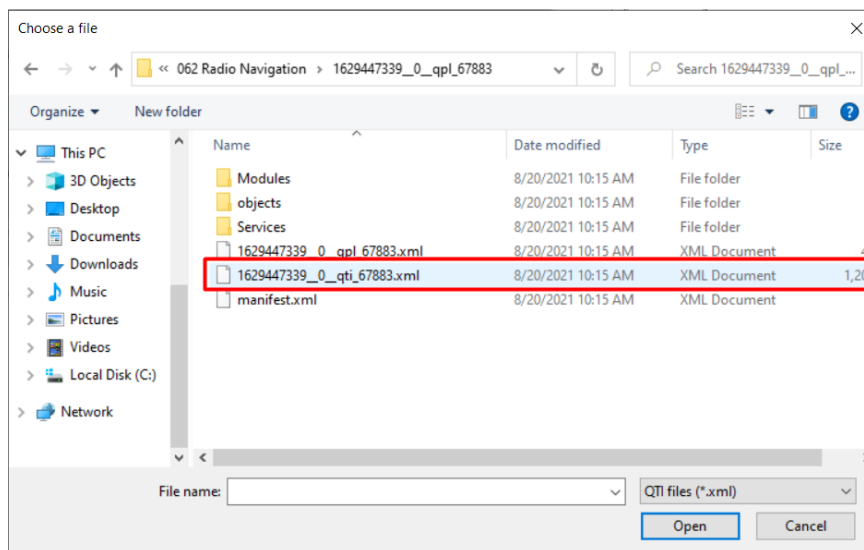
Open previously downloaded and installed QTI migration tool. The easiest way is to search “migrate” in the taskbar.



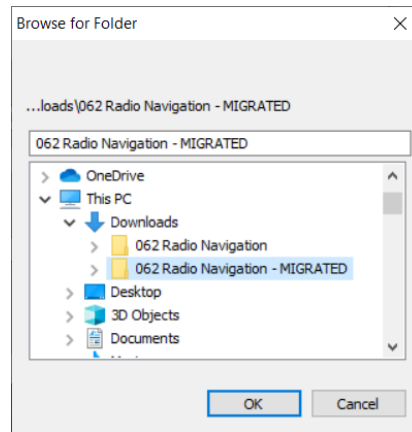
The output of the program should look like this.



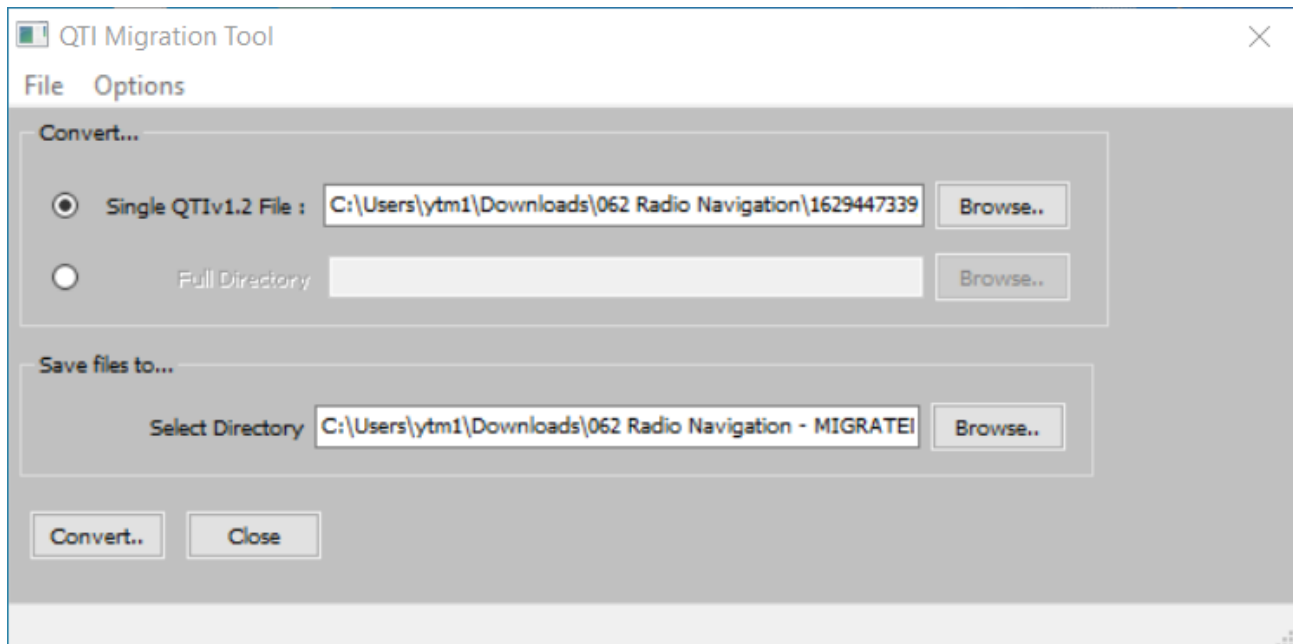
In the “Single QTIv1.2 File” input, the QTI file from the ILIAS package should be selected.



