

erwin DM 101 Series

Episode 1

Why erwin DM?

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erwin DM



Quest[®]
Where Next Meets Now.



- Strategies for identifying and mapping current data structures.
- Techniques for efficiently creating a comprehensive Logical/Physical Data Dictionary.
- Utilizing Conceptual, Logical, and Physical models to effectively convey your data narrative.
- Leveraging this information as a foundational reference for enhancing both new and existing data structures.
- Approaches for fostering collaborative development of these systems.

Introducing: erwin Data Modeler

Data Modeling & Management Leader: 30 Years

At the Center of Data
Management



Data intelligence and modeling software to fuel your enterprise and maximize the business impact of your data.

erwin Modeling solutions



erwin Data
Modeler



erwin Evolve

erwin Data Intelligence by Quest

Data Marketplace

Discover Assets



erwin Data Catalog



erwin Data Quality

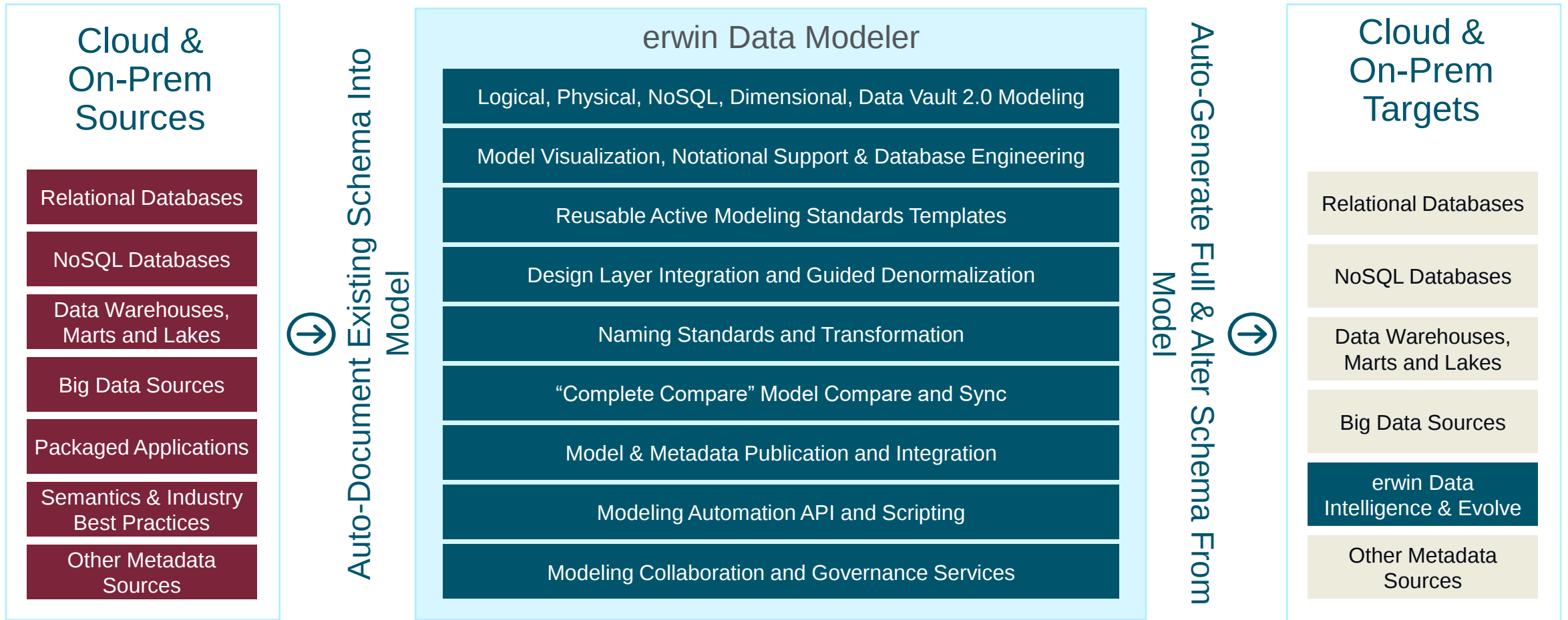


erwin Data Literacy

Data Lineage

Single Tool for Data Modeling & Design

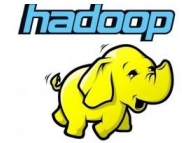
Quest



Broad DBMS Support and 3rd Party Integration

Quest

ORACLE®



TERADATA

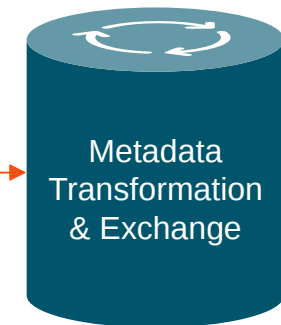


Import
Bridges from
Vendor Tools

Data & Object
Modeling

Data
Integration
(EAI, ETL, EII)

Business
Intelligence
(OLAP, Reporting)



Export
Bridges to
Vendor Tools

Data & Object
Modeling

Data
Integration
(EAI, ETL, EII)

Business
Intelligence
(OLAP, Reporting)

Thirty-Three Natively Supported Databases

Database Name	Type	Version	Notes
AlloyDB	Relational	1.1	
ArangoDB	NoSQL	3.x	
Avro	Big Data	1.x	
Amazon Keyspaces	NoSQL		
Azure Synapse	Big Data		
Cassandra	NoSQL	3.x/4.x	
Couchbase	NoSQL	6.x	
		7.x	
Databricks	Big Data		
Db2 for i	Relational	5.x/6.x/7.x	
Db2 LUW	Relational	9.5	
		9.7/10.x	
		11.1	
Db2 z/OS	Relational	8.1	
		9.1/10/11	
		12	
DynamoDB	NoSQL		
Google BigQuery	Big Data		
Hive	Big Data	2.1.x	Refer to the Limitations in Hive topic.
Informix	Relational	10.x/11.x/12.x	
JSON	Big Data	1.x	
MariaDB	Relational	10.4.x	
MongoDB	NoSQL	4.x	
MySQL	Relational	8.x	MySQL 8.0.23 is certified for Amazon Aurora.
Neo4j	NoSQL	4.2.x	
		4.3.x	

