Applying the State-based Approach to Database Delivery

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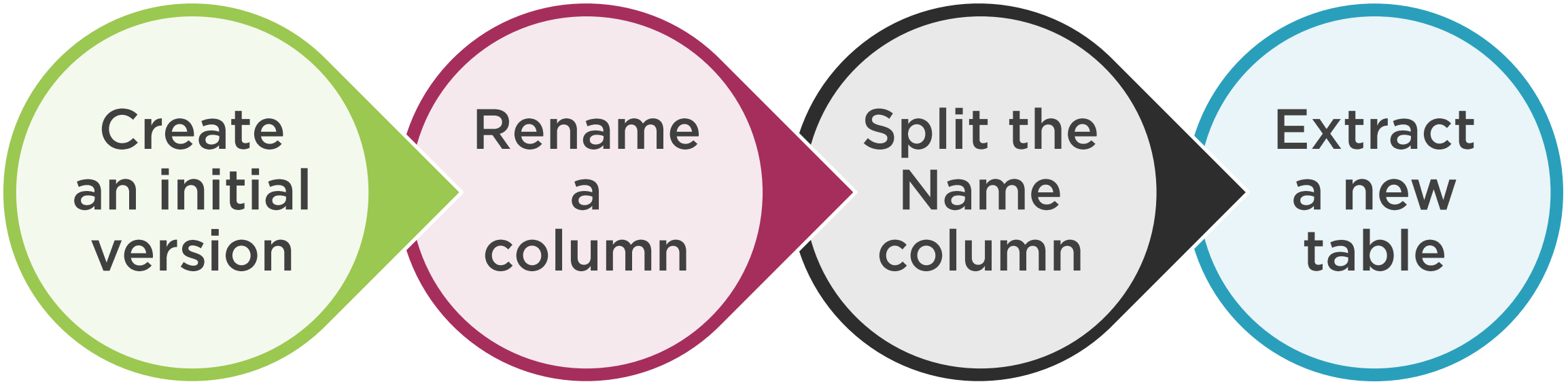
Outline


Create an initial version
Rename a column
Split the Name column
Extract a new table

Creating an Initial Snapshot

SQL Compare from Redgate

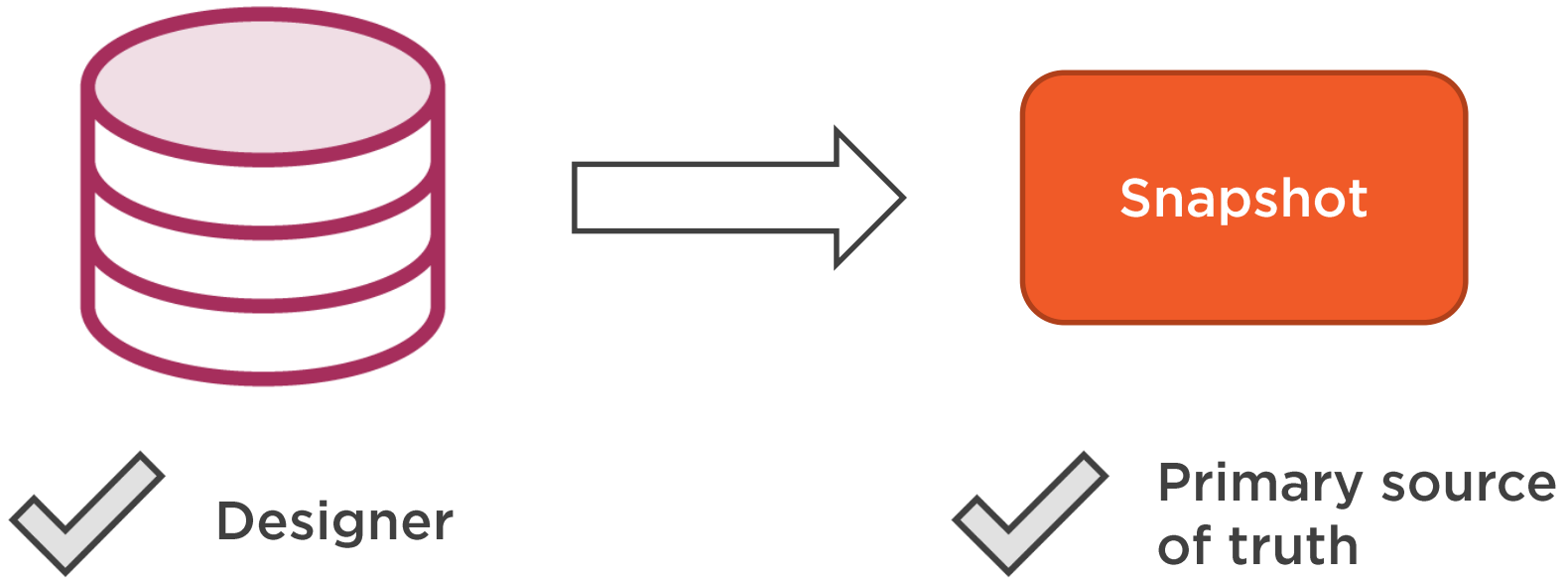
SQL Server Data Tools (SSDT) from Microsoft