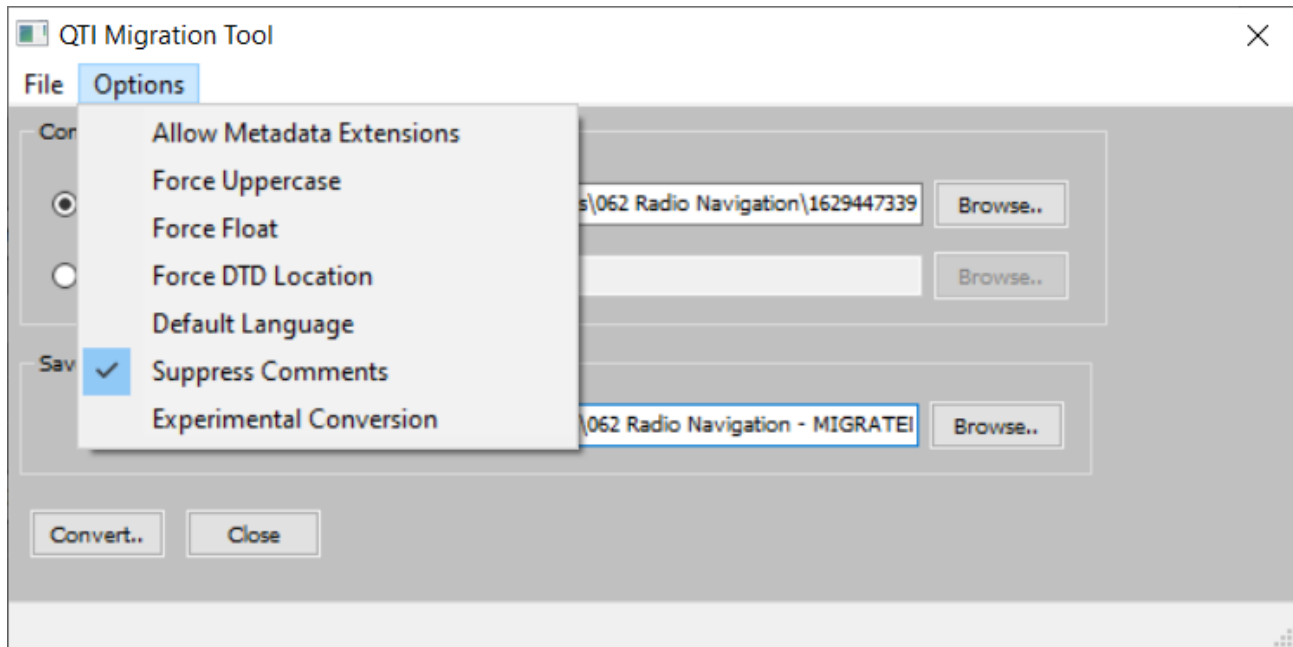
In the “Save files to... -> Select directory,” input should be selected from the previously created folder for the new package.



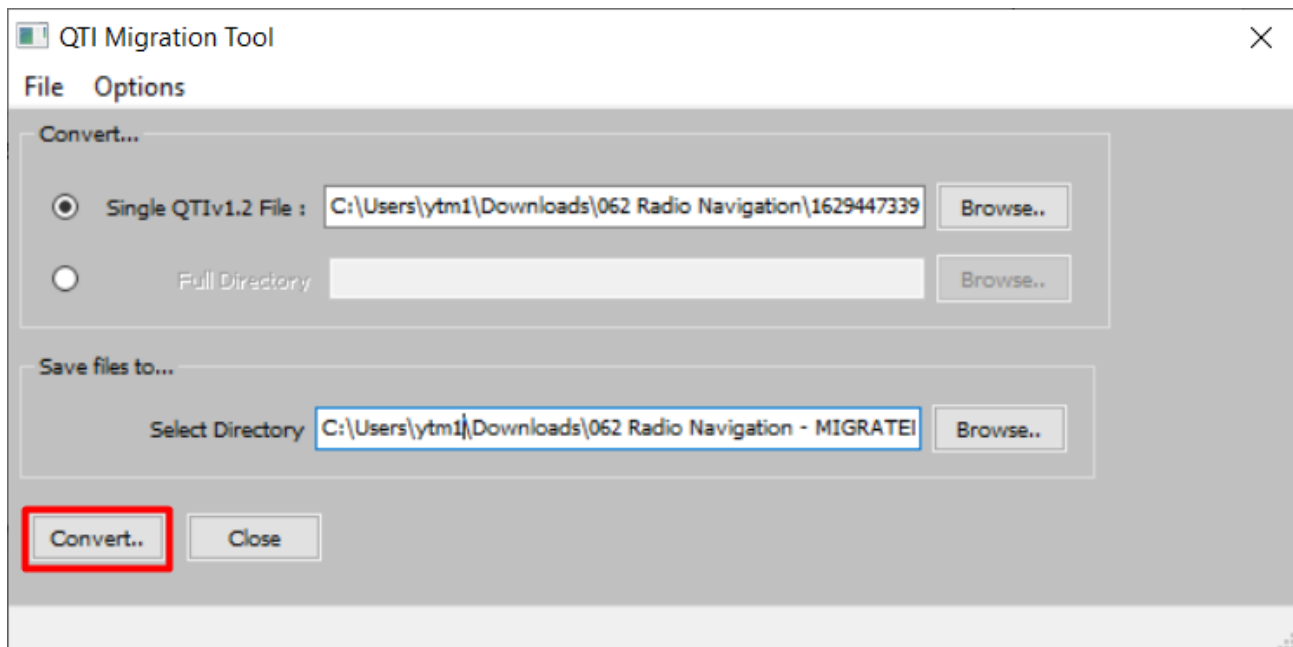
The output should now look like this.



