



ALCHEMIZE METHODOLOGY

THE DIFFERENCE IS IN THE PROCESS

Maxis Inc.
maxistechnology.com
1-844-696-2947

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INTRODUCTION

THE DIFFERENCE IS IN THE PROCESS

Planning ahead and designing the steps to accomplish goals is important in all aspects of life to avoid any pitfalls along the way. The same is true for implementing a new software system. The process that begins with planning will increase the efficiency of personnel, improve utilization of resources, and lower costs. Carefully thought-out plans and processes, combined with best practices, will deliver the most value.

The purpose of this paper is to aid the new Alchemize user in utilizing the system to maximize cost and time savings. An important fact to understand is that Alchemize is a robust enterprise solution that is multifaceted and capable of performing many operations. Alchemize orchestrates data transformation in such a way that no coding is required and data is transformed reliably and without risk.



ALCHEMIZE METHODOLOGY

Implementing a software system can be a daunting task. The importance of knowing the process to follow for any software system cannot be understated and will save time and money on any project. Proper implementation will pay dividends and maximize the value of the system. Planning your Alchemize project practicing a methodology the uses proven processes is an important first step.

REVERSE ENGINEERING

A key part of the Alchemize methodology, reverse engineering gives the Alchemize user a powerful toolset.

The reverse engineering process yields the following system-level products:

- Physical and Logical Structure
- Relationships
- Data Statistics
- Synonyms

Reverse engineering maps systems when you aren't sure of how things are structured. The first system in the project looks like this diagram.



Later, when both the source and the landing systems are reverse engineered, you can see that the two have the same type of data structured in a totally different way.



This is where the reverse engineering capabilities of Alchemize shine. At this point, the mapping capabilities and thesaurus make life much easier allowing a user to make good choices with lots of information.

All playbooks below benefit from the reverse engineering capabilities in Alchemize.

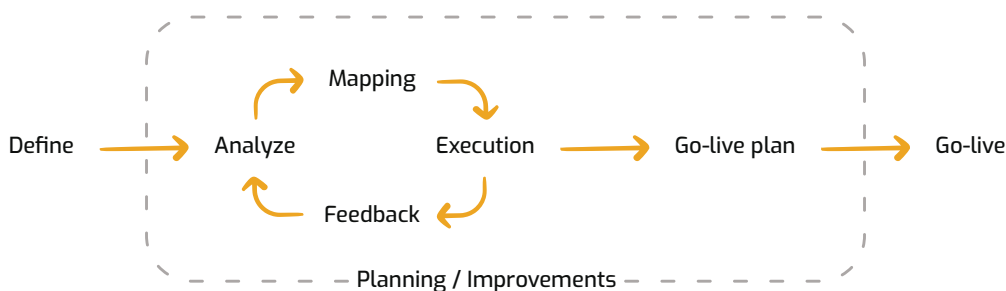
ALCHEMIZE PLAYBOOKS MANAGE PROCESSES

Playbooks are fully developed sets of instructions with tactical approaches to efficiently orchestrate work and improve performance and productivity. Alchemize utilizes a set of playbooks containing incredible detail, defining and automating processes that accelerate workflow while adding process consistency to reduce toil, save time, and produce reliable outcomes. In most cases, the tried and true plays are specifically designed for distinct operations to manage variations of data transformation with no coding. Utilizing the Alchemize playbooks will increase the productivity and efficiency of the project team and the organization will rapidly realize the ROI.

ALCHEMIZE PLAYBOOKS

Replatforming - convert one database type to another

- The replatforming wizard specifically focuses on the problem to quickly convert a system from one data format to another
- The audit capabilities are unique reliable results



Synchronize - align systems with current and concurring data

- Synchronize disparate systems with current data, i.e., synchronize a payroll system with an ERP
- Synchronize and schedule specific records to populate a data warehouse

Interface - permits exchange between two or more systems

- Integrate records between two systems, i.e., purchase orders
- Stream data from disparate systems

Merge Systems – transform and load data from multiple systems into one

- Assign new key data while merging data from multiple systems, i.e., assign new PO numbers when merging systems from acquired companies
- Reassign primary and foreign keys when merging data based on the analysis of the Alchemize ERD
- Quickly merge multiple businesses

Extract Data - extract data from a system

- Preserves all critical data elements
- Extract and load active data i.e., legacy system retirement

Structured Data Archiving – archiving based on business-defined rules into an active repository

- Archive data based on complex rules i.e, moving data into the repository older than 3 years with a status of "complete"
- Configure specific requirements for purging data, i.e., data older than 7 years

ALCHEMIZE: A "BEST PRACTICE" METHODOLOGY

ASSESSMENT

As with any system implementation, it is important to assess all the parts involved to sort out objectives and determine priorities. This will prevent exceeding the budget and missing deadlines, while minimizing downtime and reducing frustration. The larger the endeavor, the more important this assessment becomes. Following is an example project demonstrating what is important and why.