Database Name	Type	Version	Notes
Netezza	Relational	7.2	
ODBC	Relational	2.x	
		3.x	
Oracle	Relational	12c r2	
		18c	
		19c	
		21c	
Parquet	Big Data	2.x	
Progress	Relational	9.x/10.x/11.x	The erwin Data Modeler 64-bit version is not verified for the Progress 9.x/10.x database.
PostgreSQL	Relational	12.x-16.x	PostgreSQL 9.6.21, 9.6.24, 10.16, 10.20, 11.11, and 11.14 are certified. PostgreSQL 11.8 is certified for Amazon Aurora.
Redshift	Relational	1	
SAP ASE	Relational	15.x/16	
SAP IQ	Relational	15.x/16	
SAS	Relational		
SQL Server	Relational	2012	
		2014	
		2016/2017	
		2019/2022	
		Azure	
Snowflake	Relational		
Teradata	Relational	14.1	
		15.x/16.x	

Native Support

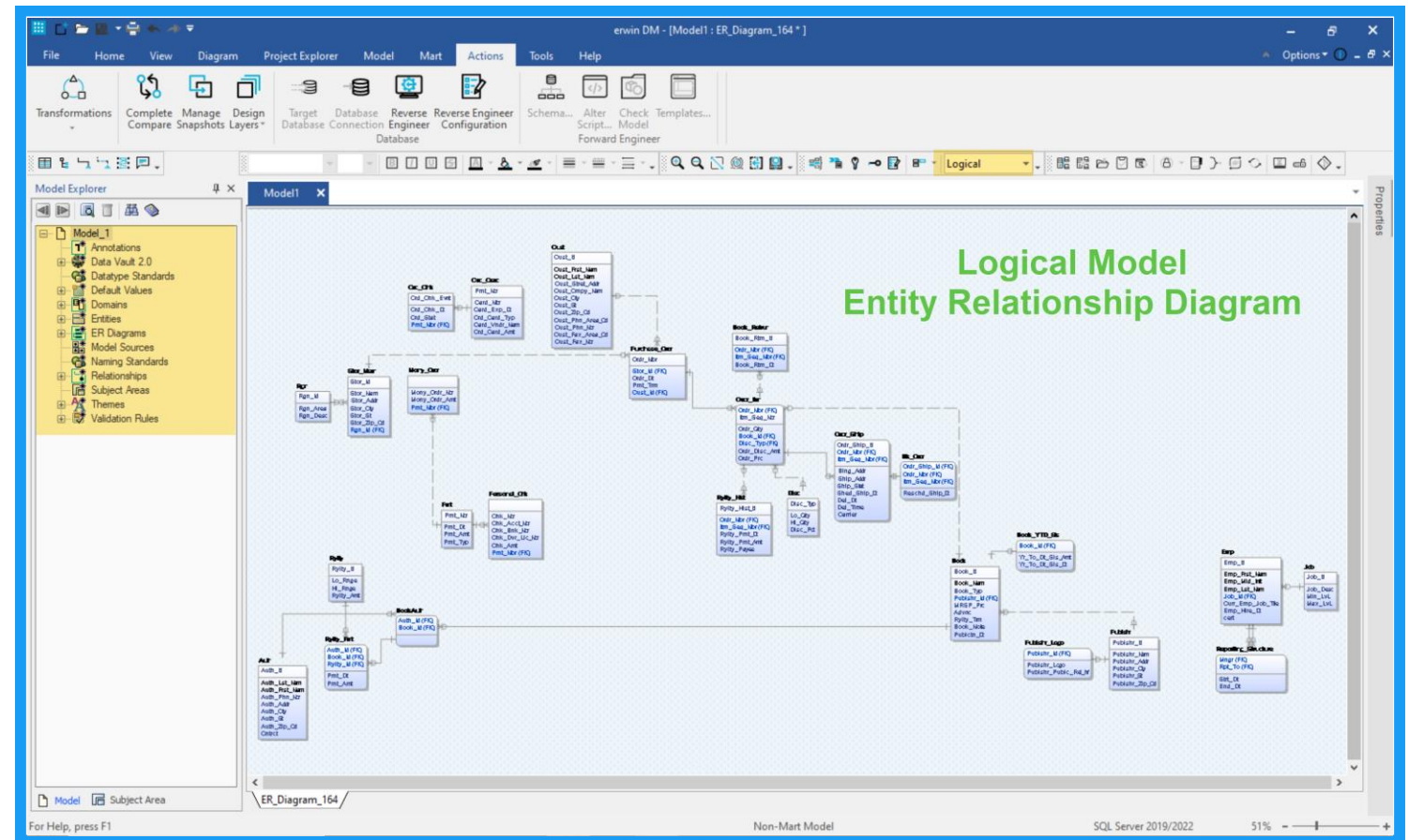
- Reverse Engineer via JDBC/ODBC or Script
- Forward Engineer (Generate Schema DDL)
- Complete Compare (Impact Analysis to create ALTER DDL)
- Move from one data structure to another (for example, convert MS SQL Server 2019 models to Databricks UC)

Data Structures: Insights into Current Models

Identifying & Modeling Current Data Structures

Use erwin DM to Reverse Engineer Databases to create a Logical/Physical (or Physical only) model

- On demand or scheduled
- DB Credentials can be stored, encrypted, and shared
- Discover Schema and Table metadata
- All database object types can be reverse Engineered
- PKs and Relationships can be inferred