IMPORTANT: Set “Suppress comments” in the “Options” tab.



After everything is set, click the “**Convert...**” button.

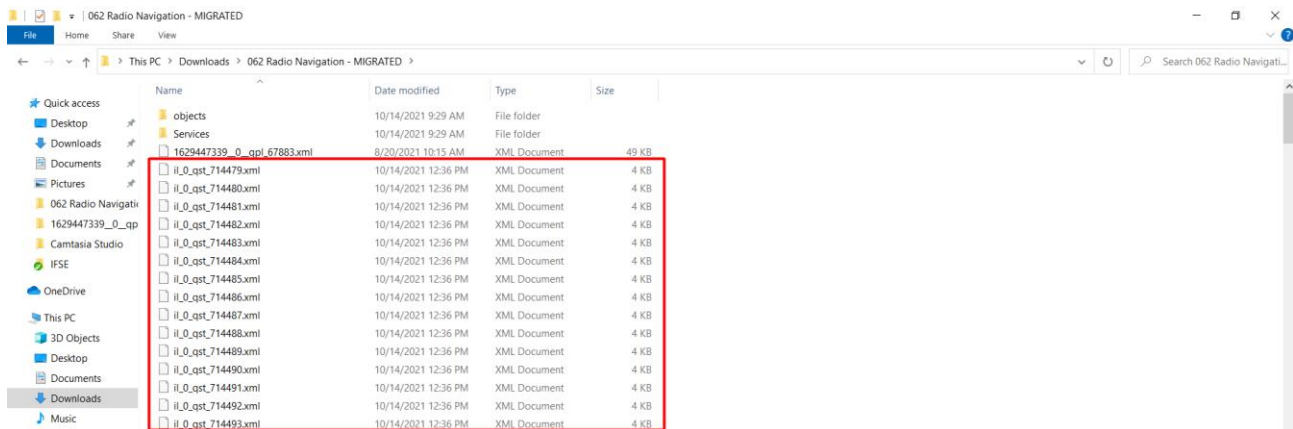


The output of the migration tool console log should look like this.

