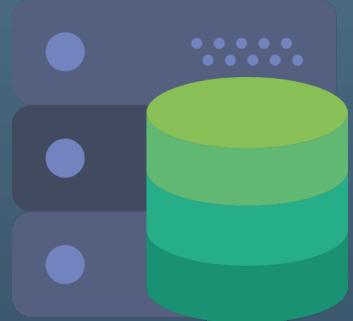


DBA MASTERY



Migraciones de bases de
datos con Flyway





Carlos Robles

Principal Consultant, DBA Mastery



/croblesdba



@dbamastery



crobles@dbamastery.com

Experience

Microsoft Data Platform MVP

Friend of Redgate

+10 years of experience multi-platform
Solutions architect

Community

GTSSUG – Community Leader

Speaker, author, blogger, mentor

Simple Talk, SQL Server Central & MSSQL Tips

DBA Mastery

Tips, scripts, best practices & more



MAXDOP Calculator

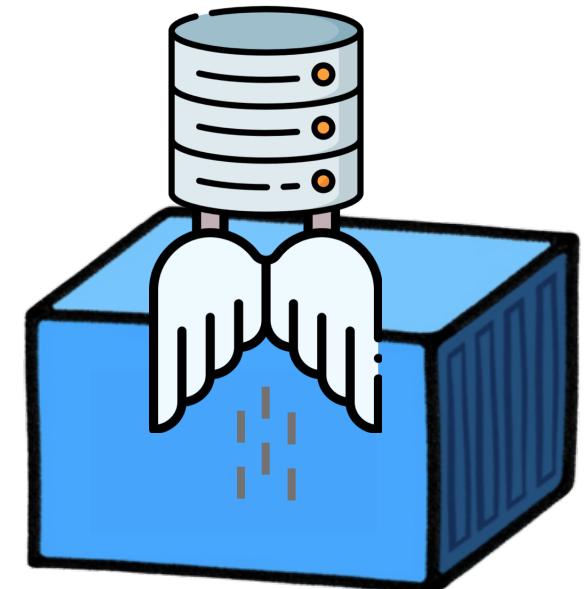
Azure Data Studio widgets & more

MSQLTools Alpine

PerfMon for DBAs - PowerShell

Agenda

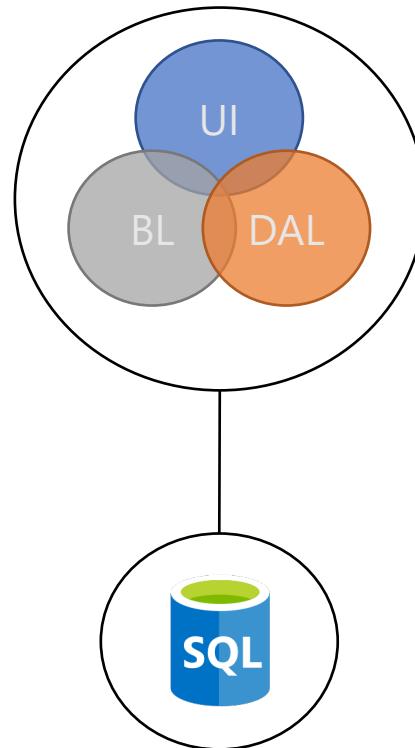
- Prácticas de desarrollo de software
- Introducción a DevOps
- DevOps para bases de datos
- Flyway
- Demos



