# Manual Testing in Informatica MDM SaaS A step-by-step guide

Data Sheet | LumenData

Learn the process of manual testing within the IICS environment, including the different types and sub-types that are involved to make sure the final data is free of defects.

**PRODUCT EXPLAINED:** Informatica MDM SaaS (IICS account)

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	Log In	
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T	Log in using Single Sign-On (SSO)	-
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Customer 360 and Data Integration (Assumption- The user has the required privileges to access the mentioned services in IICS).



# WHAT IS MANUAL TESTING?

Manual testing is a software testing approach where testers manually validate and then execute test cases without the use of automated tools or scripts. It involves human intervention to verify the functionality, usability and quality of a software application. Here, testers stimulate end-user scenarios and interactions with system to identify defects or issues in the software.

The process of manual testing typically involves the following steps:

## 1. Test Planning

Testers define the testing objectives, create test plans, and develop test cases based on the requirements and design specifications of the software.

	A	В	C	D	E	F
1	Version	Author	Reviewed By	Approved By	Comments	Approval Date
2	1	m		[Manager Name]	This version is developed.	dd/mm/yyyy
3	1.1		m	[Manager Name]	This version is developed with new feature.	dd/mm/yyyy
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## 2. Test Case Execution:

Testers execute test cases manually, following predetermined steps and inputs, to validate the behaviour of the software. They will record the expected and actual results for each test case.

## 3. Defect Reporting:

When a defect or an issue is identified during test case execution, testers report the problem to the development team using a defect tracking system. They provide detailed information about the defect, including steps to reproduce it, screenshots, and other relevant data.

Assigned to
has not
Development Team

## 4. Defect Verification:

After the development team addresses the reported defects and releases a new version of the software, testers retest the resolved issues to verify if they have been fixed correctly, and then mark them closed.

A	В	С	D	E	F
Defect No.	Issue Description	Assigned to	Dev Comment	Status	QA Comment
	The new feature has not				
Defect Number 1	been added.	Development Team	The feature has now been added.	Closed	Closing defect based on QA comment.

## 5. Retesting:

Retesting follows the completion of defect fixing by developers. Its purpose is to validate that the reported defect has indeed been addressed and that the software is now functioning as expected. This testing focuses on the specific areas or functionalities that were affected by the bug.

## 6. Regression:

Regression testing refers to the process of retesting a previously tested software application to ensure that any modifications, enhancements, or bug fixes have not introduced new defects or caused existing functionalities to break. Its purpose is to verify that the software remains stable and that any changes made to it have not adversely impacted its overall functionality.



Manual testing has its advantages and disadvantages. Some advantages include the ability to apply human intuition and creativity to uncover complex issues, testing of negative flows, adaptability to changes in requirements, and cost-effectiveness for small-scale projects. However, manual testing can be time-consuming, repetitive, and prone to human error. Therefore, organizations often combine manual testing with automated testing techniques to improve efficiency and effectiveness in the overall testing process.

# **STEPS FOR MANUAL TESTING IN IICS-**

IICS (Informatica Intelligent Cloud Services) is a cloud-based integration platform provided by Informatica. It primarily focuses on data integration, data management, and application integration. While IICS is primarily used for datarelated tasks, it also supports various testing capabilities. Manual testing in IICS can be performed using the following approach:

## 1. Test Plan Preparation:

Begin by preparing a test plan that outlines the objectives, scope, assumptions, and testing approach for the manual testing activities in IICS. Define the test scenarios and test cases that needs to be executed.



# 2. Test Case Execution:

Execute the test cases manually within the IICS environment. This involves navigating the IICS user interface, executing the jobs and validating the data integration processes. Record the test results, including any issues or defects encountered.



Job Elements (1)				6
<ul> <li>Job Elements 1</li> </ul>				0
Job Profile;* Clinical Nurse III-000275	Job Code:* 000275	Job Family Group:*	Job Family.*	

## 3. Defect Reporting:

If any defects or issues are identified during the test case execution, report them in a defect tracking system and to the development team. Include all relevant details such as steps to reproduce, error messages, and screenshots if necessary.

- 1					
	Defect Number	Source	MDM Functionality	Issue Description	Assigned to
				Job Family is required (*)	
	Defect Number 1	Person	MDM UI	but is missing in UI.	Development Team

## 4. Retesting:

Once the reported defects are addressed by the development or support team, perform retesting to verify if the fixes were successful. Execute the affected test cases again to ensure that the issues have been resolved and the expected results are achieved. And then close the defect after the retesting is done.

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Defect Number	Source	MDM Functionality	Issue Description	Assigned to	Dev Comment	Status	QA Comment
			Job Family is required (*)				
Defect Number 1	Person	MDM UI	but is missing in UI.	Development Team	The defect has been fixed.	Closed	Closing defect based on Dev Team's comment

# DATA COMPLETENESS CHECKS IN MANUAL TESTING-

Data completeness checks refer to the verification and validation of data inputs or outputs to ensure that they are complete and contain all the necessary information required for the software application to function correctly. These checks ensure that the application handles data appropriately and can process the data effectively without encountering errors or missing information.

# **COUNT CHECKS IN MANUAL TESTING-**

Count checks is when a tester verifies the correctness of data by comparing the count of records or entities between different data sources or components within the integration processes. These checks are particularly useful for validating data integrity, data synchronization, and ensuring that the expected data volumes are being processed accurately.