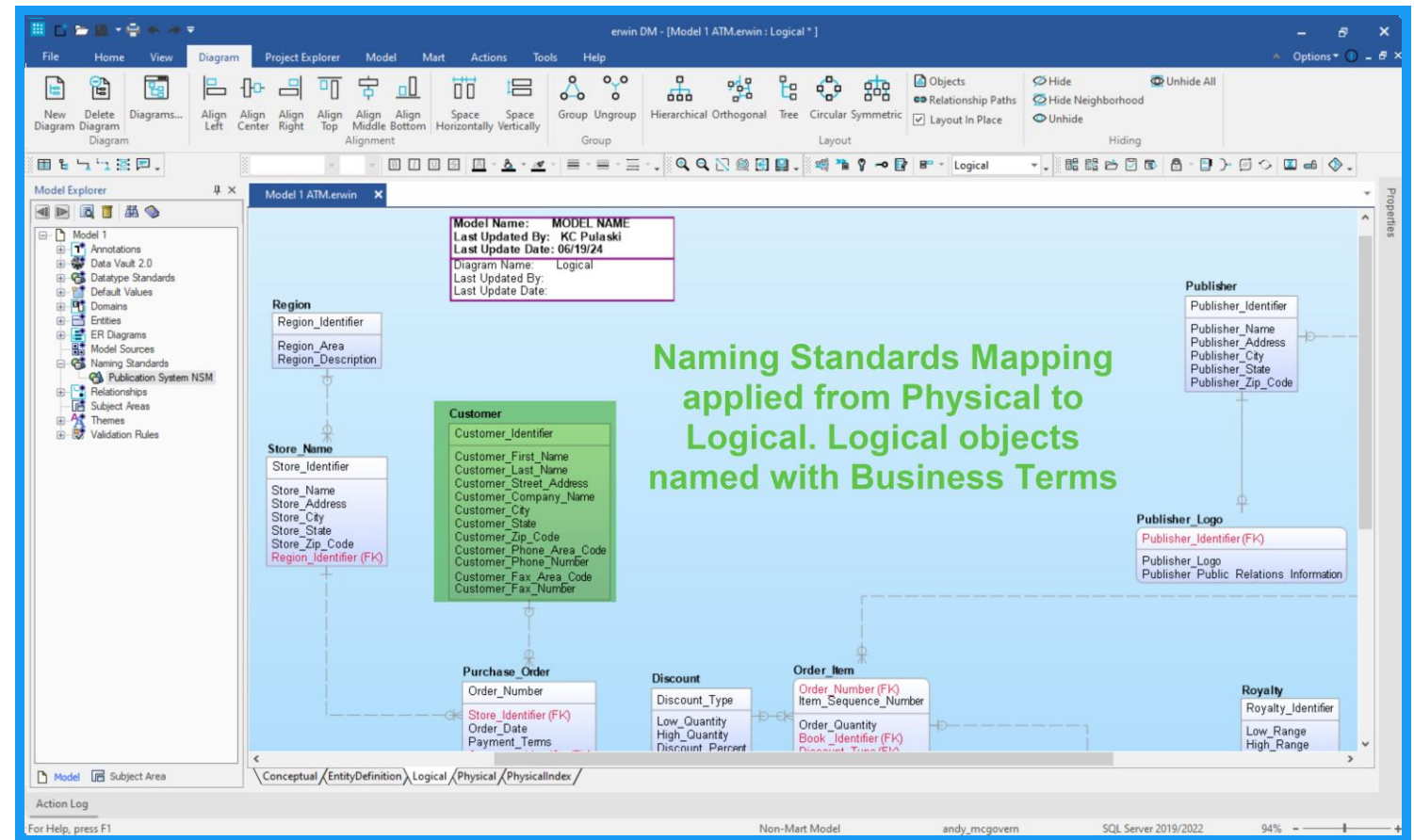


Streamlined Techniques for Model Creation

Developing a Logical/Physical Data Dictionary

Use an Active Model Template (AMT) to:

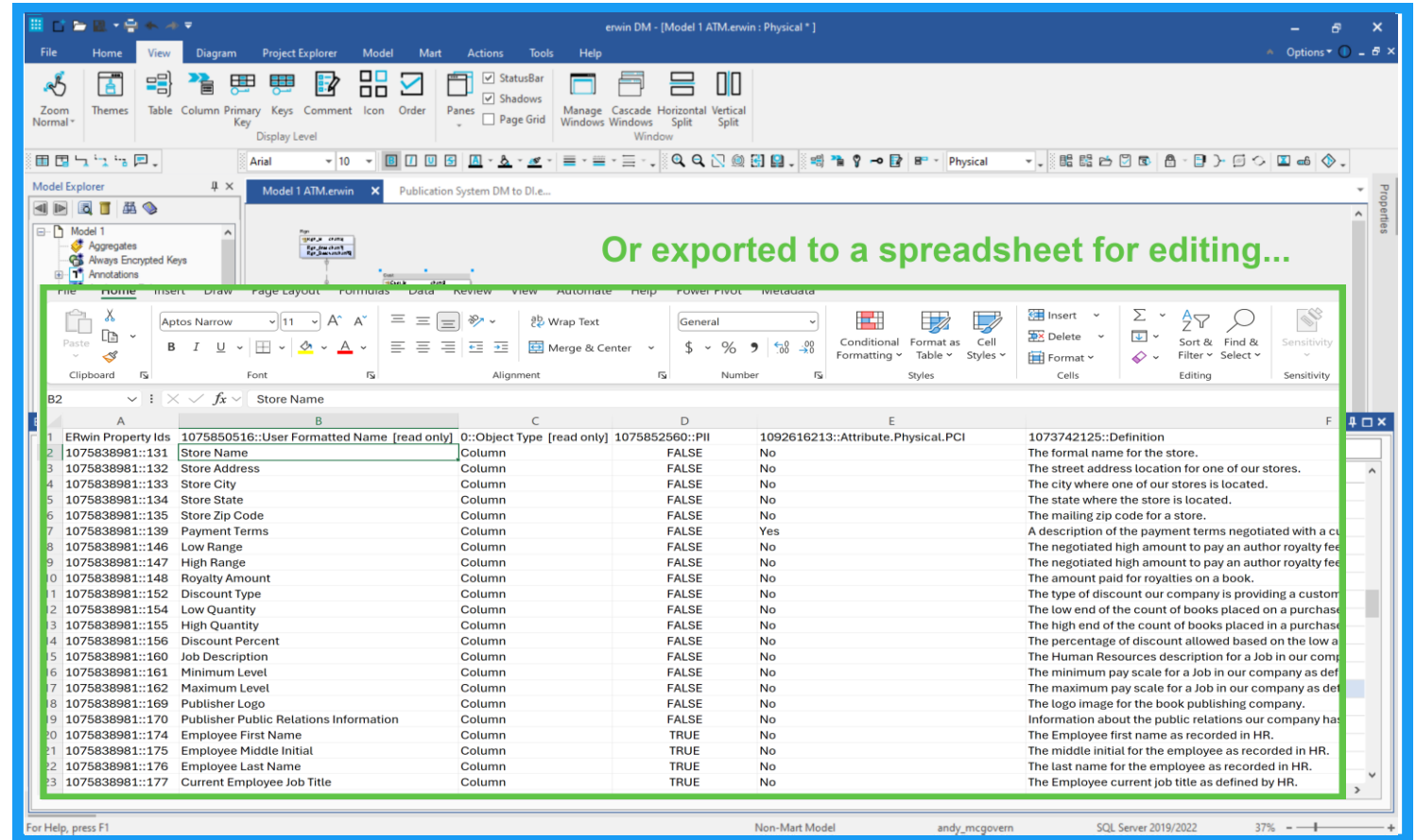
1. Add different types of diagrams to the model
 2. Add User Defined Properties (UDP) to columns
 3. Integrate Naming Standards Mappings
 4. Create Logical Names
- And more...