Prácticas de desarrollo de software



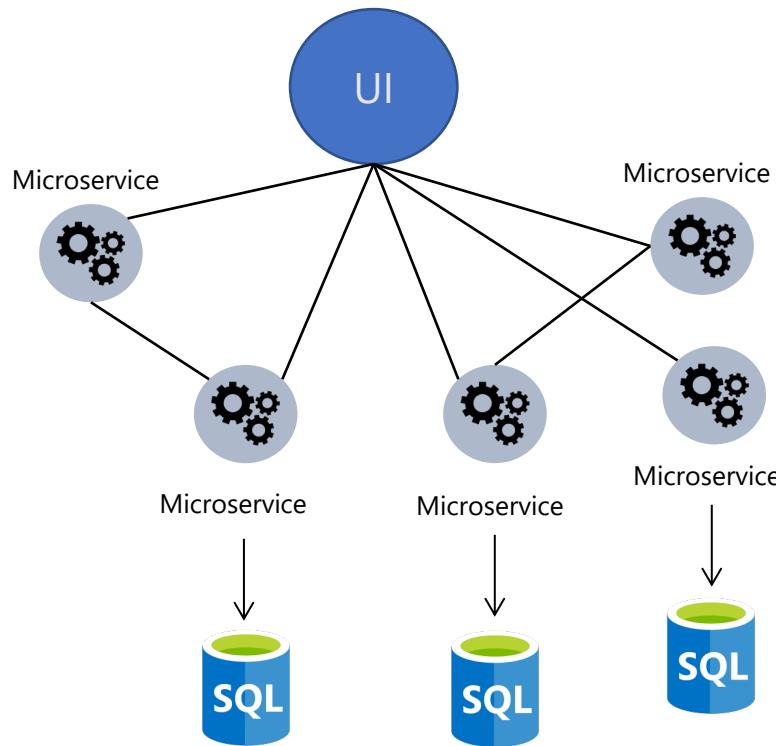
Práctica tradicional



- **Pros**
 - Desarrollo simple
 - Implementación fácil
 - Pruebas sencillas
 - Fácil de compartir
- **Cons**
 - Difícil de entender / cambiar
 - Agilidad limitada
 - Lentitud
 - Baja confiabilidad