# **JOB RUNS IN MANUAL TESTING-**

Job Runs refer to the execution of integration jobs or workflows within the IICS platform. Here's how manual testing may be involved in job runs in IICS:

#### • Job Setup and Configuration:

Manual testing may be involved in setting up and configuring the integration jobs or workflows within IICS. Testers can ensure that the job parameters, connections, mappings, transformations, and other configurations are correctly defined before the job is executed.

## • Job Scheduling and Monitoring:

While job runs are often scheduled to execute automatically based on predefined schedules or triggers, manual testing may involve monitoring and verifying the successful execution of scheduled job runs. Testers can check job logs, monitor job statuses, and ensure that the jobs run according to the expected schedule.

#### • Job Results Verification:

After a job run completes, manual testing can involve verifying the results produced by the integration job. This can include checking data outputs, file generation, database updates, or any other expected outcomes of the job. Testers can compare the actual results with the expected results to ensure that the job has executed correctly.

## • Error Handling and Exception Testing:

Job runs in IICS may encounter errors or exceptions during execution. Manual testing can involve intentionally triggering or simulating error scenarios to validate the error handling mechanisms within the integration jobs. Testers can ensure that error messages are appropriately generated, error recovery processes are followed, and any required notifications or actions are triggered.

#### • Data Reconciliation:

Depending on the nature of the integration job, manual testing may involve validating and reconciling data produced or processed by the job. Testers can perform data checks, compare data between source and target systems, and ensure that data integrity and accuracy are maintained throughout the job run.



• Performance Testing and Optimization:

While not strictly related to manual testing, performance testing and optimization can play a role in job runs. Testers may be involved in analysing the performance of the integration jobs, identifying bottlenecks, deadlocks and suggesting optimizations to improve job run times, execution schedule or resource utilization.

## **RERUN OF SAME JOB IN MANUAL TESTING-**

This refers to the process of re-executing an integration job or workflow with the same configuration and parameters to validate its behaviour and outcomes. This can be done for various reasons, such as retesting after making changes, confirming the stability of the job, or reproducing an issue for troubleshooting purposes.

Here's how the rerun of the same job is typically approached in manual testing in IICS:

## • Job Configuration Review:

Before rerunning the job, it is important to review and verify the configuration settings and parameters of the job. Ensure that all the necessary connections, mappings, transformations, and other components are properly set up and aligned with the desired test scenario.

## • Test Data Preparation:

Depending on the nature of the job, it may require specific test data inputs to reproduce the desired test conditions. Prepare the test data or ensure that the previous test data used during the initial job run is still valid and appropriate for the rerun.

## • Clearing Previous Run Data:

If the job involves data storage or updates, it may be necessary to clear or reset any remnants of the previous job run's output or impacts. This ensures a clean slate for the rerun and prevents any interference or contamination of data.

## • Rerun Execution:

Execute the job using the same configuration and parameters as the previous run. This can be done through the IICS interface by selecting the job and initiating its execution manually.



## • Result Validation:

After the rerun is completed, manually validate the results to ensure that the expected outcomes align with the previous run or the desired expectations. Verify data outputs, file generation, database updates, or any other outputs produced by the job to ensure consistency and correctness.

• Comparison with Previous Run:

If the purpose of the rerun is to verify any changes or troubleshoot an issue, compare the results of the rerun with the results of the previous run. Analyse any differences or inconsistencies to identify potential issues or improvements.

## • Logging and Reporting:

Maintain proper documentation of the rerun process, including any observations, issues encountered, and results obtained. This helps in tracking the history of the job runs and aids in reporting and communication.

Rerunning the same job in manual testing in IICS allows for the validation of the job's behaviour, stability, and consistency over multiple executions. It provides an opportunity to reproduce scenarios, verify changes, and ensure the reliability of the integration process.

# DATA CORRECTNESS CHECKS IN MANUAL TESTING-

Data correctness checks refer to the process of verifying the accuracy, integrity, transformation rules and validity of data within a software application. These checks ensure that the data being processed or stored by the application is correct and aligns with the expected business rules and requirements. The goal is to identify any inconsistencies, inaccuracies, or discrepancies in the data and ensure that it meets the desired quality standards.

In the context of manual testing in IICS (Informatica Intelligent Cloud Services), data correctness checks like duplicate checks, null checks, invalid date checks, byte size checks and data validation checks refer to specific types of validation that can be performed on data within the integration workflows. These checks help ensure the accuracy and integrity of the data being processed. Here's an overview of duplicate checks, null checks and other kinds of checks in IICS manual testing, along with notes on Data Lineage and Delta Validation.



# **DUPLICATE CHECKS IN MANUAL TESTING-**

Duplicate checks are validations aimed at identifying and handling duplicate records within the data being processed. In IICS, you can manually execute test cases to verify if the duplicate check logic or transformations are correctly implemented in your integration workflows. Some common steps involved in duplicate checks include:

## a. Test Data Preparation:

Create test data with a set of records, including some duplicates, that resemble the real-world scenarios like data duplicates due to multiple reruns.

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## b. Integration Workflow Execution:

Execute the integration workflow that includes the duplicate check logic or transformations. This can involve tasks like data profiling, aggregation, or filtering to identify and handle duplicate records. When records are loaded, we check them accordingly.

#### c. Verification:

Verify if the integration workflow correctly identifies and handles duplicate records as per the expected behaviour. Compare the actual results with the expected results to ensure accuracy.

# NULL CHECKS IN MANUAL TESTING-

Null checks are validations performed to ensure that the data being processed does not contain null or missing values where they are not allowed or expected. In IICS, you can manually test the null check logic within your integration workflows. Here are the steps involved:

## a. Test Data Preparation:

Create test data with a mix of records that include null values in fields where they should be checked or handled.



