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# Moving data to IFSE production

We can have multiple rounds of any phase.

Timeline:

1. Phase 1 - Insert static data (exams, pools, locations) to YTM production:
	1. Create manually in production
	2. Importing from excel Templates (Locations)
	3. Export from sandbox and import to production (Exams, Pools) – there will be some rules that need to be followed to support maintaining the relations between exams and pools fully. (**Preferred way**)
2. Phase 2 – Relations. Connect YTM exams with Lambda Courses in Lambda production. YTM recommendation is to do this manually after static data is transferred. (**IFSE agreed**)
3. Phase 3 – Sessions and Venues:
	1. Create manually in production
	2. Import to production from excel templates
4. Phase 4 – Students. All student profiles should be imported through Lambda using API endpoints to production. The import can be tested on the sandbox, but it is not recommended to export users from the sandbox and import them to production due to potential validation issues.
5. Phase 5 – Proctors and instructors. It can be imported either through lambda or YTM templates.
6. Phase 6 – Exam bookings. The existing mechanism should be used. They should be imported through Lambda using the rest API

Phases 1,2,3,5 can be done incrementally over time. Phases 4 & 6 will probably have to be done on December 1. We should have several end-to-end simulations before that date.

# Environments

## Production

* The official production environment.
* The production data should be imported migrated in this environment before the go-live date.
* IFSE should use this environment to import only clean production-ready data.
* The environment is upgraded when the new version is tested and approved in the sandbox environment.

|  |  |  |
| --- | --- | --- |
| **Component** | **URL** | **Version** |
| YouTestMe App | <https://ifse.youtestme.com> | 10.2.12r |
| YouTestMe API | TBD | TBD |
| Lambda App | TBD | TBD |

## Sandbox

* The environment is used for integration, testing, and new versions delivery.
* The environment can contain testing data.
* The environment is upgraded whenever the new Lambda or YTM version is available.

|  |  |  |
| --- | --- | --- |
| **Component** | **URL** | **Version** |
| YouTestMe App | <https://demo13.youtestme.com> | 10.4.4.2s |
| YouTestMe API | <https://demo13-api.youtestme.com/service5/swaggerui/dist/index.html> | 10.4.4.2s |
| Lambda App | <https://ifse-stg.lambdastore.net/> | ??? |

## Production copy

* The environment is a copy of the production environment from some point in time.
* The environment is used for testing production data.
* The environment version has the same version as the original production environment.

|  |  |  |
| --- | --- | --- |
| **Component** | **URL** | **Version** |
| YouTestMe App | TBD | TBD |
| YouTestMe API | TBD | TBD |
| Lambda App | TBD | TBD |

# Data migration and import

## YTM’s recommendation for the production data

* All data from the old system should be migrated directly to production.
* Migration from the old system to the sandbox and after from the sandbox to production is a two-step process.
* Sandbox can contain massive unclean testing data not relevant for production. It can be hard to filter out the production from non-production data.
* The sandbox environment is a testing and integration environment, and potential bugs can harm the production data.
* All three parties have access to the sandbox environment. We cannot distinguish easily between the production and testing data, so someone can accidentally change or delete the production data during the testing.
* IFSE will only have access to the production environment. In the production environment, all data is considered clean production data.

## General rules

* The data in the production environment should be kept clean.
* Production data should be created/imported/migrated directly into the production environment.
* Data migration from the sandbox and testing environments should be avoided.
* The production data should be backed up regularly according to the agreed schedule or on-demand.
* The data migration should be divided into phases and batches and migrated data should be validated after the completion of each phase. The massive data migration in a short period is always risky, and everything that can be set before go-live should be done in advance.
* The testing of production data should be done on the copy of the production data to avoid the dirty test data on the production.
* When the production environment is ready, IFSE should create/import or migrate from the old system directly to the production environment.

## Data dependencies

## Migrating sandbox data to production

* The sandbox should not be used for the data that goes into production.
* IFSE should specify all the data from the sandbox environment (at the start of the data entry process) that should be migrated to production, and YTM will advise what the easiest migration way is.

## Exam questions banks migration

* All question banks that are not imported in the sandbox should be imported directly into production.
* Question banks imported in the sandbox can be exported and imported in the production or reimported using Excel templates previously used to import in the sandbox. It is important to keep the references with sandbox exams migrated to production. YouTestMe will have to adjust current import/export capabilities to preserve the exam–question bank references.

## Exams (Paper, PearsonVue, Online) migration

* All exams that are not created in the sandbox should be created directly on the production.
* Exams created in the sandbox can be exported and imported into the production. It is important to keep the references with sandbox question banks migrated to production. YouTestMe will have to adjust current import/export capabilities to preserve the exam–question bank references and avoid question-bank duplication.
* The relation between sandbox Lambda courses and YouTestMe exams must be preserved. Exams can be reconnected to the courses in the production.

## Paper exam venues migration

* The preferred way is to create them manually or import them with the Excel template directly into production.

## Paper exam sessions migration

* Manually create them on production or import the common sessions through the Excel template.
* YouTestMe has to implement an option to import commons sessions through the Excel template.

## Student profiles for active students migration

* Student profiles are imported into Lambda production.
* Lambda creates profiles in YouTestMe production through the API.

## Other users (proctors, administrators, instructors) migration

* User profiles are imported into Lambda production.
* Lambda creates profiles in YouTestMe production through the API.
* The role mapping should be defined for Lambda and YTM users.

## Paper exam proctors for existing bookings migration

* Manually add the proctors to the commons sessions on the production or import them through the Excel template.
* YouTestMe has to implement an option to import commons session proctors through the Excel template.

## Existing student exam bookings migration

* Existing student exam bookings are imported into Lambda production.
* Lambda creates exam bookings in YouTestMe production through the API.

# Production data backup

* IFSE, Lamba, and YTM should define the backup schedule. For example, it can be scheduled each day at multiple time frames.
* On-demand backup should be before any massive data migration or any time IFSE considers it is needed to snapshot clean production data.
* Both YTM and Lambda should be backed up at the same time.

# Testing production data

* The production data can be tested directly on the production, and later all irrelevant testing data can be deleted. It is not recommended in case of a massive volume of irrelevant testing data.
* YTM’s recommendation is to test data on the copy of the production environment. For example, after each phase of the data migration and import, the copy of the production environment is created where the IFSE team can test migrated and created data. This approach avoids the creation of irrelevant testing data directly on production.
* Sensitive user data on the production copy should be scrambled to avoid sending email notifications or to prevent other undesirable actions.

# Handling unclean production data

* A low volume of unclean data can be modified or deleted directly through the interface.
* If some massive import creates unclean data because of an error in the migration or import process, the production can be restored from backup before the actual import/migration.