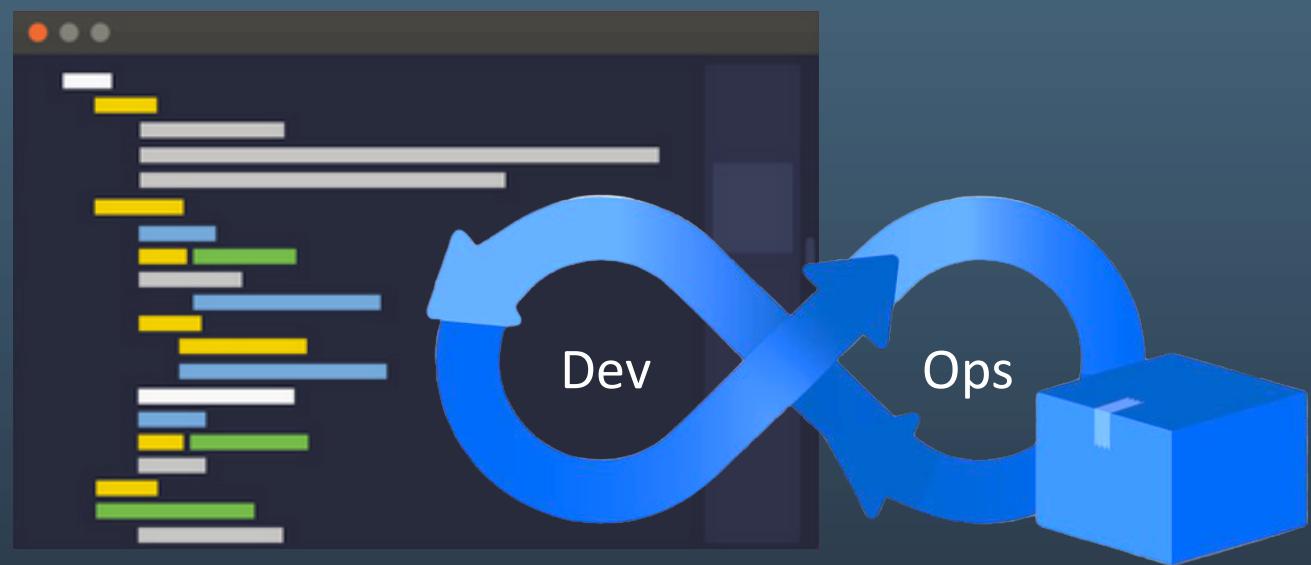
Práctica contemporánea



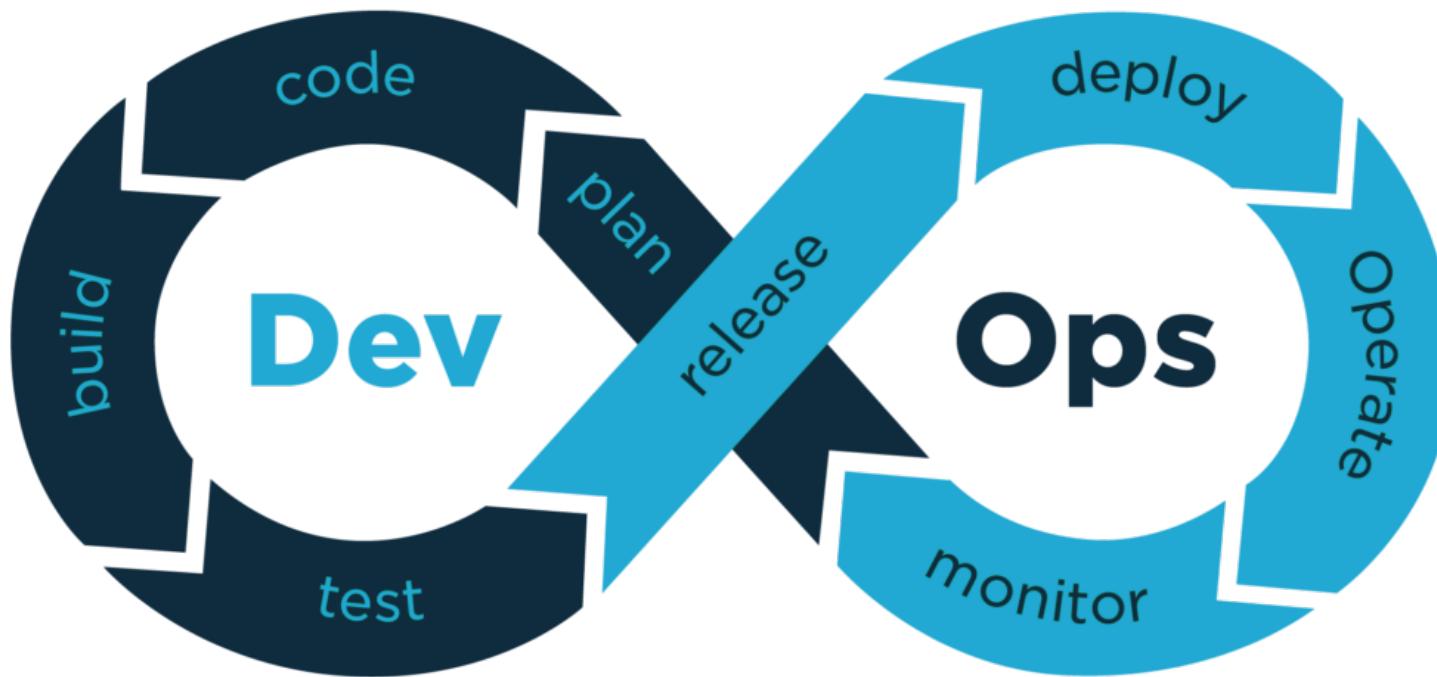
- **Pros**
 - Escalable
 - Confiable
 - Flexible
 - Adopción fácil de nuevas tecnologías
- **Cons**
 - Pruebas de integración difíciles
 - Complejidad operacional
 - Expertiz alto



Introducción a DevOps



¿Qué es DevOps?



- Cultura
- Practicas
- Herramientas



¿Qué es DevOps?