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## b. Integration Workflow Execution:

Execute the integration workflow, paying attention to the null check logic or transformations. This may involve tasks like data mapping, conditional statements, or data validation rules. When the records are loaded, we check them accordingly.

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Prefix:	Suffix:	Title:	Designation:	
		Engineer	Developer	
Birtholace:	Date Of Birth:	Gender:	Marital Status:	

## c. Verification:

Verify if the integration workflow correctly identifies and handles null values according to the expected behaviour. Compare the actual results with the expected results to ensure that null values are appropriately managed. In this case, we can observe that the few fields are null and are reported accordingly.

By performing these duplicate checks and null checks as part of manual testing in IICS, you can validate the integrity and quality of your data integration workflows, ensuring that duplicate records are appropriately managed and null values are handled correctly.

# **INVALID DATE CHECKS IN MANUAL TESTING-**

Invalid date checks involve validating the handling of incorrect or invalid dates within your integration workflows. These checks ensure that the date-related data is processed correctly. Here's a general approach to conducting invalid date checks:



## a. Test Data Preparation:

Create test data with various scenarios, including records with incorrect or invalid dates such as future dates, past dates, or dates in an incorrect format.

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## b. Integration Workflow Execution:

Execute the integration workflow that includes date-related transformations or validations. This may involve tasks like date parsing, date calculations, or date comparisons. When records are loaded, we check them accordingly.

#### c. Verification:

Verify if the integration workflow correctly handles the invalid dates as per the expected behaviour. Ensure that the workflow detects and handles invalid dates appropriately, such as generating errors or applying fallback strategies.

# DATA SIZE CHECKS IN MANUAL TESTING-

Data size checks involve validating the handling of data sizes or limits within your integration workflows. These checks ensure that the data being processed adheres to defined size constraints. Here's an approach to performing data size checks:

#### a. Test Data Preparation:

Create test data that includes various record sizes, such as records with minimal data, large data volumes, or data exceeding specific size thresholds.

#### b. Integration Workflow Execution:

Execute the integration workflow, focusing on tasks that involve data size considerations, such as data transformations, data aggregation, or data storage. When records are loaded, we check them accordingly.

#### c. Verification:

Verify if the integration workflow correctly handles the data sizes according to the expected behaviour. Ensure that the workflow can accommodate the specified data sizes without causing issues such as data truncation, data loss, or performance degradation.



## DATA VALIDATION CHECKS IN MANUAL TESTING-

Data validation checks involve validating the correctness and integrity of the data being processed within your integration workflows. These checks ensure that the data meets the defined business rules and quality standards. Here's a general approach to conducting data validation checks:

#### a. Test Data Preparation:

Create test data that covers various transformation rules.

