



DATA MASKING FOR COMPLIANCE: BUILDING A SECURE DEVTEST ENVIRONMENT AT UCSB

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THE PROBLEM

Currently, report development is restricted to a small group of developers with confidential data access, creating bottlenecks. Expanding end-user access at UCSB is essential.

- **Increasing demand** for Power BI reports from Campus HR & HDAE
- **No secure environment** with properly masked data for development and testing

THE GOAL

Utilize HR Reporting SQL database to create a secure DevTest environment with data masking capabilities and streamline Power BI report development.

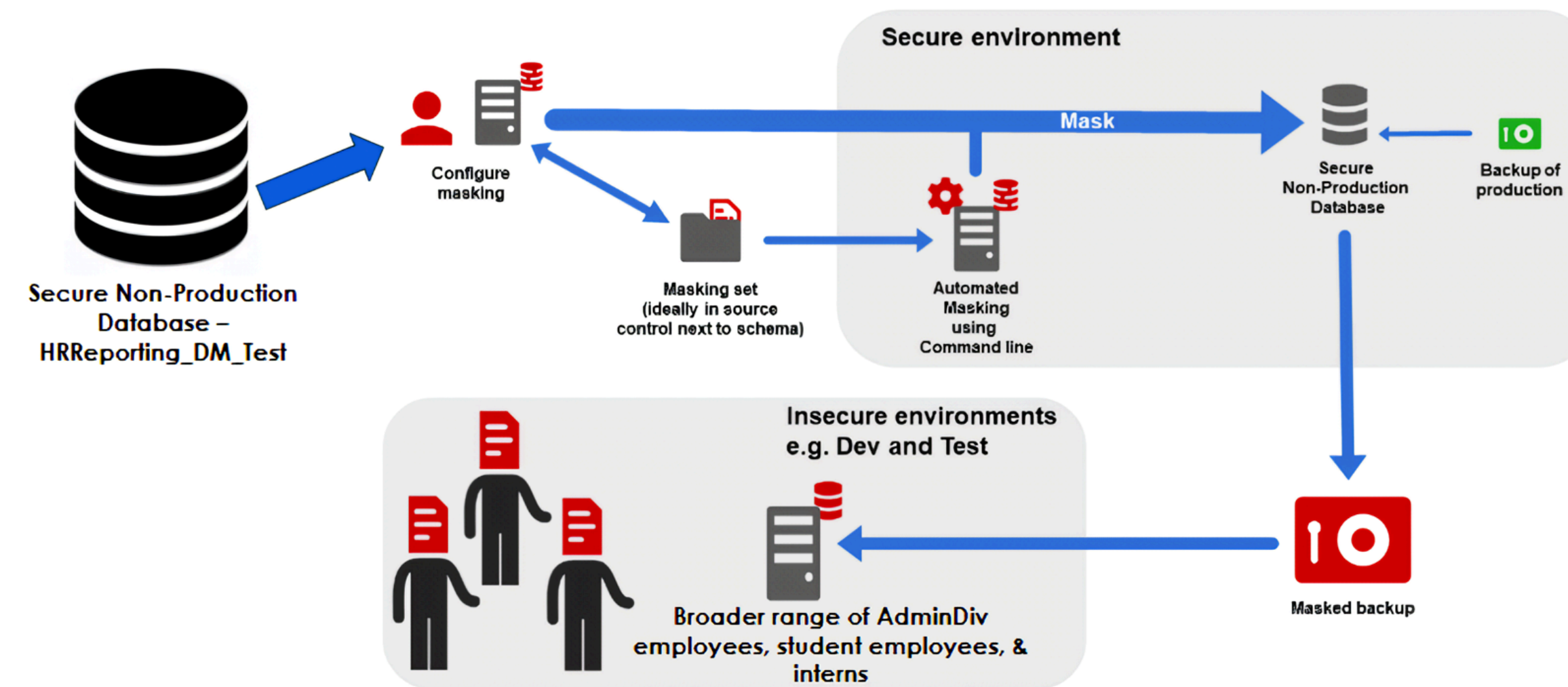


METHODOLOGY

Early days of our project consisted of:

- Researching data masking solutions
 - decided on Redgate Data Masker
- Building our Dev machines
 - learned how to navigate SSMS and explore our database
- Organizing our data warehouse environment

HOW DOES DATA MASKING WORK?



