

**KNOW YOUR DATA:  
PREPARING FOR  
A  
CONVERSION or INTEGRATION**

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# LEARNING OBJECTIVES

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Upon completion of this session, you will be able to:

- ❖ Explain the purpose, importance, and elements of a data map
- ❖ Define key terminology used in databases
- ❖ Use mapping processes to clean up (normalize) confusing or redundant data
- ❖ Prepare a basic mapping document

# WHAT IS DATA MAPPING?

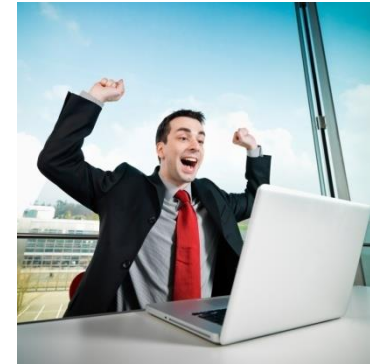
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The process used to translate information (data elements) from one location and/or application (the **source**) to another (the **target**).

Old System = SOURCE



New System = TARGET



# WHEN IS DATA MAPPING NEEDED?

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- ❖ Changing from one system (**source** system) to another (**target**) system
- ❖ Combining data from 2 (or more) systems into one
- ❖ Connecting 2 (or more) systems together so that data can flow from one to another

# WHY YOU NEED TO BE INVOLVED

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- ❖ You will not have input if you can't speak to other participants in the project
- ❖ It is your data – if you don't understand it how will I.T. or others?
- ❖ It will be done without you
- ❖ If it doesn't work right, **you** will feel the pain

# WE WILL DISCUSS...

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- ❖ Who does what
- ❖ How to start
- ❖ Data mapping basics
- ❖ Typical steps
- ❖ Identifying data mapping issues

# WHO DOES WHAT?

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- ❖ Project Manager (PM)
- ❖ Database Administrator (DBA)
- ❖ Developer/Conversion Specialist
- ❖ Records Manager
- ❖ Data Owners/Stakeholders
- ❖ Consultant(s)

# HOW TO START?

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- ❖ **Source** database
  - ❖ Identify tables and fields to be mapped
    - ❖ Possibly not all data will be converted
- ❖ Capture **source** screen prints
  - ❖ Identify fields to be mapped
  - ❖ Describe what each field represents
- ❖ Discuss format of mapping document with relevant parties
  - ❖ Show **target** tables/fields and where **source** data goes or vice versa?



# DATA MAPPING BASICS

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- ❖ Understand both **source** and **target** data fields use/purpose
- ❖ Know both **source** and **target** data formats
- ❖ Avoid loss of information
  - ❖ **Target** format should support the same features/data as the **source** format
  - ❖ If it doesn't, you **must** use logic to transform the data

# DATABASE BASICS

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- ❖ Databases consist of:
  - ❖ Tables (ex: Employee)
  - ❖ Fields (ex: Start Date)
  - ❖ Field Types (ex: Date/Time)
  - ❖ Field Requirements (ex: can be empty/null)

Format to use:

Table.Field

example: File.Date\_Created

# DATABASE BASICS

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## Sample of a Table's Fields and Characteristics

	Column Name	Data Type	Allow Nulls
	[Description of Content]	nvarchar(255)	<input checked="" type="checkbox"/>
	[Destroy Date]	nvarchar(255)	<input checked="" type="checkbox"/>
	[Dept # ]	nvarchar(255)	<input checked="" type="checkbox"/>
	[Name of Person Enter...]	nvarchar(255)	<input checked="" type="checkbox"/>
	[Date of Data Input]	datetime	<input checked="" type="checkbox"/>
	[Empl Id #]	nvarchar(255)	<input type="checkbox"/>

# FIELD TYPES

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- ❖ Varchar (Variable character)
- ❖ Alphanumeric  
(ex: ABC123)
- ❖ Char (Character)
- ❖ Flag (ex: yes/no, on/off)
- ❖ Int (Integer)
- ❖ Numeric (ex: 9876)
- ❖ Datetime (Date and Time)  
ex: 03/18/2009 9:16:30

# TYPICAL STEPS

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- ❖ Analyze **source** data. Is data:
  - ❖ Entered multiple times?
    - ❖ ex: employee name used in more than one field?
  - ❖ What it is supposed to be?
    - ❖ ex: what do dates look like (mm/dd/yyyy)?
  - ❖ Coming from another application?
    - ❖ ex: employee data – coming from HR system?
  - ❖ Entered in a consistent manner?
    - ❖ ex: office – does it have old and new format?

# TYPICAL STEPS, continued

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- ❖ Identify **target** field characteristics
  - ❖ Required/Not Required
    - ❖ Mandatory or allowed to be null/empty
  - ❖ Default Value
    - ❖ Pre-defined default value (ex: Active)
    - ❖ System-generated (ex: today's date)
    - ❖ Normalized (look-up/pre-defined values)

# TYPICAL STEPS, continued

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How will **target** database assign field values

- ❖ System generated
- ❖ Sequential
- ❖ Numeric versus alphanumeric
- ❖ Pre-defined value
- ❖ Can a field be blank (is it nullable)?
- ❖ Unique identifiers (ex: barcodes)

# SAMPLE TABLE LAYOUT

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Table Name	Field Name	Data Type	Description	Required	Default Value
Employee	Employee_ID	Int	Primary Key. Unique identifier	Y	
Employee	Last_Name	Varchar(35)		Y	
Employee	MI	Varchar(1)			
Employee	First_Name	Varchar(20)		Y	
Employee	Date of Hire	Datetime	Start date	Y	
Employee	Status	Flag	Employee Status	Y	'A' (Active)
Employee	Office	Varchar(2)	Office Code	Y	'NY' (New York)



# EVALUATE MAPPING OPTIONS

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- ❖ Define logic where needed
  - ❖ Dates that are not consistent formats
    - ❖ ex: 10/2009
    - ❖ ex: 10/16/09
    - ❖ ex: October 16
  - ❖ Was/Is list
    - ❖ ex: Jane Smith and Jane E. Smith = Jane Smith
    - ❖ ex: ID's 0123 and 123 = 000123
    - ❖ ex: If NY or New York or NYC = NYC

# SAMPLE “WAS/IS” LIST – LOGIC NEEDED!

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Location Code Source	Office Code Target	Office Description Target (to be created)
12	LA	Los Angeles
ORL	ORL	Orlando
CT	STMD	Stamford, CT

**Issue:** **Target** requires an Office Code **and** Description (which does not exist in **Source** data).

**Solution:** Use **Source** Location Field and transform into **Target** Office Code and create Description.

**Logic:** Use **Source** Location values to create **Target** Office code and then create a description to each code

# SHOULD SOME DATA BE EXCLUDED?

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- ❖ Not relevant to the purpose of the application
- ❖ Data easily available elsewhere
- ❖ **Target** doesn't have a place for the data
- ❖ Data so old means nothing to anyone (GIGO)

# PREPARE THE MAPPING DOCUMENT

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- ❖ What format will you use
  - ❖ **Source** to **Target**?
- ❖ Use standard nomenclature:
  - ❖ Table dot field
    - ❖ Employee.Date\_Started
- ❖ Rules/Logic Comments
  - ❖ Have several people review to ensure they make sense!

# OVERVIEW - STEPS

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- ❖ Screen shots of **source** data
- ❖ Analyze **source** data
- ❖ Identify **target** database tables and fields
- ❖ Prepare “was/is” list(s)
- ❖ Determine data mapping format
- ❖ Prepare mapping document
- ❖ Get official sign-off on mapping

**Thank you for your time.**

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**What questions do you have?**

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