The goal of this example project is to land data from multiple systems into one database. There are many ETL-type activities and Alchemize offers flexibility to utilize those well-adopted patterns, making the best of them.

METHODOLOGY

1. Staging

This preparation process facilitates evaluating all the data prior to transformation to permit changes that may be necessary or desired. Alchemize automates the creation of staged tables, enabling the review and cleanup of data prior to the transformation. A business stakeholder or subject matter expert, who is very familiar with the data and its' use, analyzes specific data (staged tables) to determine the need for changes or corrections. Any cleanup can be made prior to the data transformation saving project time. "Preparation is half the battle."

2. Define the data repositories and provision the server(s)

- a. Provide for proper connectivity
- b. Plan and designate the go-live repository
- c. Build the Staging infrastructure for review of data

3. Analysis

- a. Import data structures into Alchemize
- b. Alchemize processes the data and illuminates the table structure annotating table counts
 - Empty tables are also revealed
- c. Alchemize builds a dynamic ERD (i.e., hierarchies), that includes executable code for the operation

4. Plan

At this point, we have determined:

- a. the source of the data
- b. the target for the processed data
- c. the volume of tables and relationships.

We know which tables have the larger volume of data and can formulate a plan that includes where to focus mapping efforts.

- a. Schedule meetings with line of business (LOB) stakeholders using the Alchemize ERD's to drive discussion concerning the data
- b. Obtain agreement regarding the priority and business use of the data. The person running the meeting does not need to be an Alchemize expert
- c. Schedule subsequent meetings with LOB stakeholders to discuss mapping data from System A (legacy or source system) to System B (the target system)

5. Consultants Package

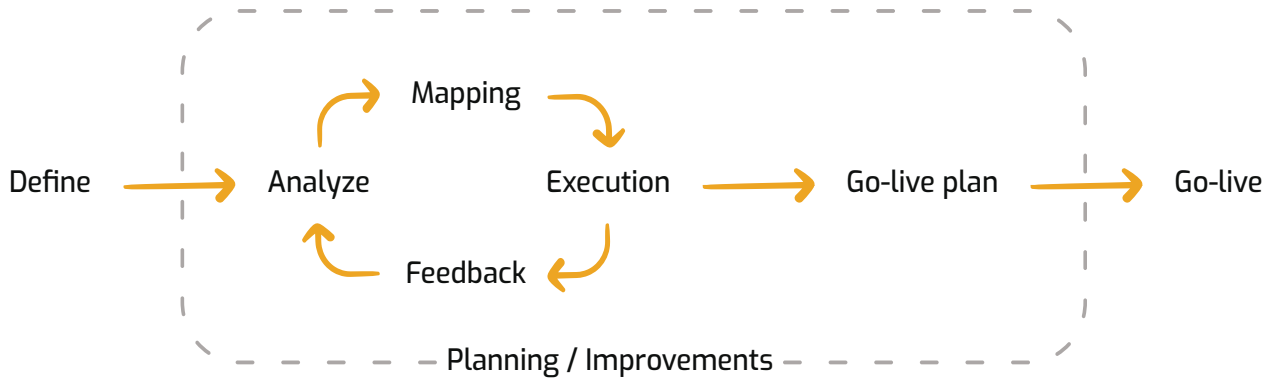
- a. Generate the Consultants Package for each ERD or hierarchy. The Consultants Package consists of a detailed spreadsheet describing the data in detail. This is a powerful tool when working with dissimilar systems. Using the automatically generated spreadsheet, the mapping of data is easily planned. The Consultants Package enables the LOB stakeholder to quickly determine the mapping pattern
- b. Having determined the mapping pattern, send the completed Consultants Package to the Alchemize expert, who can create the configuration in Alchemize