Recap: Creating an Initial Snapshot

Created a declarative model

- State of the current DB version
- Describes the desired state of the target DB
- Tracks history of each individual object

Recap: Creating an Initial Snapshot



Versioning

Version 1 Version 2 Version 3

Simplifies tracking the differences

Versioning

Table:

	Column Name	Data Type	Allow Nulls
🔑	Name	nvarchar(200)	☐
	Value	nvarchar(200)	☐

Version:

Name	Value
Version	1

12

~~1.2.3~~

Handling Merge Conflicts

```
SELECT u.UserID, u.Name
FROM dbo.[User] u
```

```
SELECT u.UserID, u.Name
FROM dbo.[User] u
```

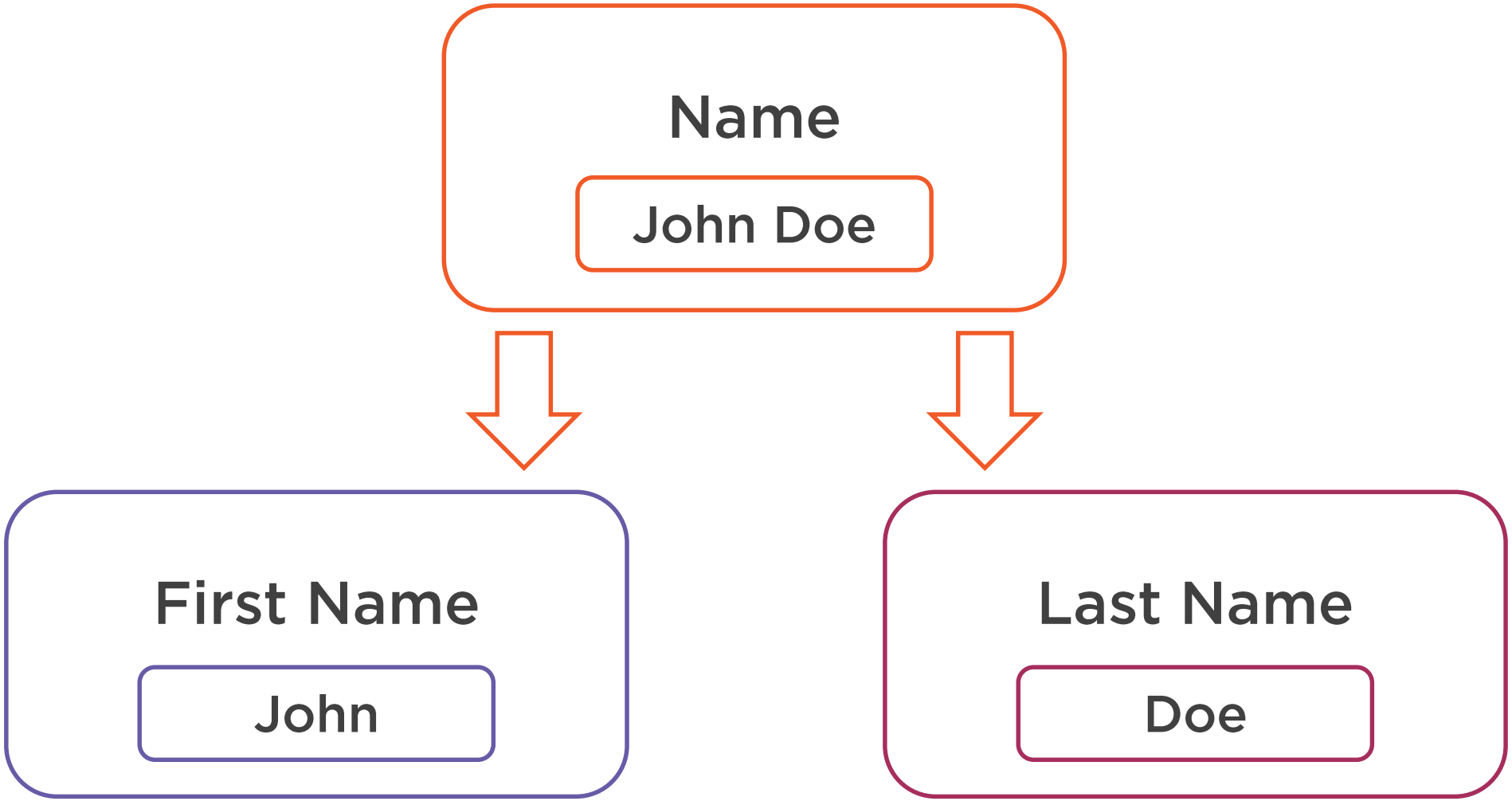
```
SELECT u.UserID, u.Name, u.Email
FROM dbo.[User] u
```

```
SELECT u.UserID, u.Name, u.Status
FROM dbo.[User] u
```