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1 Vinita         Malone         vmalone0@yolasite.com         Female         5/27/2023         582-262-0721         3/dj3920         100 GB         Ms.         III         Hukou         4/7/j1990         Divore         981340911         VMain         941532219           2 Kile         hvkenko kirchenko1@e-recht24.dk Male         10/3/2022         164-582-335         ft0D4YU2D         100 GB         Mr.         Sr         Amielrink_####### Unmarrice         9951240911         VMain         94153229         59         6386336           4 Odette         Sogin         oscing1@microsoft.com         Female         8/13/2022         200-710-7501         R73M3141         100 M8         Dr.         Ir         BÄ/DkÄC;####################################	No	first name	last nam	eemail	gender	date	phone number	er Unique I	E Data Size	Prefix	Suffix	Birtholace	Date of	P Marital	St Employee	ID Account N C	ontact Value
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2 Note       NoteHol Sected Holzeval Made       20/3/2022 109-302-233       All PLOUS       All Mellinin ####### Unmarrise 7012/23 / 1777-036         3 Dinyam       Singh       dindemina ####### Unmarrise 738916700 Scg       876554890         4 Odette       Scogin 3@microsoft.com       Female       21/6/2023 807-770-7501       N7.M341100 MB       Dr.       Jr       BADkåCos######## Unmarrise 738916700 Scg       876554890         5 Non       Jeandeau/edinkosoft.com       Female       21/6/2023 807-7700-7501       N7.M3411100 MB       Dr.       Jr       BADkåCos######## Unmarrise 738916700 Scg       876554890         6 Ama       Badau aboadu@microsoft.com       Female       21/6/2023 807-770-7501       N7.M341100 MB       Dr.       Jr       BADkåCos######## Unmarrise 735522000 Abodu 21/251004         7 Katherine       Femrite&@Idida.gov       Female       21/1/2023 370-159-0507       StRUkvig I 0K8       Mrs.       V       Ash Shary,########## Unmarrise 735512455 Uk1000 Femritek       19/101021         1 Non       first_namklast_name.email       gender       date       phone_number Unique_ID Data Size       Prefix       Suffix       Birthplace Date_of_E Marital_StEmployee ID Account NContact Valu         1 1 Vinia       Malone@Vjolasite.com       Female       5/277/2023 582-26-0721       3/0/3920 1000 68       Mr.       Si       Amierinh.#######		2 Vilo	hishanka	kinchanka1@a racht21 d	k Mala	10/2/2	023 302-202-0721	+0042117	100 GB	Mr.	Cr.	Aminirinh		# Llomaria	07651324	E Nichle	0415012712
3 UNYam Singh       Operating Singh       91432/283 Singht       6380336         4 Odette       Sogin       Sogini Singhtoriostic.com       Female       8/13/2022 802-910-0513       wddPr46710 GB       Mrs.       III       Najin       ####################################		2 Nie	IVCHERIKO	kivchenko1@e-recht24.0	RIVIDIE	10/5/2	022 104-308-2333	1004102	p 100 GB	INIL.	21	Ameirinn	*******	# Unmarrie	01450070	O IVUIK	9415015/12
4       Oderte Scogin Goscogin3@microsoft.com Female       8/13/2022 802-910-0513       wid4P46410 068       Mrs.       III       Nain       ####################################		3 Divyam	Singh	dsingh@gmail.com		1/4/2	023 571-773-0736	4j6ySBk0	10 KB						91453278	9 Sgh	6386333673
S Von         Jeandeau vjeandeau 4/efda.gov         Male         8/23/2022 307-700-7501         R73M3t4/ 100 MB         Dr.         Jr         B&DiV&DS statement         Statement <th< td=""><td></td><td>4 Odette</td><td>Scogin</td><td>oscogin3@microsoft.com</td><td>n Female</td><td>8/13/2</td><td>022 802-910-0513</td><td>wAdPr40</td><td>GF 10 GB</td><td>Mrs.</td><td>111</td><td>Najin</td><td>******</td><td># Unmarrie</td><td>x 93891670</td><td>0 Scg</td><td>8765489012</td></th<>		4 Odette	Scogin	oscogin3@microsoft.com	n Female	8/13/2	022 802-910-0513	wAdPr40	GF 10 GB	Mrs.	111	Najin	******	# Unmarrie	x 93891670	0 Scg	8765489012
6 Ama       Boadu       aboadu@microsoft.com       Female       2/6/2023 807-470-0378       3osD727u       1 KB       Mrs.       Sr       Yangcheng ######## Single       938720000 Abodu       21261044         7 Katherine       Femritek@ftda.gov       Female       2/1/2023 370-169-0507       XKBUV81g 10 KB       Mrs.       IV       As Shary, ######## Married       978901000 Femritek       19018012         A       B       C       U       E       F       G       H       J       K       L       M       U       F       U         1       Vinita       Malone       vmalone@plyalasite.com       Female       5/27/2023 582-262-0721       3fdj3920 100 GB       Ms.       III       Hukou       4/7/1900 Divorced       981340911 VMala       941592157         1       2 Klle       Nchenko kixchenko1@e-recht24.dk Male       10/3/2022 164-568-2335       1004/04/20 100 GB       Mrs.       S       Amierinkin ########       Umarried       94535789 Sph       6838336770 VMala       941591377         3       Diyam       Singh       disght@ftgmicrosoft.com       Female       8/13/2022 802-910-0513       wAdPr40F10 GB       Mrs.       III       Najin       married       954357899 Jdeau       941590197         3       S Von <td< td=""><td></td><td>5 Von</td><td>Jeandeau</td><td>vjeandeau4@fda.gov</td><td>Male</td><td>8/23/2</td><td>022 307-700-7501</td><td>R73M3t4</td><td>4J 100 MB</td><td>Dr.</td><td>Jr</td><td>Bĩké</td><td>s #######</td><td># Married</td><td>95436789</td><td>19 Jdeau</td><td>9415901903</td></td<>		5 Von	Jeandeau	vjeandeau4@fda.gov	Male	8/23/2	022 307-700-7501	R73M3t4	4J 100 MB	Dr.	Jr	Bĩké	s #######	# Married	95436789	19 Jdeau	9415901903
7 Katherine Femrite femritek@fda.gov       Female       2/1/2023 370-169-0507       2XBLVB1g       To K       L       M       U       P 4         No       first_name[ast_name]ast_n		6 Ama	Boadu	aboadu@microsoft.com	Female	2/6/2	023 807-470-0378	30sD7z7	u 1 KB	Mrs.	Sr	Yangchen	£ #######	# Single	93872000	0 Abodu	2126100417
A       B       C       D       E       F       G       H       J       K       L       M       N       U       P       Q         No       first_name[ast_name]       gender       date       phone_number       Unique_IC Data Size       Prefix       Suffix       Birthplace       Data_Size       Data_Size       Prefix       Suffix       Birthplace       Data_Size		7 Katherine	Femrite	femritek@fda.gov	Female	2/1/2	023 370-169-0507	zXBLV81	g 10 KB	Mrs.	IV	Ash Shary		# Married	97890100	0 Femritek	1901801234
No       first_nam:last_name email       gender       date       phone_number       Unique_IC Data Size       Prefix       Suffix       Birthplace       Date_of_E Marital_St Employee ID Account N Contact Value         1       1 Vinita       Malone       vmalone0@yolasite.com       Female       5/27/2023       582-262-0721       3fdj320       100 GB       Ms.       III       Hukou       4/7/1990 Divorced       981340911       VMaln       941592192         1       2 Kile       Ivchenko       kivchenko1@e-recht24.dk Male       10/3/2022       164-568-2335       tDQUVZp 100 GB       Mr.       Sr       Amieirinh; ####### Unmarrie;       975512345       IVchk       94159377         1       3 Divyam       Singh       dsingh@gmail.com       1/4/2023       571-773-0736       4j6y58k0       10 KB       III       Najin       ######## Unmarrie;       938916700       Scg       876548901         2       S Von       Jeandeau       vjeandeau@fdta.gov       Male       8/23/2022       307-700-7501       R73M3t41 100 MB       Dr.       Jr       BåCkåCkä #######       954367899       Jdeau       941590194         3       7 Katherine Femrite       female       2/6/2023       807-470-0378       3050727u 1 KB       Mrs.       Nr       P       Q	A	В	L	U	t	ŀ	G	н		J	K	L	М	N	0	٢	ų