Beneficios

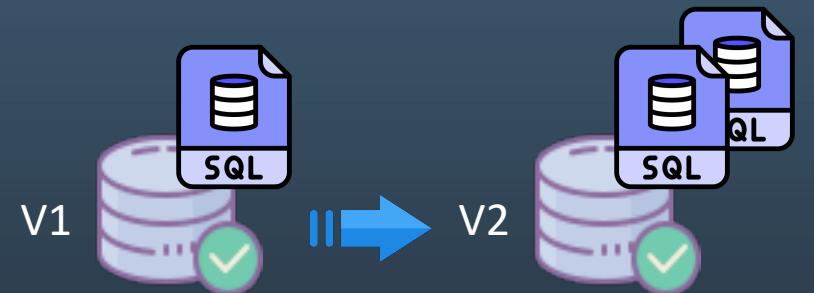
- Agilidad
- Entrega rápida
- Confiabilidad
- Escalabilidad
- Mentalidad innovadora
- Mejora experiencia del cliente

Prácticas

- Infraestructura como código
- Integración continua
- Entrega continua
- Micro-servicios
- Monitoreo
- Comunicación y colaboración



DevOps para bases de datos



Shiny Soft

Version: 5.2.4

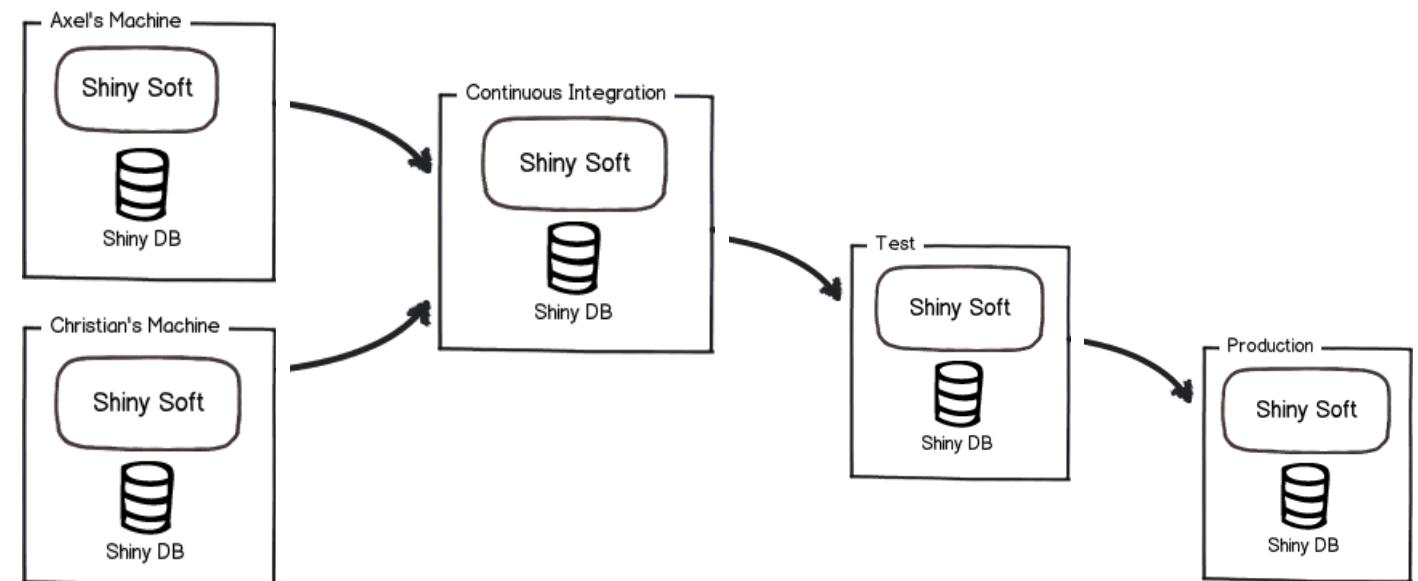
-> Well defined and
reproducible

Version: ?