Handling Merge Conflicts

Resolving conflicts is a straightforward process

Splitting the Name Column



Recap: Splitting the Name Column

Split the Name column

- Pre-deployment script
- Post-deployment script

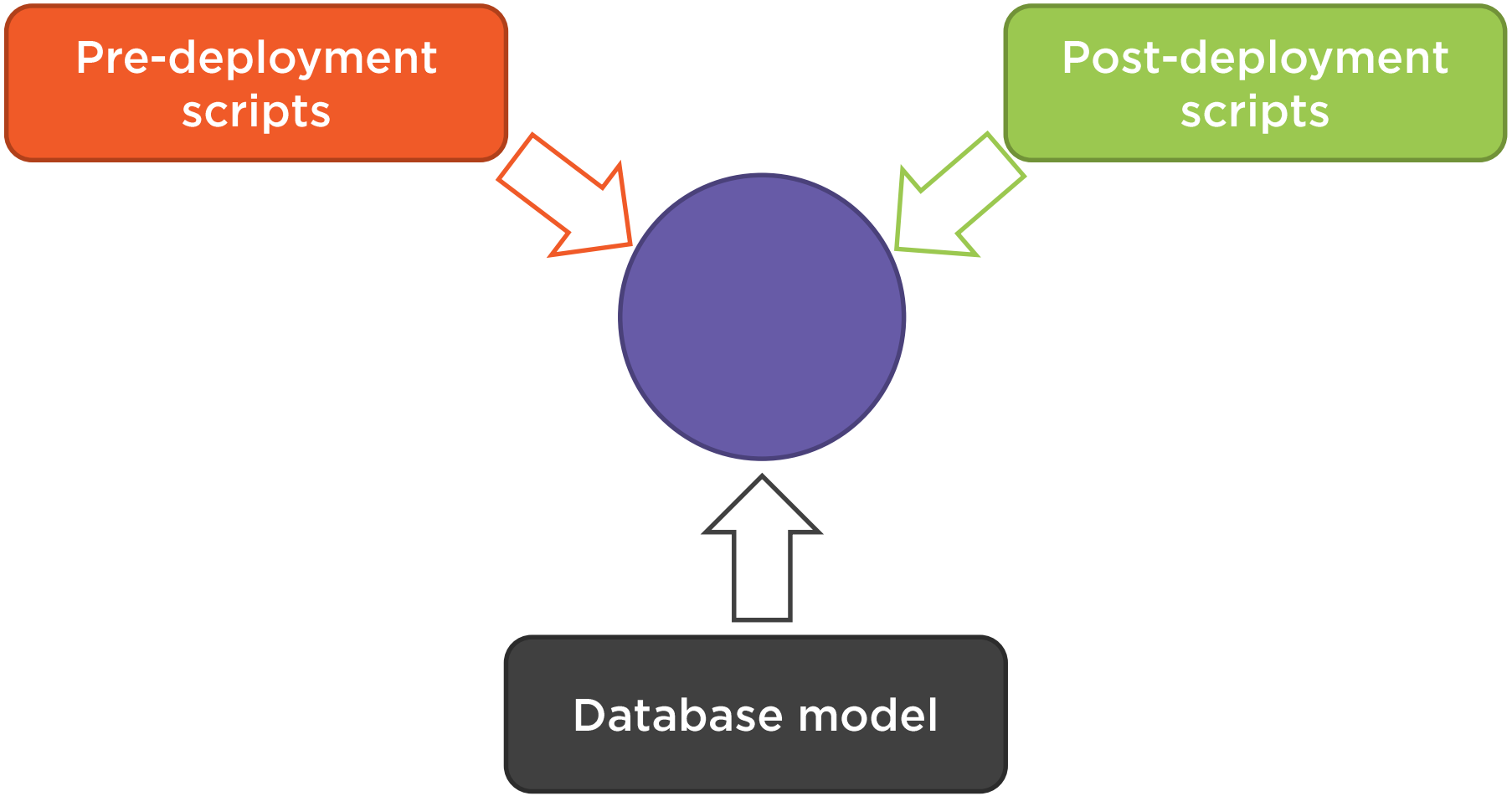
2-step approach

- Made FirstName and LastName nullable
- Marked them as non-nullable

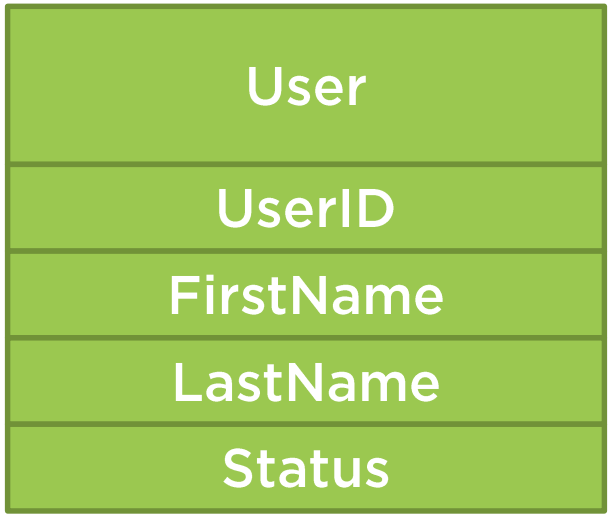
Alternatively

- Make them non-nullable in the post-deployment script
- Don’t forget to update the model after deployment