1       Vinita       Malone       vmalone@@yolasite.com       Female       5/27/2023 582-262-0721       3fdj3920       100 GB       Ms.       III       Hukou       4/7/1990       Divorced       981340911       VMaln       941592192         1       2       Kile       hvchenko       kivchenko1@e-recht24.dc       Male       10/3/2022       164-568-2335       tQD4YUZp 100 GB       Mr.       Sr       Amierinin.#######       Unmarriec       976512345       IVchk       941532789       Sgh       638633367         i       4       Odette       Scogin       oscogin3@microsoft.com       Female       8/13/2022       802-910-0513       wAdPr46F10 GB       Mrs.       III       Najin       ########       Unmarried       954367899       Jdeau       941590190         i       6       Ama       Boadu       aboadu@microsoft.com       Female       2/6/2023       807-470-0378       3o50727u       1 KB       Mrs.       Sr       Yangcheng #######       Married       978901000       Femritek       190180122         i       6       Ama       Boadu       aboadu@microsoft.com       Female       2/1/2023       370-169-0507       XBUN81g       10 KB       Mrs.       N       N       O       P       O       <	No	first_nam	elast_nam	e email	gender	date	phone_numb	er Unique_	IC Data Size	e Prefix	Suffix	Birthplace	e Date_of_	E Marital_S	Et Employee	ID Account N C	ontact Value
1       2       Kile       Ivchenko kivchenko (ge-recht24.d/ Male       10/3/2022       164-568-2335       t0(D4YUZp 100 GB       Mr.       Sr       Amieirinh: ########       Ummarrier       975512345       Ivchk       941532789       5gh       638633361         3       Divyam       Singh       dsingh@gmail.com       1/4/2023       571-773-0736       4j6yS8k0       10 KB       914532789       5gh       638633361         4       Odette       Scogin       oscogin3@microsoft.com       Female       8/13/2022       802-910-0513       wAdPr4GF 10 GB       Mrs.       III       Najin       ########       Ummarried       954367899       Jdeau       941590190         5       Von       Jeandeau       vjeandeau/@ida.gov       Male       8/23/2022       307-700-7501       R73M3t4J       100 MB       Jr       Bå@kå@s #######       Married       954367899       Jdeau       941590190         6       Ama       Boadu       aboadu@microsoft.com       Female       2/1/2023       300-7270       1KB       Mrs.       V       Ash Shary.#########       Married       97891000       Femritek       97891000       Femritek@fda.gov       Female       2/1/2023       S00-707       XBUXB1g 10 KB       Mrs.       V       Ash Shary.#########<	1	1 Vinita	Malone	vmalone0@yolasite.com	Female	5/27/2	023 582-262-0721	3fdj3920	100 GB	Ms.	111	Hukou	4/7/199	0 Divorced	98134091	1 VMain	9415921923
3 Divyam       Singh       dsingh@gmail.com       1/4/2023       571-773-0736       4j6yS8K0       10 KB       914532789       Sgh       638633367         4 Odette       Scogin       oscogin3@microsoft.com       Female       8/13/2022       802-910-0513       wAdPr4GF 10 GB       Mrs.       III       Najin       #########       Unmarried       938916700       Scg       876548901         5 Von       Jeandeau       vjeandeau4@fida.gov       Male       8/23/2022       307-700-7501       R73M3t4J       100 MB       Dr.       Jr       BÅ@kå@s       #########       Married       954367899       Jdeau       941590190         7 Katherine       Femritek@fida.gov       Female       2/6/2023       807-470-0378       3o507271       1 KB       Mrs.       Sr       Yangcheng       ########       Divorced       938720000       Abodu       21210041         8 Asmita       Satapathy       astapath@livejournal.co       Female       10/11/2022       159-304-2380       3cnO9w1F1 GB       Mrs.       V       Ash Shary       ########       Divorced       967128900       Satasmita       807891450         10       Mo       fir       fir       Malone       vmail       Birthplace       Date_of_Bir Marital_St Employee IC Account N Contact	1	2 Kile	lvchenko	kivchenko1@e-recht24.d	de Male	10/3/2	022 164-568-2335	tQD4YUZ	2p 100 GB	Mr.	Sr	Amieirinh		# Unmarrie	97651234	15 IVchk	9415013712
4       Odette       Scogin       oscogin3@microsoft.com       Female       8/13/2022       802-910-0513       widdPr4GF 10 GB       Mrs.       III       Najin       ######## Unmarriec       938916700       Scg       876548301         5       Von       Jeandeau       ujeandeau4@ida.gov       Male       8/23/2022       307-700-7501       R73M3t4J 100 MB       Dr.       Jr       Bũkũs       #########       Married       954367899       Jdeau       941590190         7       6 Ama       Boadu       aboadu@microsoft.com       Female       2/6/2023       807-470-0378       30sD727u       1 KB       Mrs.       Sr       Yangcheng #########       Married       954367899       Jdeau       941590190         8       Asmita       Satapath@livejournal.co       Female       2/1/2023       370-169-0507       2KBUN81g       10 KB       Mrs.       V       Ash Shary       #########       Divorced       967128900       Satasmita       807891450         210         fk        Mrs.       K       Imarried       976901000       Femritek       967128900       Satasmita       807891450         210         fk        Mrs.       K       Imarried	1	3 Divvam	Singh	dsingh@gmail.com		1/4/2	023 571-773-0736	4i6vSBk0	) 10 KB						91453278	9 Sgh	6386333673
5       Von       Jeandeau vjeandeau4@fda.gov       Male       8/23/2022 307-700-7501       R73M3t4J 100 MB       Dr.       Jr.       B&@k&@s       954367899 Jdeau       941590190         6       Ama       Boadu       aboadu@microsoft.com       Female       2/6/2023 807-470-0378       3os077u 1 kB       Mrs.       Sr.       Yangcheng ######## Single       938720000 Abodu       21261044         3       7 Katherine       Femrite       femritek@fda.gov       Female       2/1/2023 370-169-0507       2X8U81g 10 KB       Mrs.       V       Ash Shary, ######## Divorced       967128900 Satasmita       807891450         210       X       X       fr       A       B       C       D       E       F       G       H       J       K       L       M       N       O       P       Q         210       X       X       fr       Marial       Steppolyabilite.com       Female       10/11/2022 159-304-2380       3cn09w1F1 GB       Mrs.       Sr       Puerto Na ######## Divorced       967128900 Satasmita       807891450         210       X       X       M       O       P       Q       Q       P       Q       P       Q       P       Q       P       Q       P	;	4 Odette	Scogin	oscogin3@microsoft.con	n Female	8/13/2	022 802-910-0513	wAdPr40	GF 10 GB	Mrs.	Ш	Naiin		# Unmarrie	93891670	0 Scg	8765489012
6 Ama       Boadu       Boadu <th< td=""><td>;</td><td>5 Von</td><td>Jeandeau</td><td>vieandeau4@fda.gov</td><td>Male</td><td>8/23/2</td><td>022 307-700-7501</td><td>R73M3t4</td><td>U 100 MB</td><td>Dr.</td><td>Ir</td><td>BÃOKÃO</td><td>s ########</td><td># Married</td><td>95436789</td><td>9 Jdeau</td><td>9415901903</td></th<>	;	5 Von	Jeandeau	vieandeau4@fda.gov	Male	8/23/2	022 307-700-7501	R73M3t4	U 100 MB	Dr.	Ir	BÃOKÃO	s ########	# Married	95436789	9 Jdeau	9415901903
A       B       C       D       E       F       G       H       J       K       L       M       No       P       Q         210       ×       ✓ fx       Image: fx	1	6 Ama	Boadu	ahoadu@microsoft.com	Female	2/6/2	023 807-470-0378	30sD777	u 1 KB	Mrs	Sr	Vangchen		# Single	93872000	0 Ahodu	2126100417