Creating a Logical/Physical Data Dictionary

- Utilize the Bulk Editor to modify model objects, such as SDI and UDP.
- Export selected metadata to a spreadsheet for easy updates and re-import into the model.
- Document organizational definitions and compliance objects within the model.

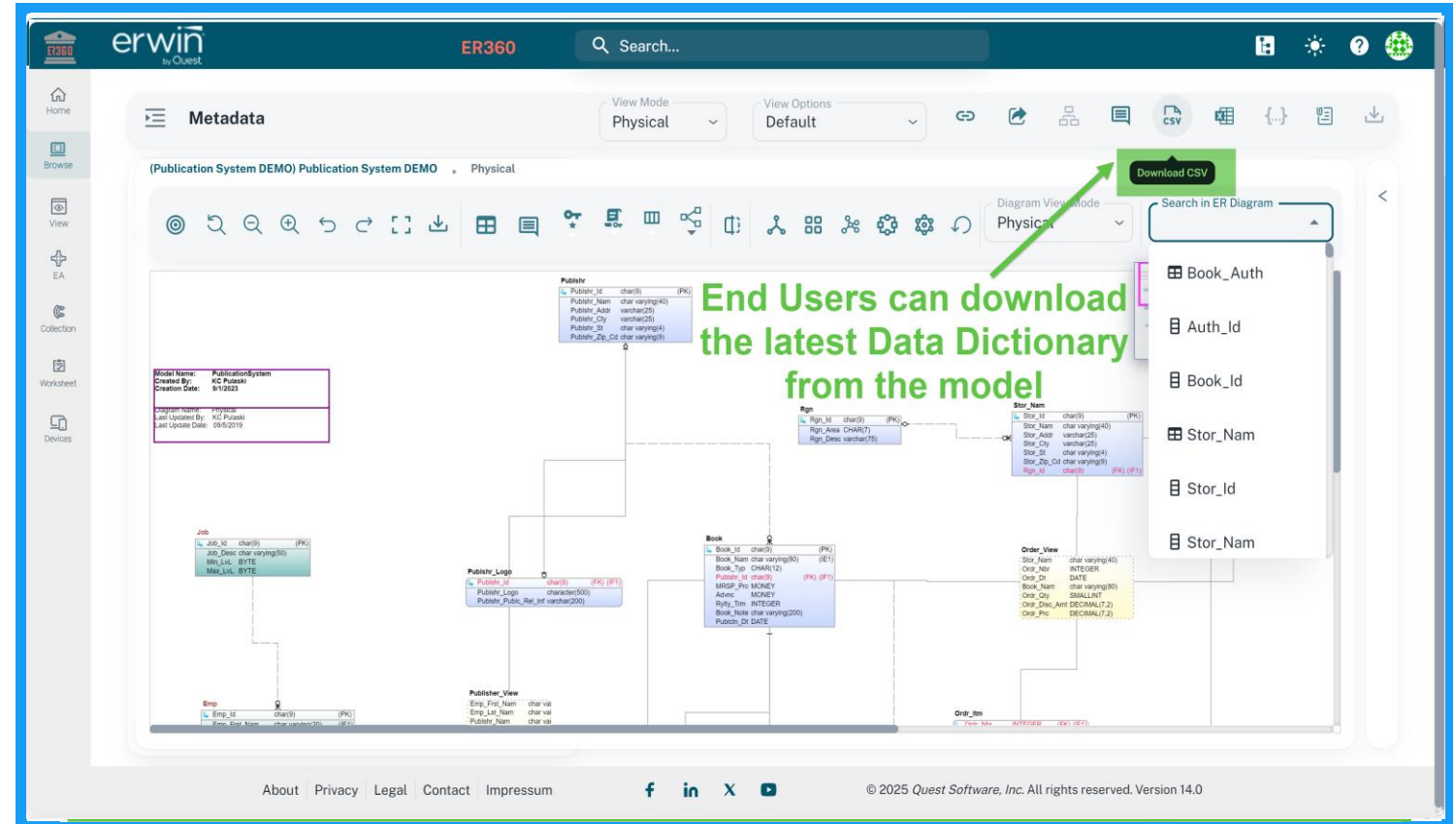
Or exported to a spreadsheet for editing...



	A	B	C	D	E	F
1	ERwin Property Ids	1075850516::User Formatted Name [read only]	0::Object Type [read only]	1075852560::PII	1092616213::Attribute.Physical.PCI	1073742125::Definition
2	1075838981::131	Store Name	Column	FALSE	No	The formal name for the store.
3	1075838981::132	Store Address	Column	FALSE	No	The street address location for one of our stores.
4	1075838981::133	Store City	Column	FALSE	No	The city where one of our stores is located.
5	1075838981::134	Store State	Column	FALSE	No	The state where the store is located.
6	1075838981::135	Store Zip Code	Column	FALSE	No	The mailing zip code for a store.
7	1075838981::139	Payment Terms	Column	FALSE	Yes	A description of the payment terms negotiated with a cu
8	1075838981::146	Low Range	Column	FALSE	No	The negotiated high amount to pay an author royalty fee
9	1075838981::147	High Range	Column	FALSE	No	The negotiated high amount to pay an author royalty fee
10	1075838981::148	Royalty Amount	Column	FALSE	No	The amount paid for royalties on a book.
11	1075838981::152	Discount Type	Column	FALSE	No	The type of discount our company is providing a custom
12	1075838981::154	Low Quantity	Column	FALSE	No	The low end of the count of books placed on a purchase
13	1075838981::155	High Quantity	Column	FALSE	No	The high end of the count of books placed in a purchase
14	1075838981::156	Discount Percent	Column	FALSE	No	The percentage of discount allowed based on the low a
15	1075838981::160	Job Description	Column	FALSE	No	The Human Resources description for a Job in our comp
16	1075838981::161	Minimum Level	Column	FALSE	No	The minimum pay scale for a Job in our company as def
17	1075838981::162	Maximum Level	Column	FALSE	No	The maximum pay scale for a Job in our company as def
18	1075838981::169	Publisher Logo	Column	FALSE	No	The logo image for the book publishing company.
19	1075838981::170	Publisher Public Relations Information	Column	FALSE	No	Information about the public relations our company has
20	1075838981::174	Employee First Name	Column	TRUE	No	The Employee first name as recorded in HR.
21	1075838981::175	Employee Middle Initial	Column	TRUE	No	The middle initial for the employee as recorded in HR.
22	1075838981::176	Employee Last Name	Column	TRUE	No	The last name for the employee as recorded in HR.
23	1075838981::177	Current Employee Job Title	Column	TRUE	No	The Employee current job title as defined by HR.