6. Execution

- a. The import of the Consultants Packet is an iterative process. The import will manifest items not understood while aiding in creating an accurate load. Previously this was a very painful, time-consuming process but with Alchemize, the load can be run multiple times until correct. Alchemize makes it easy. An iterative process eases the burden of loading complex forms of data that frequently need correcting
- b. When uploading the Consultants Package, the rulesets for the data operation defined by a consultant and/or Alchemize expert are built into Alchemize. The rules govern relationships between objects and types of operations permitted in and across repositories. Note: There could be a number of rules applied to a repository. Rulesets are the collection of all those rules
- c. Perform User Acceptance Testing (UAT). Engage the LOB stakeholders to test the operation performed by Alchemize. When corrections or changes are required, Alchemize easily mitigates them, as it provides for iterative testing and feedback. The Consultants Package is a format that can easily pass from one subject matter expert to another facilitating the remedy of disagreements or unexpected changes. The interactive resolution process allows the project team to easily interact with the data to pinpoint any problems with a load
- d. Recommendation: We do not advise moving forward until there is a minimum of one perfect run with zero changes required. At times, we recommend more than one perfect run, if changes were made not using Alchemize processes. Warning: When business users don't listen, adjustments on the fly and fixes are extremely difficult to recover from, but Alchemize can quickly recover

7. Go-live Plan

Alchemize supports an iterative process always contributing to the Go-live plan. The dashboard provides information the Alchemize user and data manager can utilize to smartly manage a Go-live plan or data management project.



8. Go-live

The goal of a go-live is accuracy, reliable data, and minimizing downtime. Alchemize enables your team to run a go-live repeatedly to tune it until the operation runs at peak performance. Re-running a job or “undoing” a job is available at your fingertips with the built-in undoing function of Alchemize. We all make mistakes!

9. Audit

Auditing the data transformation is a core component of Alchemize, giving the user numerous ways to ensure the volume of data to move is correct. In the case of replatforming, for example, we have integrated methods to audit the data while working through potential problems with the data. Alchemize includes integrated reports that display progress to ensure the correct, volume of data has been moved. These reports are available at the users request at any time. Alchemize keeps the user well informed of progress during the transformation and doesn't wait until completion to report a problem. Management reports are available upon request and there are a variety of reports to assist in monitoring and managing progress.



MERGE PLAYBOOK USE CASE

Assuming there are 10 systems to merge into one, we will first evaluate how many systems are essentially the same. Alchemize can quickly make the assessment reporting the volume of data in each of the systems. This will aid in knowing how to plan the majority of the time on the project. We will determine which systems are alike and which systems have only flat data structures that need heavy transformation. This critical insight and visibility into the structure of the systems will aid in a successful and reliable data transformation.

Systems 1 - 5 represent home-grown systems with Access databases. They have a high volume of data and the bulk of the data is for service tickets. There are 40 tables in service tickets and it appears the systems aren't used for anything else.

We know from experience that handling this system is not too difficult and we have a general idea of the time required. Having an understanding of the team's skills, we can start planning for the appropriate team members to work on the project.

System 6, 7 and 8 are instances of COTS (commercial off the shelf) products with similarity to each other and a significant volume of data. With this information, we will plan a significant amount of project time.

Systems 9 and 10 are older versions of ERP systems that are identical to the target or destination system. Conversions from similar systems are easily automated with Alchemize. The data structures are often very similar and even if there are changes, we can quickly find that out using the Alchemize analysis.

After performing the analysis, we discover there are 3 different types of systems that will potentially require the knowledge of 3 different data teams. The analysis also provides

insights into the size of the 3 different systems and a good feel for the complexity of each, which supports our planning process.

The real value of Alchemize is apparent at this point. We aren't relying on subject matter experts (SME's) to make a manual assessment of the data and possibly overlook important information. With the insights Alchemize automatically provides, we can focus efforts on data mapping and planning the transformation in a productive meeting. The project sponsors can breathe easier knowing the methodology and processes deployed, using Alchemize, are reliable and that the team's focus is productive.



CONCLUSION

Alchemize removes the obfuscation of planning and managing a project while shedding light on systems with data challenges. The analysis process of the methodology is not just an interesting picture, but by automatically generating the dynamic ERD's, Alchemize effectively initiates the project by building code that understands how to transform the data and minimizes the chances for error found in systems that require manual coding. This is powerful functionality not offered elsewhere.

Following the Alchemize methodology, which includes best practice processes and aligns with business requirements, you can lead your team for success. You can efficiently plan resources, reducing time and cost for your data transformation project. With Alchemize, performance, reliability and ROI are what deliver the value.

The more you know, the better you can plan.