-> No exact idea about
state



Shiny DB



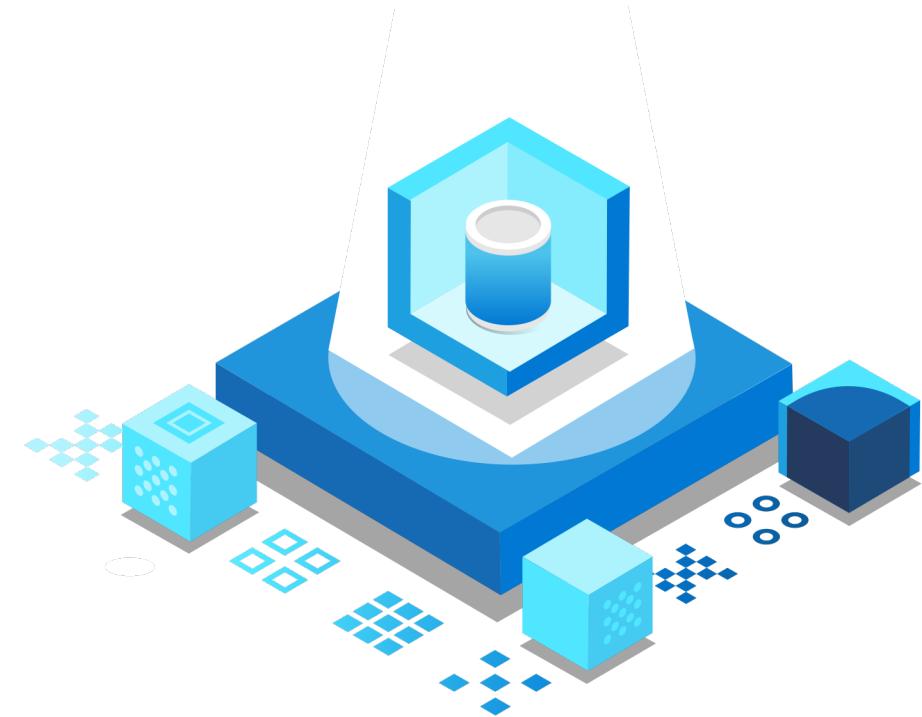
Evolutionary database design

- Colaboración = DBA + Developer
- Control de versiones
- Cambio = Migración
- Base de datos propia
- Integración continua