Creating a Logical/Physical Data Dictionary

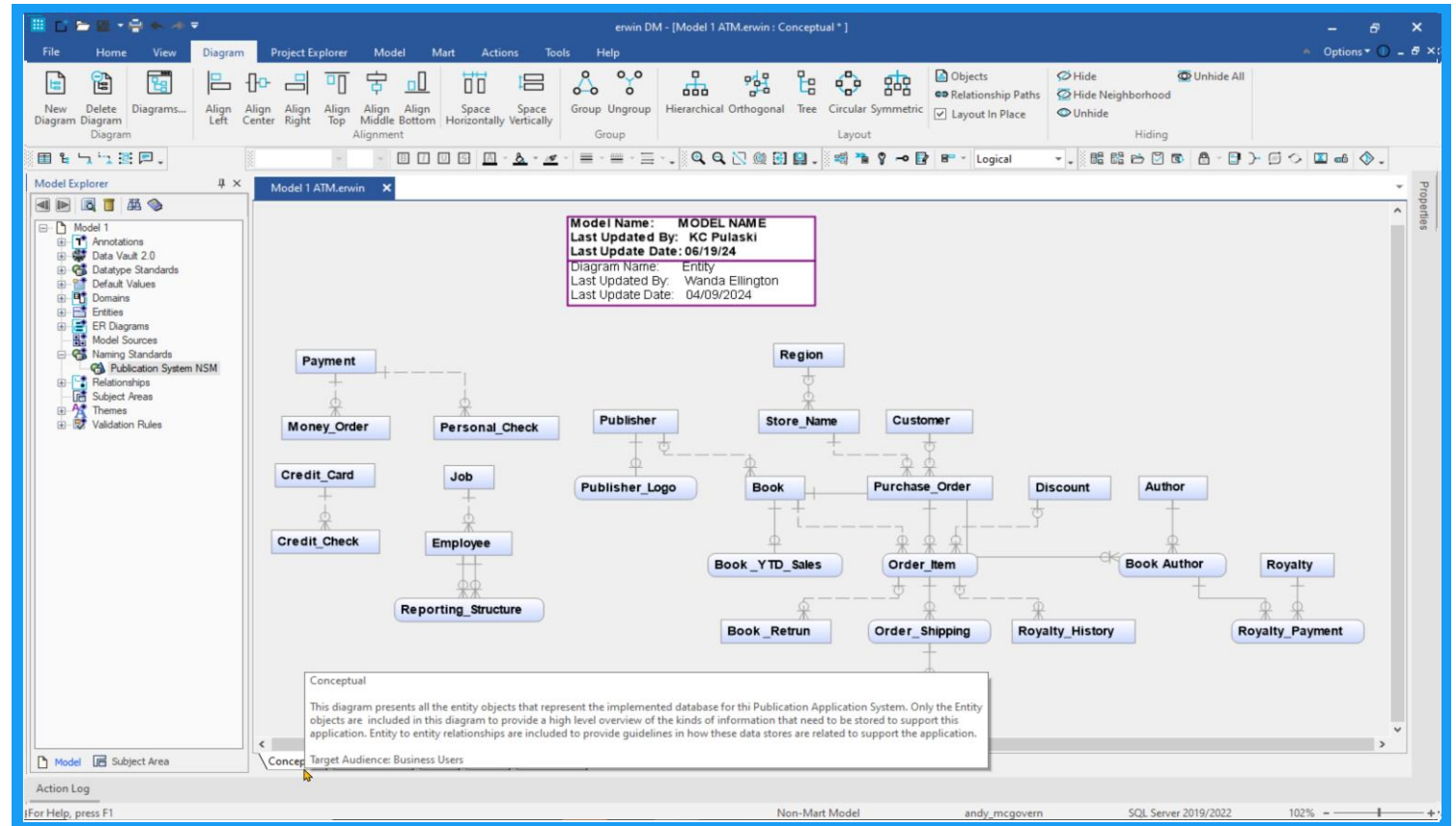
- **Metadata Insights:** Access and report on all Logical and Physical metadata, including SDI and UDP.
- **Custom Reporting:** Create tailored reports in PDF, HTML, and CSV formats using Report Designer. Publish "Read-Only" Models to ER360
- **Publish to ER360:** Share "Read-Only" models with stakeholders through ER360, our self-service portal.
- **Data Dictionary:** Download the latest for easy reference.