P       Private finite       Perinde       Private finite       Perinde       Private finite       Perinde       Private finite       Private finite       Private finite       Private finite       Private	2	7 Kathorine	Fomrito	femritek@fda.gov	Fomalo	2/1/2	023 370,169,0507	7XBI\/81	a 10 KR	Mrs	IV	Ach Shan	-	manipal married	97890100	0 Fomritek	190180123/
210       X       fx         A       B       C       D       E       F       G       H       I       J       K       L       M       N       O       P       Q         1       No       first_name(last_name email       gender       date       phone_number       Unique_IC Data Size       Prefix       Suffix       Birthplace Date_of_Bir Marital_St Employee IC Account N Contact V         2       1       Vinita       Malone       vmalone0@yolasite.com       Female       5/27/2023 S82-262-0721       3fdj3920       100 GB       Ms.       Hukou       4/7/1990 Divorced       981340911 VMaln       941502         3       2       Kile       ivchenko       Kivchenko       fisingh@gmail.com       1/4/2023 571-773-0736       4j6y58k0 10 KB       914532789 Sgh       58458         4       Odette       Scogin 3@microsoft.com       Female       8/13/2022 802-910-0513       w/dPr46F10 GB       Mrs.       III       Najin       4/17/1992 Unmarrier       938916700 Scg       876548         6       3       Divyam       Singh_dsingh@gmail.com       1/4/2023 571-773-0736       4j6/58k0 10 KB       914532789 Sgh       638633         7       6       Ama       abaadu@microsoft.com       Female       <	1	8 Asmita	Satapath	v asatapath@livejournal.c	o Female	10/11/2	022 159-304-2380	3cn09w	1F1 GB	Mrs.	Sr	Puerto Na	******	# Divorced	96712890	0 Satasmita	8078914567
A         B         C         D         E         F         G         H         I         J         K         L         M         NO         P         Q           1         No         first, namt (ast_name email         gender         date         phone, number         Unique, IC Data Size         Prefix         Suffix         Birthplace Date, of_Bir Marital, St Employee IC Account N Contact V           2         1         Vinita         Malone         vmalone@@yolasite.com         Female         5/27/2023         582-262-0721         3fdj3920         100 GB         Ms.         III         Hukou         4/7/1990         Divorced         981340911         VMaln         941592           3         Divyam         Singh         dsingh@gmail.com         1/1/2023         571-773-736         4foy68k0         100 KB         914532789         58h         638633           4         Odette         Scogin         oscogin3@microsoft.com         Female         8/13/2022         802-910-0513         wAdPr4GF10 GB         Mrs.         III         Najin         4/17/1992         Unmarrice         938916700         Scg         87548           6         3         Divyam         Singh         dsingh@gmail.com         1/4/2023         571-773-7374																	
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3         2 Kile         Ivchenko         kivchenko I@e-recht24.dt Male         10/3/2022 164-568-2335         tQD4VUZp 100 GB         Mr.         Sr         Amieirinh         12/4/1982         Unmarrie         976512345         IVck         941501           4         3 Dixyam         Singh         dsingh@gmail.com         1/4/2023         571-773-0736         4j6y58k0         10 KB         914532789         586         63633           5         4 Odette         Socijn 3@microsoft.com         Female         8/13/2022 802-910-0513         wAdPr46f 10 GB         Mrs.         III         Najin         4/17/1992         Unmarriec         93816700         Seg         8765483           7         6 Ama         Boadu         aboadu@microsoft.com         Female         2/6/2023         307-70-0378         3osD7z7u         1XB         Mrs.         Sr         Yangcheng         8/26/1981         Single         938720000 Abodu         212610           8         7         Katherine         femilek@dfda.gov         Female         2/6/2023         307-0570         2KBV81g         10 KB         Mrs.         Sr         Yangcheng         8/26/1981         Single         938720000 Abodu         212610           8         7         Katherine         Femile <td< td=""><td>2</td><td>1 Vinita</td><td>Malone</td><td>vmalone0@volasite.cor</td><td>m Female</td><td>5/27/</td><td>2023 582-262-072</td><td>1 3fdi392</td><td>0 100 GE</td><td>Ms.</td><td>III</td><td>Hukou</td><td>4/7/1</td><td>1990 Divord</td><td>ed 98134</td><td>0911 VMaln</td><td>94159219</td></td<>	2	1 Vinita	Malone	vmalone0@volasite.cor	m Female	5/27/	2023 582-262-072	1 3fdi392	0 100 GE	Ms.	III	Hukou	4/7/1	1990 Divord	ed 98134	0911 VMaln	94159219
4         3         Divyam         Singh         dsingh@gmail.com         1/4/2023         571-773-0736         4 j6yS8k0         10 KB         914532789         58683         638633           5         4         Odette         Scogin 3@microsoft.com         Female         8/13/2022         602-910-0531         wadPr46F         10 KB         Min         Najin         4/17/1992         Ummarrise         93816700         Scg         876548         6         3         Divyam         Singh         dsingh@gmail.com         1/4/2023         571-773-0736         4j6yS8k0         10 KB         Min         Min         Min         4/17/1992         Ummarrise         93816700         Scg         638633           6         3         Divyam         Singh         dsingh@gmail.com         1/4/2023         571-773-0736         4j6yS8k0         10 KB         Min         4/17/1992         Ummarrise         93852000         Abodu         21240         638633         Scol72711         KB         Mins         Sr         Yangcheng         8/26/1981         Single         938720000         Abodu         21240         300-1072711         KB         Mins         Sr         Yangcheng         8/26/1981         Single         938720000         Abodu         918901000	3	2 Kile	Ivchenk	o kivchenko1@e-recht24	.di Male	10/3/	2022 164-568-233	5 tQD4YU	Zp 100 GE	Mr.	Sr	Amieirin	hi 12/4/1	1982 Unma	rriec 97651	2345 IVchk	94150137
5         4 Odette         Scogin 3@microsoft.com Female         8/13/2022 802-910-0513         w/ddPr46F10 GB         Mrs.         III         Najin         4/17/1992 Unmarrier         938916700 Scg         876548           7         6 Ama         Boadu         aboadu@microsoft.com         Female         1/4/2023 571-773-0736         4j6y58b0         10 KB         914532789 Sgh         638633           7         6 Ama         Boadu         aboadu@microsoft.com         Female         2/1/2023 807-470-0378         bo30727u         1 KB         Mrs.         Sr         Yangcheng         8/26/1981 Single         938910000 Abodu         121610           8         7 Katherine         Femile         2/1/2023 370-169-0507         XBIV81g         10 KB         Mrs.         IV         Ash Sharyi         2/21/1987 Married         978901000 Femritek         190180           9         8 Asmita         Satapathy asstapath@inejumal.com         Male         7/18/2022         998811655 sodi1565	4	3 Divyam	Singh	dsingh@gmail.com		1/4/	2023 571-773-073	6 4j6y588	k0 10 KB						91453	2789 Sgh	63863336
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## b. Integration Workflow Execution:

Execute the integration workflow, paying attention to the data validation logic or transformations. This may involve tasks like data cleansing, data transformation, or data enrichment. When records are loaded, we check them accordingly.



## Case 1)

The Alternate Identifier Value type is different for the record named Ama Boadu.



## Case 2)

#### Contact value for the record named Katherine Femrite is missing.

<ul> <li>Contact Method (2)</li> </ul>				+
<ul> <li>Contact Method 1</li> </ul>				0
Contact Method Type:* Telephone	Contact Method Usage:* Business	Contact Method Rank:* Primary	Contact Method Value:*	

## Case 3)

#### Employee ID for record named Asmita Satapathy is missing.

First Name:* ASMITA	Middle Name:	Last Name:* SATAPATHY	Full Name: ASMITA SATAPATHY
Suffix Name:	Birth Date:	Gender:	Original Hire Date:
Latest Hire Date:	Termination Date:	Clinical Status:	Occupation Code:
Order Role Type:	Clinical Privilege:	Admitting Privilege:	Medical Staff Category:
SSN:	Employee ID:*	NPI:	Network ID:*
CIS GUID:	MD-Staff Provider ID:	Employment Status:	

## Case 4)

The previous cases all involve defects, but in this case, for record Lionel Messi, nothing is missing, so no defects are to be reported.