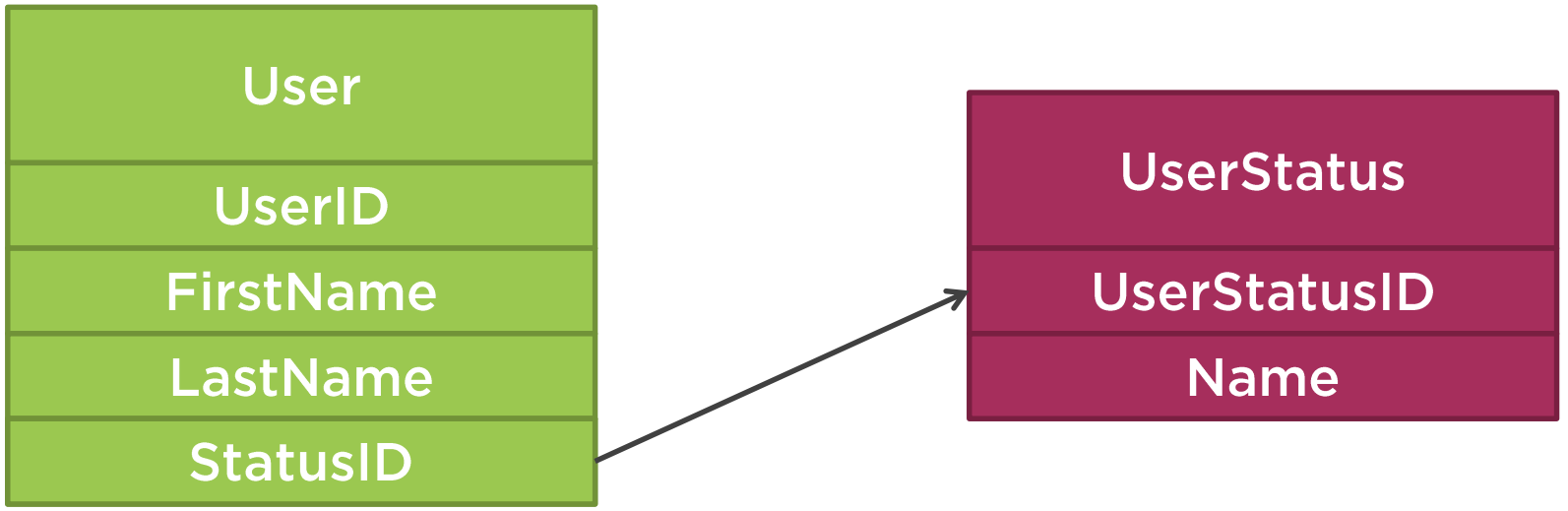
Recap: Splitting the Name Column



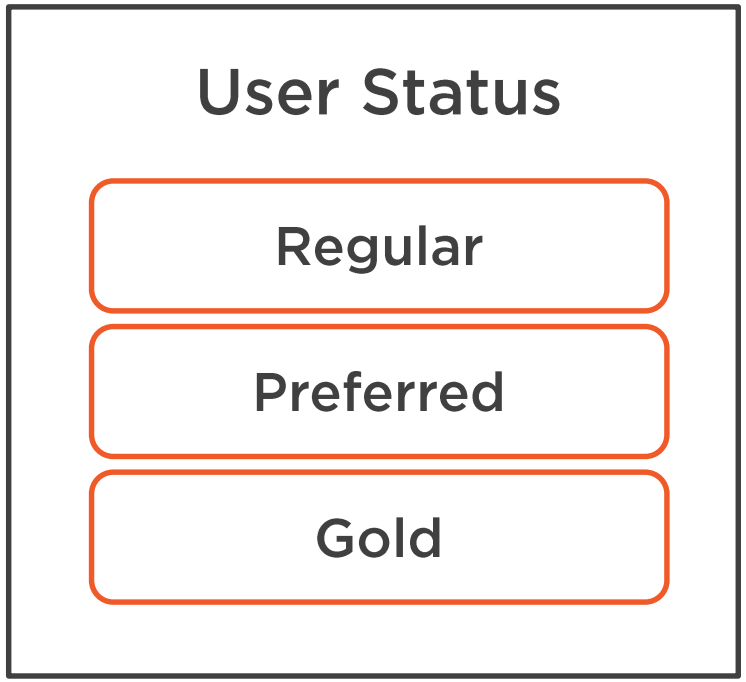
Extracting a User Status Table



Extracting a User Status Table



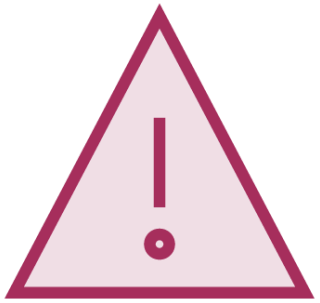
Defining Reference Data



Database drift

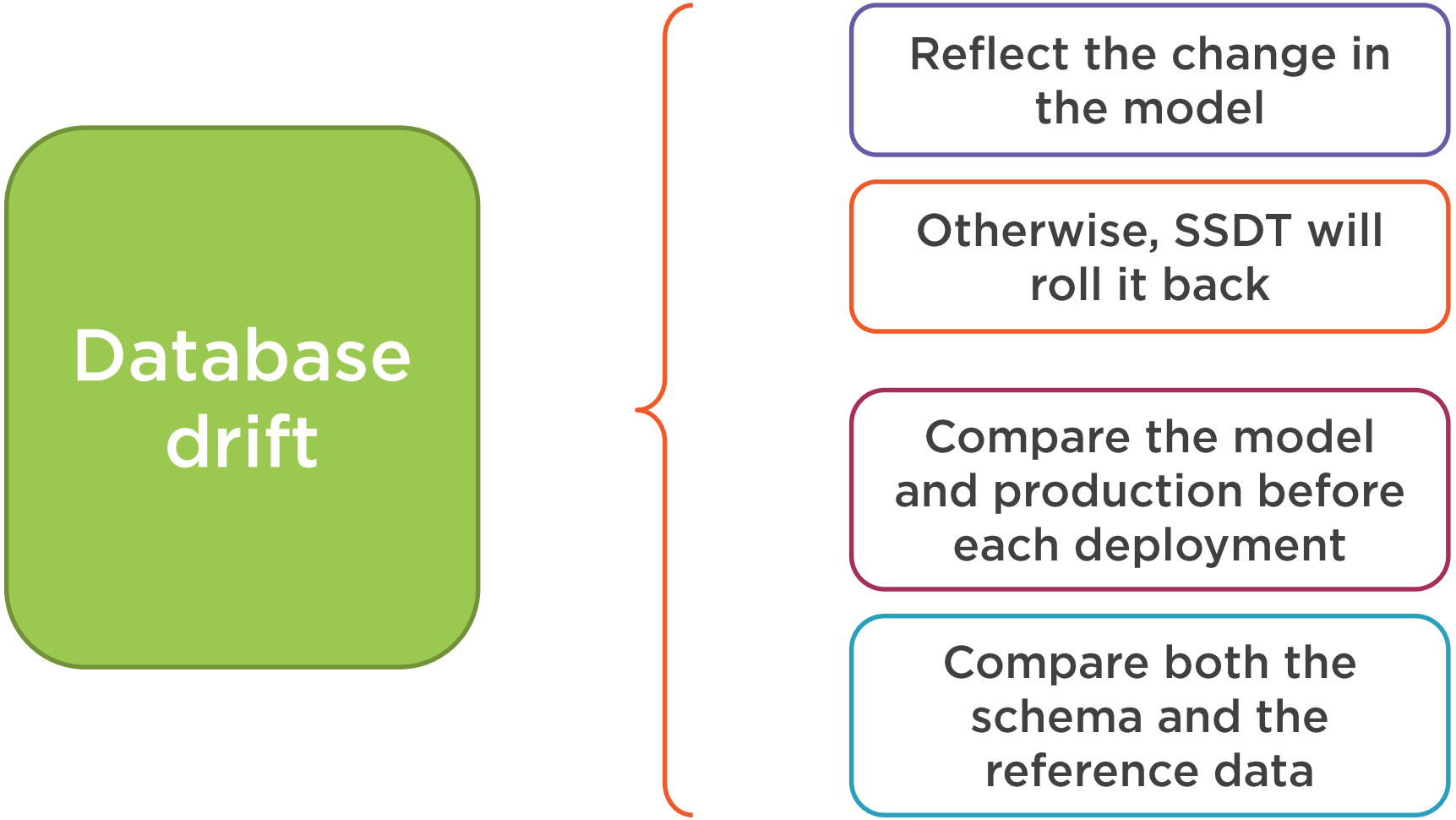
Drift is any change to the database schema or reference data that was made outside of the normal delivery process.

Database Drifts



Try to avoid database drifts

Database Drifts



Summary

The state-based approach to database delivery

- Declarative model

Creating an initial snapshot and setting up versioning

Refactoring the schema

- Renaming a column
- Changing the stored procedure
- Splitting a column into two
- Extracting a table

Handling merge conflicts

Working with reference data

Dealing with database drifts

In the Next Module

Applying the migration-based approach