Data Narratives: A Model- Driven Approach

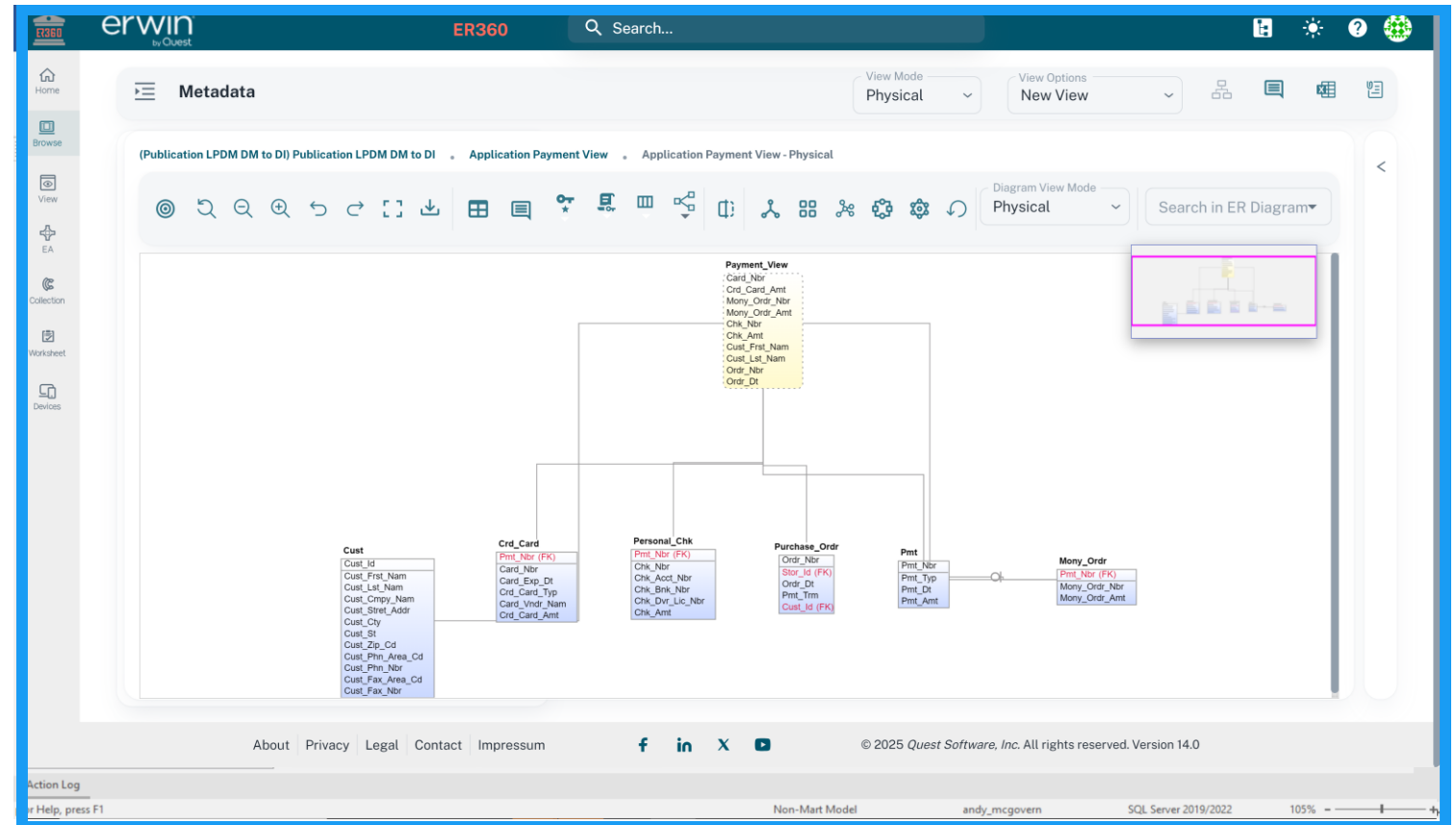
Using Models to Convey Your Data Narrative

- Erwin models can be categorized as: separate conceptual, logical and physical or combined
- A combined model can be used to expose different objects to different audiences from one source
- Logical business terms help to bridge the gap in understanding
- A complex data schema can be viewed from a physical technical perspective or simplified into a Conceptual Diagram



Using Models to Convey Your Data Narrative

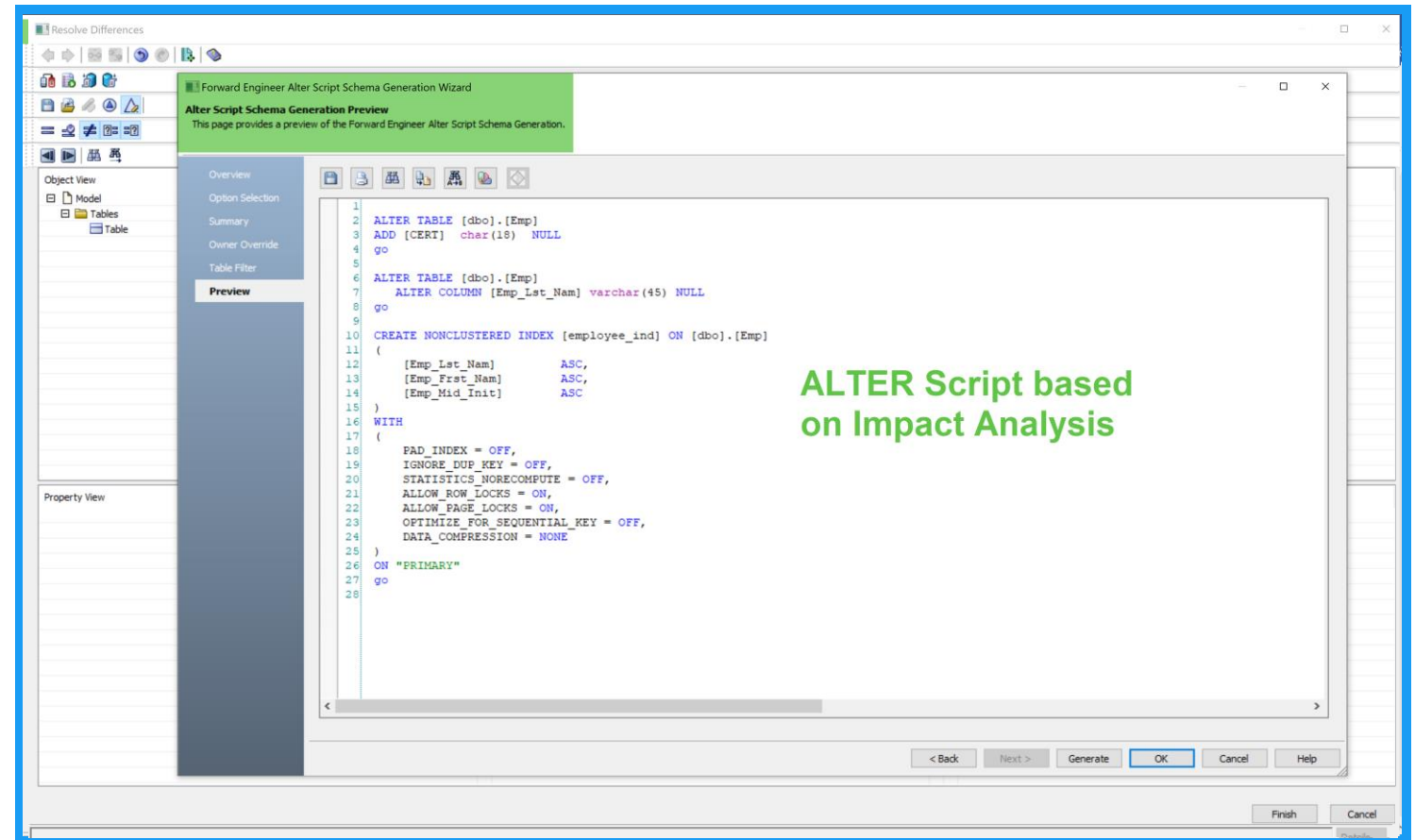
- Model objects can be organized into Subject Areas containing related elements.
- Subject Area Diagrams are essential to the model and can be included in reports and published in ER360.