FIGURING OUT HOW TO MASK

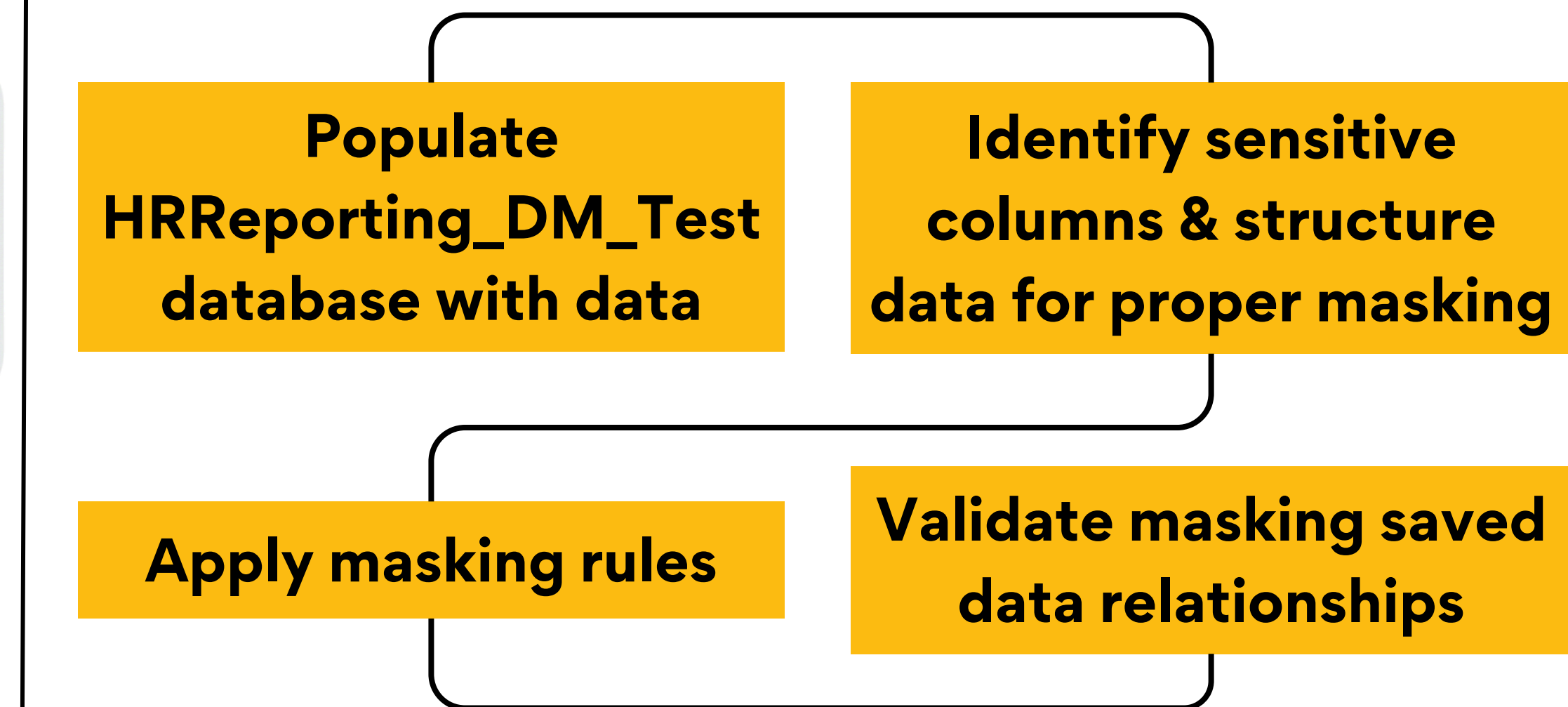
Our main concern was the ability to mask deterministically across our two schemas: BaseCDW & BaseODS.

Object ID	Object Name	Category	Status	Completion	Schema	Configuration	Target
01-0001	Controller	Controller for [HRRep...	Enabled	Complete	HRReporting_DM_Tes...		Controller for [HRRep...
00-0002	Trigger Manager (Disa...	Controller Schema	Enabled	Complete	Controller Schema	Active: 0 of 0	Disable no triggers (no...
01-0004	Sync. Manager	dw_emp	Enabled	Complete	dw_emp	Fanout: 4	masking CDW emp IDs
01-0005	Sync. Manager	dw_emp	Enabled	Complete	dw_emp	Fanout: 4	masking CDW first na...
01-0006	Sync. Manager	dw_emp	Enabled	Complete	dw_emp	Fanout: 4	masking CDW last nam...
xx-0006-01	Rule Group	n/a	n/a	n/a	Managed Rules		
xx-000...	Command	Cmd using Controller L...	Enabled	Complete	ExitScriptOnEr...		Create HRReporting_...
xx-000...	Command	Cmd using Controller L...	Enabled	Complete	ExitScriptOnEr...		Populate BaseCDW.T...
xx-000...	Substitution	TMP_DMS_0006_476...	Enabled	Complete			Mask Staging Table
xx-000...	FK Manager (Disable)	Controller Schema	Enabled	Complete	Controller Schema	Active: 0 of 0	Disable FKs on All Targ...
xx-000...	Table-To-Table	dw_emp	Enabled	Complete	TMP_DMS_0006_476...	(FastSP=true)	Sync HRReporting_DM...
xx-000...	Table-To-Table	dw_emp_funding	Enabled	Complete	TMP_DMS_0006_476...	(FastSP=true)	Sync HRReporting_DM...
xx-000...	Table-To-Table	dw_emp_job	Enabled	Complete	TMP_DMS_0006_476...	(FastSP=true)	Sync HRReporting_DM...
xx-000...	Table-To-Table	dw_positions	Enabled	Complete	TMP_DMS_0006_476...	(FastSP=true)	Sync HRReporting_DM...
xx-000...	FK Manager (Enable)	Controller Schema	Enabled	Complete	Controller Schema	Active: 0 of 0	Enable FKs on All Targ...
xx-000...	Command	Cmd using Controller L...	Enabled	Complete	ExitScriptOnEr...		Drop HRReporting_DM...



temp_first_name	temp_middle_name	temp_last_name	temp_employee_id
Jenelle	Test	Sager	56824012
Petra	Test	Nilan	62689879
Tyquan	Test	Smiling	45398172
Sophie	Test	Stolarz	85791051
Steph	Test	Sinagra	77279838

THE DATA MASKING PROCESS



PROJECTED IMPACT ON CAMPUS

Power BI Report Development

- Focus on developing departmental HR dashboards with confidential data in a secure dev environment with access and approval governed by CHRO Ann-Marie Musto and Campus HR management
- Streamline data-driven processes and ensure seamless updates across reports

TOOLS/SKILLS

- SSMS/T-SQL
- PowerBI
- Version Control
 - GitHub
 - VSCode
- Agile Methodologies
 - Jira
 - Confluence
- Toastmasters
- Crucial Conversations
- Professional Development
 - Resume Workshops
 - LinkedIn



Rebecca



Kat