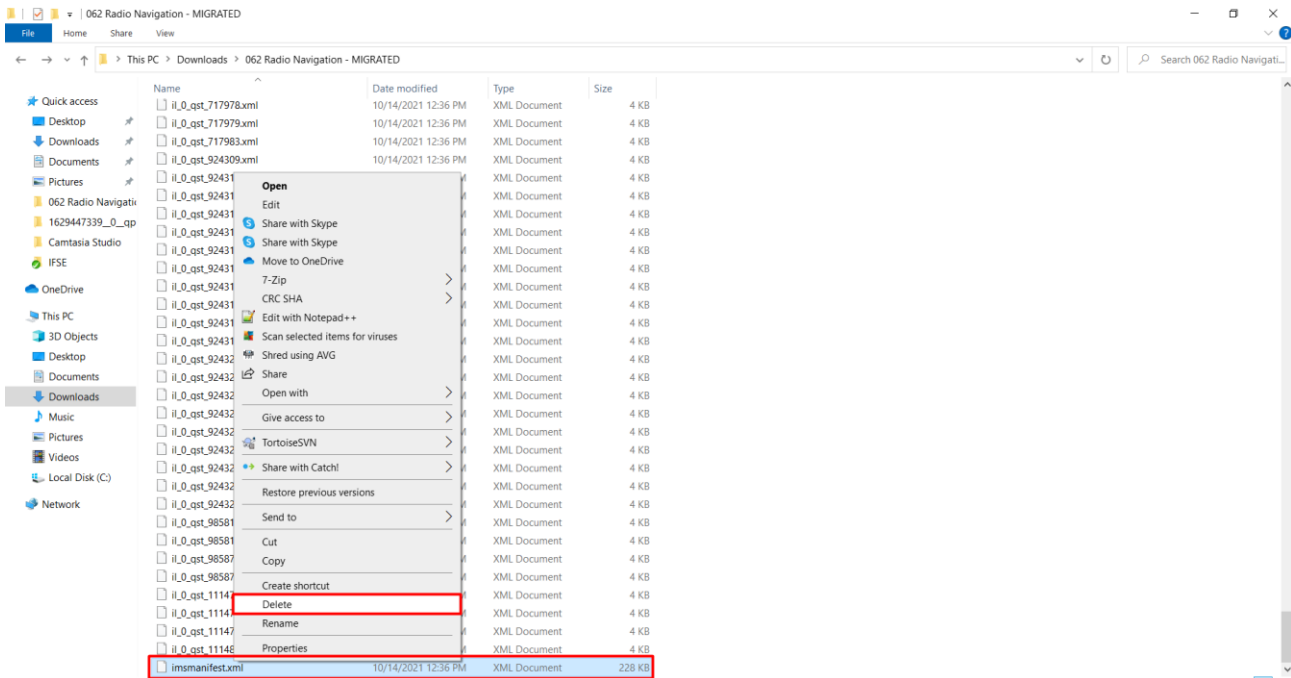
```

Migrate QTIv1.2 to QTIv2
Writing file: C:\Users\ytm1\Downloads\062 Radio Navigation - MIGRATED\il_0_qst_717067.xml
Writing file: C:\Users\ytm1\Downloads\062 Radio Navigation - MIGRATED\il_0_qst_717708.xml
Writing file: C:\Users\ytm1\Downloads\062 Radio Navigation - MIGRATED\il_0_qst_717709.xml
Writing file: C:\Users\ytm1\Downloads\062 Radio Navigation - MIGRATED\il_0_qst_717711.xml
Writing file: C:\Users\ytm1\Downloads\062 Radio Navigation - MIGRATED\il_0_qst_717977.xml
Writing file: C:\Users\ytm1\Downloads\062 Radio Navigation - MIGRATED\il_0_qst_717978.xml
Writing file: C:\Users\ytm1\Downloads\062 Radio Navigation - MIGRATED\il_0_qst_717979.xml
Writing file: C:\Users\ytm1\Downloads\062 Radio Navigation - MIGRATED\il_0_qst_717983.xml
Writing file: C:\Users\ytm1\Downloads\062 Radio Navigation - MIGRATED\il_0_qst_924309.xml
Writing file: C:\Users\ytm1\Downloads\062 Radio Navigation - MIGRATED\il_0_qst_924310.xml
Writing file: C:\Users\ytm1\Downloads\062 Radio Navigation - MIGRATED\il_0_qst_924311.xml
Writing file: C:\Users\ytm1\Downloads\062 Radio Navigation - MIGRATED\il_0_qst_924312.xml
Writing file: C:\Users\ytm1\Downloads\062 Radio Navigation - MIGRATED\il_0_qst_924313.xml
Writing file: C:\Users\ytm1\Downloads\062 Radio Navigation - MIGRATED\il_0_qst_924314.xml
Writing file: C:\Users\ytm1\Downloads\062 Radio Navigation - MIGRATED\il_0_qst_924315.xml
Writing file: C:\Users\ytm1\Downloads\062 Radio Navigation - MIGRATED\il_0_qst_924316.xml
Writing file: C:\Users\ytm1\Downloads\062 Radio Navigation - MIGRATED\il_0_qst_924317.xml
Writing file: C:\Users\ytm1\Downloads\062 Radio Navigation - MIGRATED\il_0_qst_924318.xml
Writing file: C:\Users\ytm1\Downloads\062 Radio Navigation - MIGRATED\il_0_qst_924319.xml
Writing file: C:\Users\ytm1\Downloads\062 Radio Navigation - MIGRATED\il_0_qst_924320.xml
Writing file: C:\Users\ytm1\Downloads\062 Radio Navigation - MIGRATED\il_0_qst_924321.xml
Writing file: C:\Users\ytm1\Downloads\062 Radio Navigation - MIGRATED\il_0_qst_924322.xml
Writing file: C:\Users\ytm1\Downloads\062 Radio Navigation - MIGRATED\il_0_qst_924324.xml
Writing file: C:\Users\ytm1\Downloads\062 Radio Navigation - MIGRATED\il_0_qst_924325.xml
Writing file: C:\Users\ytm1\Downloads\062 Radio Navigation - MIGRATED\il_0_qst_924326.xml
Writing file: C:\Users\ytm1\Downloads\062 Radio Navigation - MIGRATED\il_0_qst_924327.xml
Writing file: C:\Users\ytm1\Downloads\062 Radio Navigation - MIGRATED\il_0_qst_924328.xml
Writing file: C:\Users\ytm1\Downloads\062 Radio Navigation - MIGRATED\il_0_qst_924329.xml
Migration completed...
  