Enhancing Data Structures: A Strategic Approach

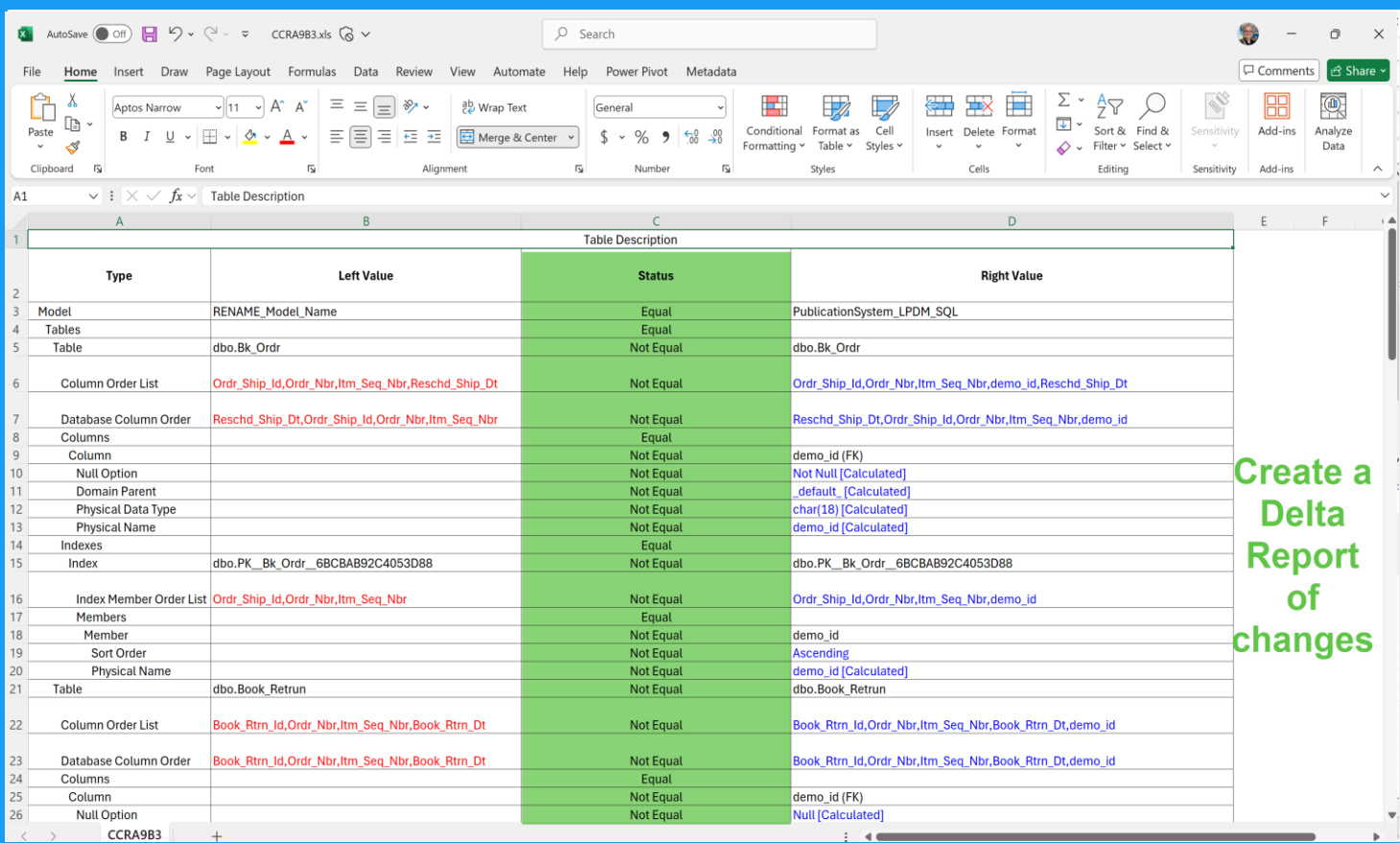
Managing Data Structures with Erwin DM

- After establishing and modeling the baseline of your current data structures, utilize Erwin DM for effective Management and alterations.
- Leverage the Complete Compare feature to conduct impact analysis, comparing model changes against production systems.
- Generate the necessary ALTER scripts for seamless implementation of modifications.



Managing Data Structures with Erwin DM

- **Version Control:** Models can be versioned, allowing for easy comparison between versions.
- **Audit Trail:** Ensures complete auditability of changes within the data structure.
- **Difference/Delta Reporting:** Generate precise Difference/Delta Reports in HTML, Word, and Excel formats.



The screenshot shows an Excel spreadsheet titled 'Table Description' with a blue border. The spreadsheet compares two data structures across various categories. The columns are labeled 'Type', 'Left Value', 'Status', and 'Right Value'. The 'Status' column uses green shading to indicate 'Equal' and white shading to indicate 'Not Equal'. The 'Right Value' column contains various calculated values and references.