First Name:	Middle Name:	Last Name:	Full Name:
Lionel	Andreas	Messi	Lionel Andreas Messi
Prefix:	Suffix:	Title:	Designation:
Mr.		Footballer	Right Winger
Birthplace:	Date Of Birth:	Gender:	Marital Status:
Rosario	06/24/1986	Male	Married
Phone (1)			
Home Primary			
0088116855			
Cell			
Cell Address (1) Home Ø (Primary)			
Cell  Home  Primary Home			
Cell Home Primary Home LM 8107   Tucumán Sur 163   Jos	e Marmol		
Cell Home Primary Home LM 8107   Tucumán Sur 163   Jos 650	e Marmol		
Cell Home Primary Home LM 8107   Tucumán Sur 163   Jos 650 Barcelona   Spain   7651342	e Marmol		
Cell Home C Primary Home LM 8107   Tucumán Sur 163   Jos 650 Barcelona   Spain   7651342	ie Marmol		
Cell Home Primary Home LM 8107   Tucumán Sur 163   Jos 650 Barcelona   Spain   7651342 fimail Address (1)	ie Marmol		
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Cell Home Primary Home LM 8107   Tucumán Sur 163   Jos 650 Barcelona   Spain   7651342 mail Address (1) Main Primary Im10@gmail.com	ie Marmol		

## c. Verification:

Verify if invalid or non-compliant data is handled accordingly, such as generating errors, applying data cleansing rules, or triggering data rejection mechanisms. Report what's incorrect accordingly.

By performing these checks, including duplicate checks, null checks, invalid date checks, data size checks, and data validation checks, during manual testing in IICS, you can ensure that the data processed within your integration workflows adheres to quality standards, integrity rules, and specific data constraints.

## DATA LINEAGE IN MANUAL TESTING-

Data lineage refers to the ability to trace the movement and transformation of data from its origin to its destination. In the context of manual testing in Master Data Management (MDM), data lineage can help in understanding how data flows through different stages of data load and ensure the accuracy and integrity of the data.



Here's how data lineage can be incorporated into manual testing in MDM:

• Test Planning:

During the test planning phase, it's important to identify the data sources and understand how the data is generated, transformed, and stored within the MDM system. This involves documenting the data flow and creating a data lineage map.

• Test Design:

Based on the data lineage map, design test cases to cover the key data elements and their associated transformations. Test scenarios should focus on verifying the accuracy and completeness of the data at each stage. Validation of data hierarchy in MDM.

## • Test Execution:

During test execution, testers should track and document the data lineage as they interact with the MDM system. This includes capturing the input data used for testing, the operations performed on the data, and the resulting output.

## • Data Validation:

After executing tests, it's important to validate the data produced at each stage against the expected results. This involves comparing the actual output with the anticipated output based on the data lineage. Any discrepancies should be logged and reported as defects.

• Reporting and Documentation:

The data lineage information gathered during testing should be documented and shared with relevant stakeholders. This helps in understanding the test coverage, identifying areas of improvement, and ensuring data integrity throughout the MDM system.

By incorporating data lineage into manual testing in MDM, one can establish a clear understanding of how data moves and transforms within the system, making it easier to identify and resolve issues related to data quality, accuracy, hierarchy and completeness.

# **DELTA VALIDATION IN MANUAL TESTING-**

Delta Validation is a type of testing performed to validate updates on data. In the context of manual testing in Master Data Management (MDM), delta testing focuses on verifying the impact of changes on the data after updates.



Here's how delta testing can be carried out in manual testing in MDM:

## • Identify Changes:

The first step in delta testing is to identify the changes made to the data.

#### • Impact Analysis:

Perform an impact analysis to understand how the changes will affect the existing data.

#### • Test Case Design:

Based on the impact analysis, create test cases that cover the affected columns or scenarios. Test cases should focus on validating the functionality and data integrity after the changes have been implemented.

#### • Test Execution:

Execute the delta test cases by performing the necessary actions to trigger the updated functionalities or processes. This may involve creating, modifying, or soft-deleting data records.

#### • Data Validation:

During test execution, verify the data integrity by comparing the expected data outcomes with the actual data outputs. Validate that the data is correctly updated, transformed, and propagated after the changes.

## • Regression Testing:

In addition to the delta testing, it's crucial to perform regression testing to ensure that the existing functionalities and processes are not adversely affected by the changes. Execute the existing test cases for validation too.

Once all of that is done, record and report the defects to the concerned team, and once fixed, do a retest to make sure the defects have been fixed before closing them.

Delta testing in manual testing for MDM allows you to validate the impact of changes made to the data and ensure the reliability and integrity of data after updates. It helps in identifying any potential issues or discrepancies that may arise due to the changes, allowing them to be addressed promptly.



## **ABOUT LUMENDATA:**

LumenData is a leading provider of Enterprise Data Management, Cloud & Analytics solutions provider. We enable enterprises to modernize their legacy data infrastructure and derive greater insights into their business. Founded in 2008, with locations in multiple countries, LumenData is privileged to serve over 100 of the world's leading companies, including KwikTrip, Versant Health, US Food & Drug Administration, US Department of Labor, Cummins Engine, BCG, and others.

LumenData is SOC2 certified and has instituted extensive controls to protect client data including adherence to GDPR and CCPA regulations.

<u>Get in touch</u> to discuss how we can facilitate data-driven transformation for your organization.

## MEET OUR AUTHORS



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