```

The created folder should now look like this.

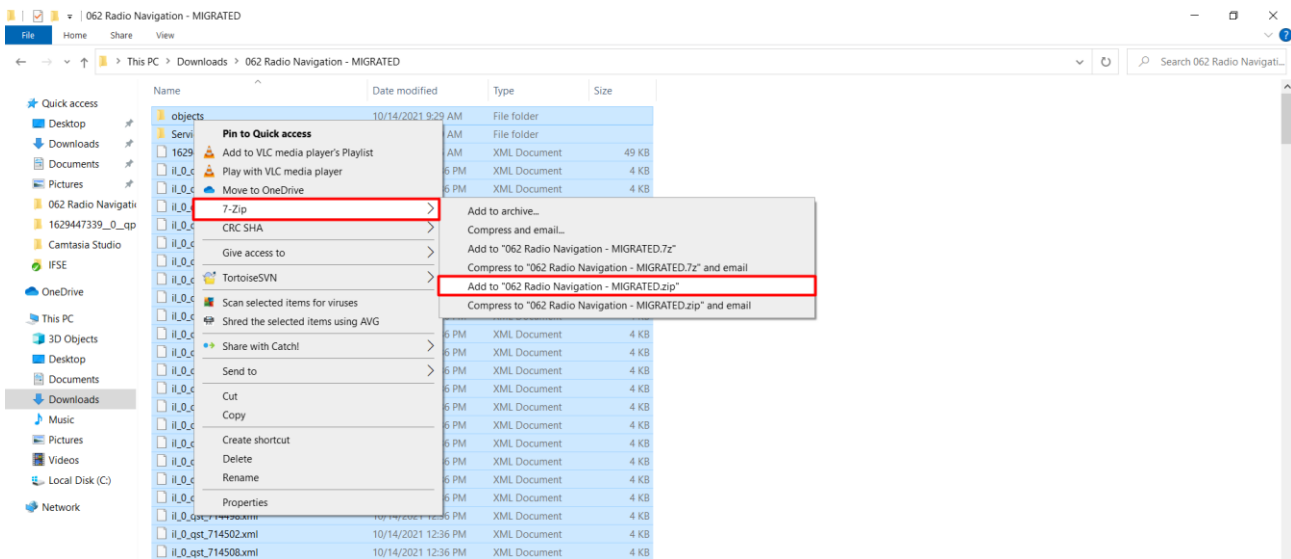


You can delete the “**imsmanifest.xml**” file since it is not needed. It should be at the bottom of the folder.



Add the content of the newly created folder to the zip archive. In this example, the “7-zip” program will be used.

IMPORTANT: Add the contents of the folder to the archive, not the folder itself. To do this, go into the folder and type “Ctrl+A” to select all files.



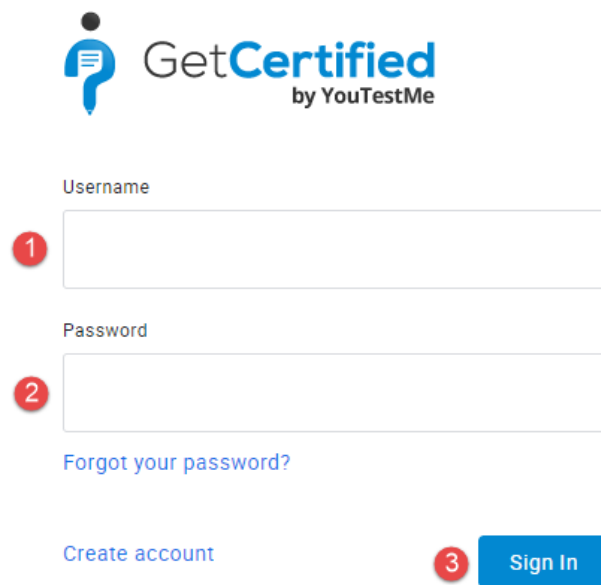
The package is now ready to be imported into the YTM system.

5.3 Import the QTI package into the YTM system

5.3.1 Access the application

To access the application, you need to have access to the application instance login page. When accessed, enter the following credentials.