Type	Left Value	Status	Right Value
Model	RENAME_Model_Name	Equal	PublicationSystem_LPDM_SQL
Tables		Equal	
Table	dbo.Bk_Ord	Not Equal	dbo.Bk_Ord
Column Order List	Ord_Ship_Id,Ord_Nbr,Itm_Seq_Nbr,Reschd_Ship_Dt	Not Equal	Ord_Ship_Id,Ord_Nbr,Itm_Seq_Nbr,demo_id,Reschd_Ship_Dt
Database Column Order	Reschd_Ship_Dt,Ord_Ship_Id,Ord_Nbr,Itm_Seq_Nbr	Not Equal	Reschd_Ship_Dt,Ord_Ship_Id,Ord_Nbr,Itm_Seq_Nbr,demo_id
Columns		Equal	
Column		Not Equal	demo_id (FK)
Null Option		Not Equal	Not Null [Calculated]
Domain Parent		Not Equal	_default_ [Calculated]
Physical Data Type		Not Equal	char(18) [Calculated]
Physical Name		Not Equal	demo_id [Calculated]
Indexes		Equal	
Index	dbo.PK__Bk_Ord__6BCB892C4053D88	Not Equal	dbo.PK__Bk_Ord__6BCB892C4053D88
Index Member Order List	Ord_Ship_Id,Ord_Nbr,Itm_Seq_Nbr	Not Equal	Ord_Ship_Id,Ord_Nbr,Itm_Seq_Nbr,demo_id
Members		Equal	
Member		Not Equal	demo_id
Sort Order		Not Equal	Ascending
Physical Name		Not Equal	demo_id [Calculated]
Table	dbo.Book_Retrn	Not Equal	dbo.Book_Retrn
Column Order List	Book_Rtrn_Id,Ord_Nbr,Itm_Seq_Nbr,Book_Rtrn_Dt	Not Equal	Book_Rtrn_Id,Ord_Nbr,Itm_Seq_Nbr,Book_Rtrn_Dt,demo_id
Database Column Order	Book_Rtrn_Id,Ord_Nbr,Itm_Seq_Nbr,Book_Rtrn_Dt	Not Equal	Book_Rtrn_Id,Ord_Nbr,Itm_Seq_Nbr,Book_Rtrn_Dt,demo_id
Columns		Equal	
Column		Not Equal	demo_id (FK)
Null Option		Not Equal	Null [Calculated]

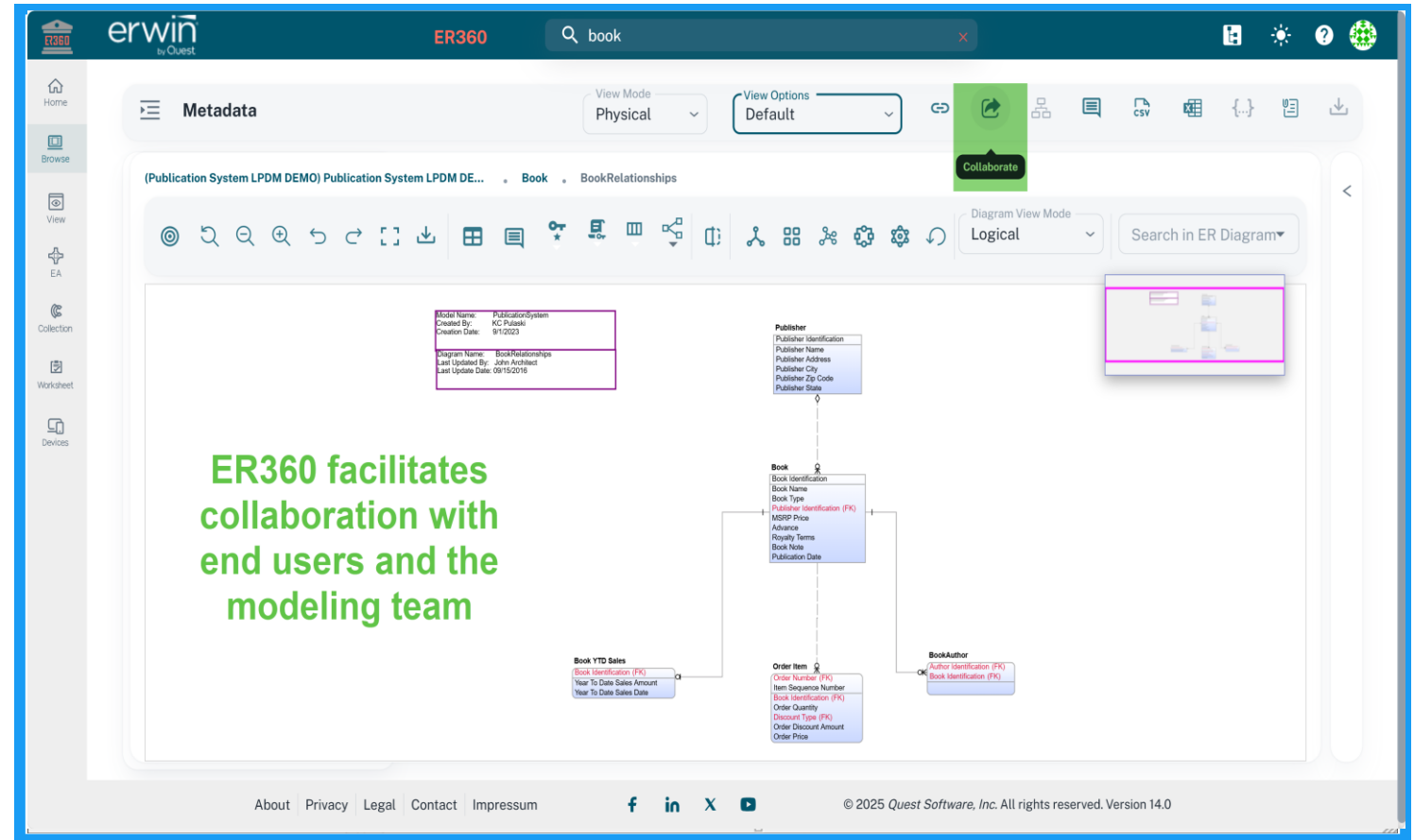
Create a
Delta
Report
of
changes

Next Steps: Fostering Collaboration in Development

Collaborative Development Strategies

Erwin DM Workgroup Edition

- **Enterprise-ready:** Designed for large scale organizations
- **Role-based access control:** Assign permissions to users based on their role (e.g. Architect, Viewer, or no access)
- **Collaborative development:** Create and move milestones up the development lifecycle to facilitate teamwork across different teams





Thank You



Looking Forward to Seeing You There

Register Today!

Skills 101 – erwin DM, Ep: 2

Discover

Andy McGovern

April 9th

Quest
Where Next Meets Now.