1. Username.
2. Password.
3. Click the "Sign in" button to enter the platform.
- 4.



Get Certified
by YouTestMe

Username

1

Password

2

[Forgot your password?](#)

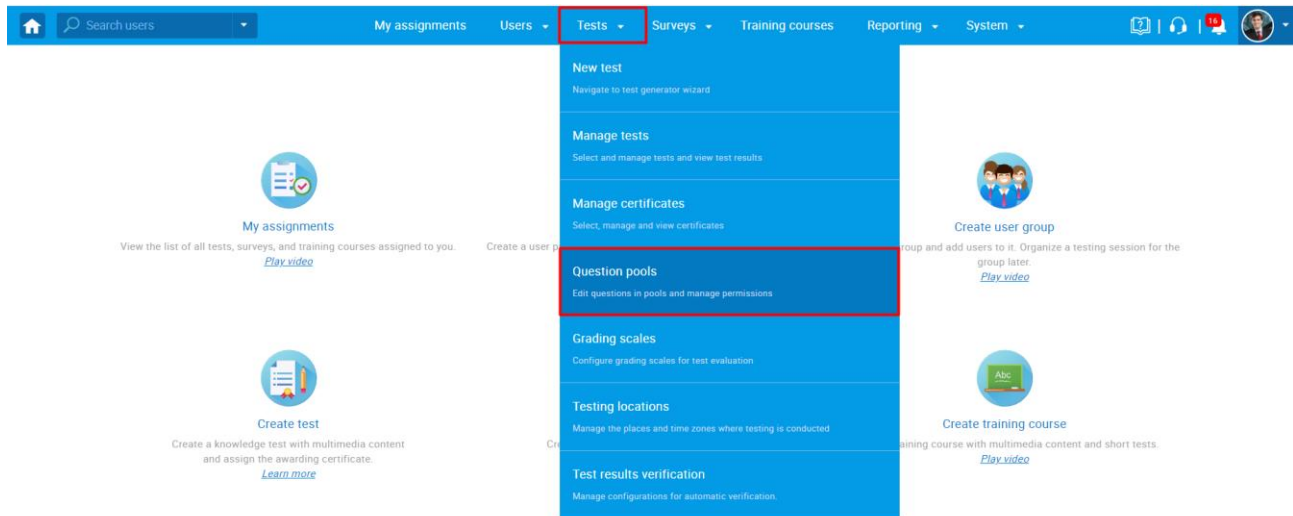
[Create account](#) 3 [Sign In](#)

NOTE: To go through all steps and import the QTI package, you need to be logged in as an admin.

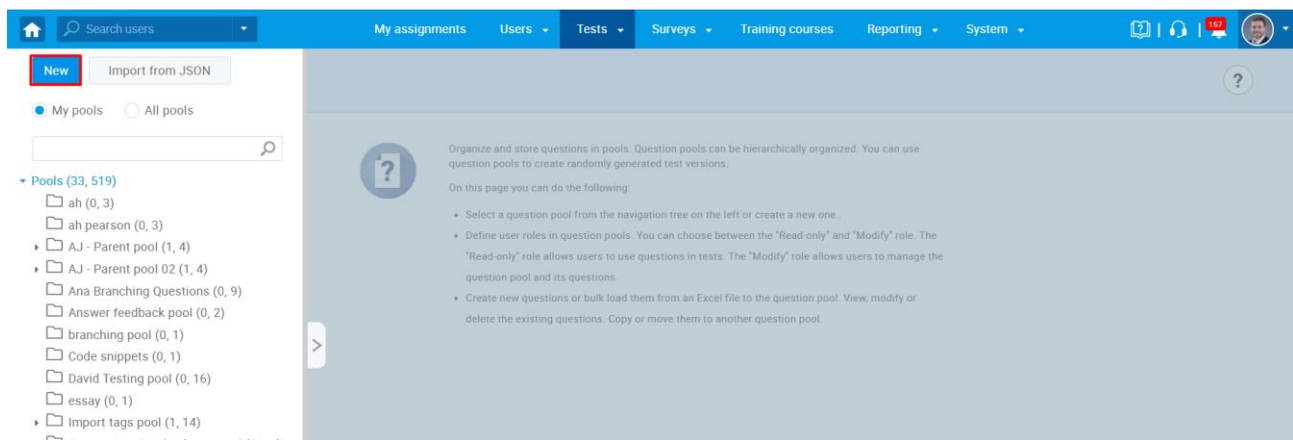
5.3.2 Create a question pool for the QTI package

To import the QTI package, you first must create a question pool.

To create a question pool, hover over the "Tests" in the main menu and select "Question pools".



Click on the button “New” on the left panel.



Create a question pool with the desired name and click the button “Save”.

New pool ✕

Name:*

Description:

You should be automatically redirected to the newly created question pool.

Test question pool
062 Radio navigation

Information Questions Users Statistics

View or edit basic pool name and description

Pool name: 062 Radio navigation

Pool ID: 100254

Description:

Your role: Modify

Pool type: Test pool

Created by: Andrew Ivarstead

Creation date: Oct-14-2021 12:57 PM CEST

5.3.3 Import the package into the YTM

In the newly created pool, go to the “Questions” tab.

Test question pool
062 Radio navigation

Information **Questions** Users Statistics

View or edit basic pool name and description

Pool name: 062 Radio navigation

Pool ID: 100254

Description:

Your role: Modify

Pool type: Test pool

Created by: Andrew Ivarstead

Creation date: Oct-14-2021 12:57 PM CEST

Select the “From QTI package” option at the “Load questions” menu.

Test question pool
062 Radio navigation

Information Questions **Users** Statistics

Create new questions or bulk load them from an Excel file or from the QTI package. View, modify or delete the existing questions. Copy or move them to another question pool.

Add question ▾ Load questions ▾ Filter by tags: ☺

- Without images (.xlsx format)
- With images (.zip archive)
- From QTI package (.zip archive)**

External ID	Question text	Source pool	Difficulty	Type
			Select one ▾	Select one ▾

There are no questions in this pool. To add questions, click "Add question" button to add them manually, or "Load questions" to load them from an Excel template or from the QTI package.

Rows: 0

Move Copy

The dialog should appear. Select the previously created package from your local file system and click upload. In this example, the name of the created package is **“062 Radio navigation - MIGRATED.”**

Load questions
✕

Load questions from the QTI package into this question pool.

The package must be a zip file and follow the correct structure:

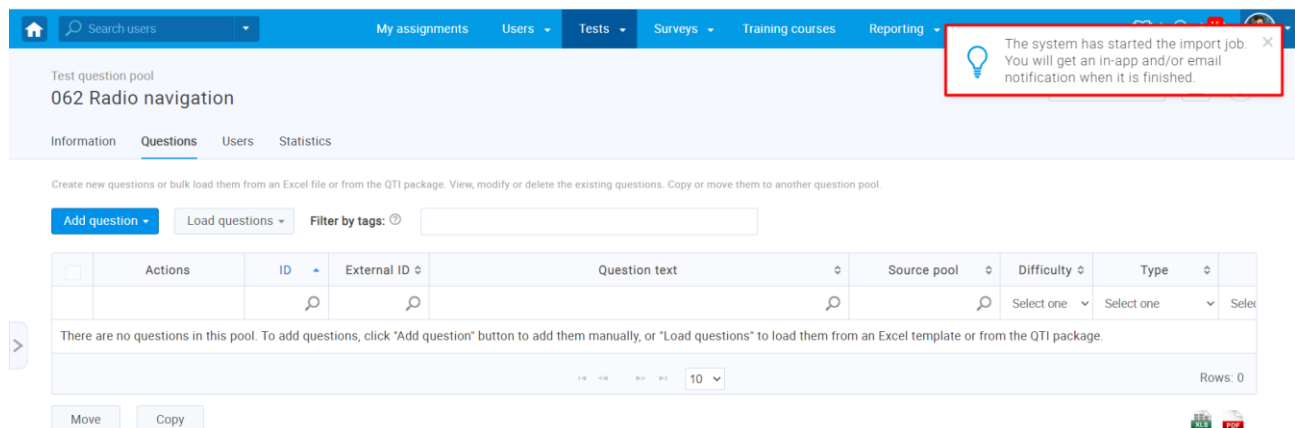
- XML files that represent questions definition in QTI2.1.
- (Optional) XML file ending with "qpl.xml" representing the additional question data and connections.
- (Optional) Folder by the name "objects" with the appropriate resources (images). All resources must be properly named and connected to the question either in the QTI file or the QPL file.
- (Optional) File representing the taxonomy definition of the questions. This file must be found on path /Services/Taxonomy/set_1/export.xml.

You can see the package structure by downloading [this sample](#). Note that this package is not meant to be manually composed.

Select file
062 Radio Navigation - MIGRATED.zip

Upload
Cancel

The popup message should appear.



The screenshot shows the Youtestme interface. At the top, there is a navigation bar with options like 'My assignments', 'Users', 'Tests', 'Surveys', 'Training courses', and 'Reporting'. Below this, the main content area shows a 'Test question pool' for '062 Radio navigation'. A notification popup is visible in the top right corner, stating: 'The system has started the import job. You will get an in-app and/or email notification when it is finished.' Below the notification, the interface shows a table with columns for 'Actions', 'ID', 'External ID', 'Question text', 'Source pool', 'Difficulty', and 'Type'. The table is currently empty, with a message below it: 'There are no questions in this pool. To add questions, click "Add question" button to add them manually, or "Load questions" to load them from an Excel template or from the QTI package.'

This message means that the system has started the import job. Since this can take a while, you should be notified via app notification and/or email when the import job is finished. Questions will not be displayed unless the page is refreshed or the tab is changed.

Test question pool
062 Radio navigation

Information Questions Users Statistics

View or edit basic pool name and description [Read more](#)

Pool name: 062 Radio navigation

Pool ID: 100783

Description:

Your role: Modify

Pool type: Test pool

Created by: Andrew Ivarstead

Creation date: Oct-14-2021 07:00 AM EDT

Notifications

- Oct-14-2021 07:08 AM EDT
Job executed
Name: Import questions from QTI package.
Errors: 1
Finished at: Oct-14-2021 07:08 AM EDT
- Oct-11-2021 11:33 AM EDT
Personal report:
"test reset" results are available
- Oct-11-2021 11:17 AM EDT
Personal report:
"test reset" results are available
- Oct-11-2021 11:15 AM EDT
Personal report:
"test reset" results are available
- Oct-11-2021 11:13 AM EDT
Personal report:
"test reset" results are available

1 2 3 5

Clear all

You can again go to the "Questions" tab and see the imported questions.

Test question pool
062 Radio navigation

Information **Questions** Users Statistics

Create new questions or bulk load them from an Excel file or from the QTI package. View, modify or delete the existing questions. Copy or move them to another question pool.

Add question Load questions Filter by tags

	Actions	ID	External ID	Question text	Source pool	Difficulty	Type	Sele
<input type="checkbox"/>		152398		The Total System Error (TSE) during a PBN operations encompasses:	062 07 PBN	Medium	Single choice	
<input type="checkbox"/>		152399		Precision RNAV (P-RNAV) requires a track-keeping accuracy of:	062 07 PBN	Medium	Single choice	
<input type="checkbox"/>		152400		RNAV 1 and RNP 1 are used:	062 07 PBN	Medium	Single choice	
<input type="checkbox"/>		152401		Basic RNAV (B-RNAV) requires a track-keeping accuracy of:	062 07 PBN	Medium	Single choice	
<input type="checkbox"/>		152402		According ICAO Annex 10 the frequency band for NDB's is:	062 01 01 02 Frequen...	Easy	Single choice	
<input type="checkbox"/>		152403		The minimum airborne equipment required for operation of a VHF dire...	062 02 01 Ground D/F	Easy	Single choice	
<input type="checkbox"/>		152404		Which Q code would give a magnetic heading to steer from a VDF stat...	062 02 01 01 Principles	Easy	Single choice	
<input type="checkbox"/>		152405		Why ist the BFO switched to ON?	062 02 02 01 Principles	Easy	Single choice	
<input type="checkbox"/>		152406		The aeroplane flies a magnetic heading of 340°. The ADF reads a relat...	062 02 02 NDB/ ADF	Easy	Single choice	

To see a created pool structure, hover over the arrow on the left side.

Test question pool

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	152402		According ICAO Annex 10 the frequency band for NDB's is:	062 01 01 02 Frequen...	Easy	Single choice
	152403		The minimum airborne equipment required for operation of a VHF dire...	062 02 01 Ground D/F	Easy	Single choice
	152404		Which Q code would give a magnetic heading to steer from a VDF stat...	062 02 01 01 Principles	Easy	Single choice
	152405		Why ist the BFO switched to ON?	062 02 02 01 Principles	Easy	Single choice
	152406		The aeroplane flies a magnetic heading of 340°. The ADF reads a relat...	062 02 02 NDB/ ADF	Easy	Single choice
	152407		Which factors affect the performance of NDB/ADF systems?	062 02 02 05 Factors ...	Easv	Sinle choice

My assignments Users Tests Surveys Training courses Reporting System

New Import from JSON Import from Excel

My pools All pools

- Pools (618, 4982)
 - 050-1 (0, 352)
 - 050 Meteorology - with taxonomies (167, 976)
 - 051 (0, 0)
 - 060 Radio navigation - with taxonomies (134, 352)
 - 062 Radio navigation (134, 352)**
 - 062 01 Basic radio propagation theory (18, 25)
 - 062 01 01 Basic principles (6, 17)
 - 062 01 02 Antennas (3, 2)
 - 062 01 03 Wave propagation (6, 6)
 - 062 02 Radio aids (33, 157)
 - 062 02 01 Ground D/F (4, 19)
 - 062 02 02 NDB/ ADF (5, 31)
 - 062 02 03 VOR and Doppler-VOR (4, 44)
 - 062 02 04 DME (5, 30)
 - 062 02 05 ILS (5, 26)
 - 062 02 05 01 Principles (0, 10)
 - 062 02 05 02 Presentation and interpretation (0, 10)
 - 062 02 05 03 Coverage and range (0, 1)
 - 062 02 05 04 Errors and accuracy (0, 1)
 - 062 02 05 05 Factors affecting range and accuracy (0, 0)

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According ICAO Annex 10 the frequency band for NDB's is:	062 01 01 02 Frequen...	Easy	Single choice
The minimum airborne equipment required for operation of a VHF dire...	062 02 01 Ground D/F	Easy	Single choice
Which Q code would give a magnetic heading to steer from a VDF stat...	062 02 01 01 Principles	Easy	Single choice
Why ist the BFO switched to ON?	062 02 02 01 Principles	Easy	Single choice
The aeroplane flies a magnetic heading of 340°. The ADF reads a relat...	062 02 02 NDB/ ADF	Easy	Single choice
Which factors affect the performance of NDB/ADF systems?	062 02 02 05 Factors ...	Easv	Sinle choice