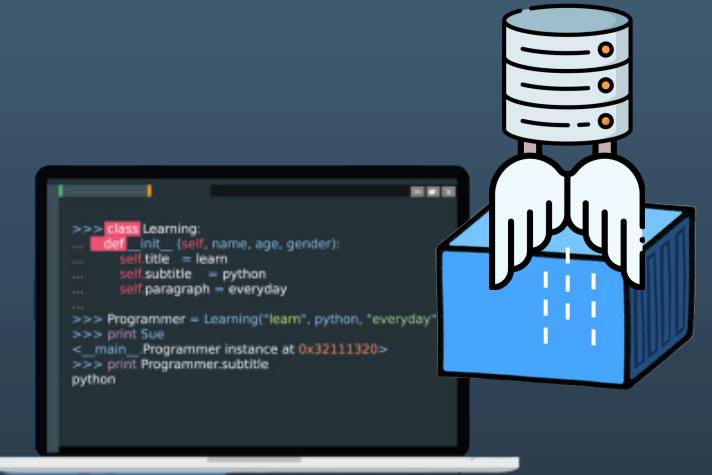


Migraciones bases de datos

- Identificación única
- Historial de migración
- Repetible
- Consistente

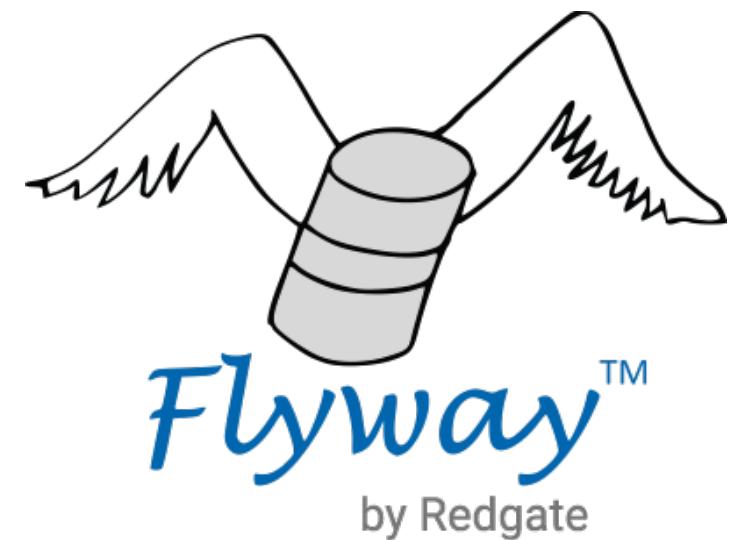


Enter Flyway



¿Qué es Flyway?

- Open source
- Multi-plataforma
- Migraciones
- CLI, containers, SQL, Java, API
- Versionamiento esquema



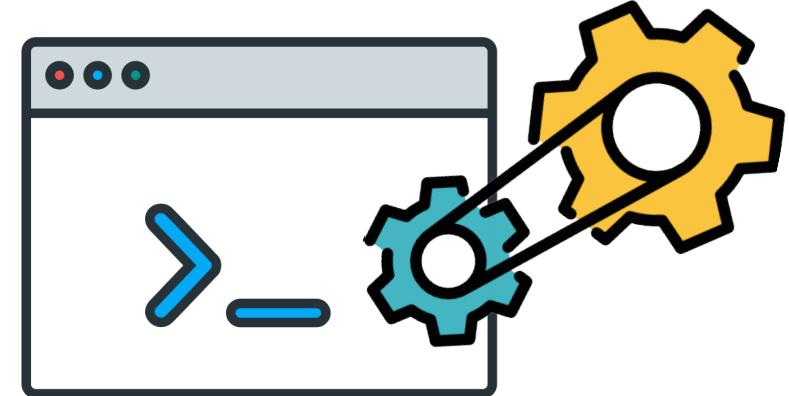
Estructura - app

```
flyway-6.5.2
  conf
    flyway.conf   ← configuration file
    drivers       ← JDBC drivers
    jars          ← Java-based migrations (as jars)
    jre
    lib
    licenses
    sql           ← SQL migrations
    flyway        ← macOS/Linux executable
    flyway.cmd    ← Windows executable
```



Comandos

- Migrate
- Clean
- Info
- Validate
- Baseline
- Repair
- Undo (Pro version)



Configuración

`flyway.url`

`flyway.user`

`flyway.password`

`flyway.env_abc`

`jdbc:<db>:<host>:<port>`

`sa / postgres`

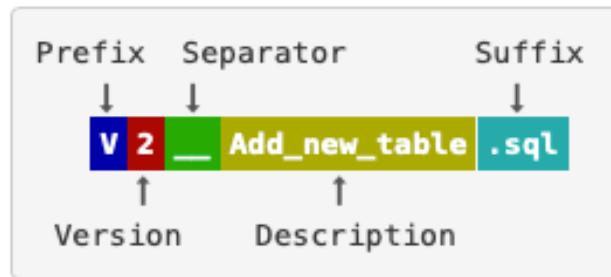
`s3cr3Tp@s$`

`${abc}`

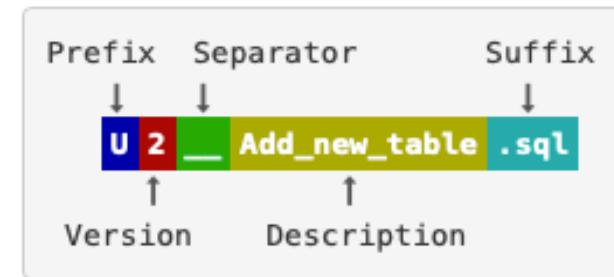


Migraciones - SQL

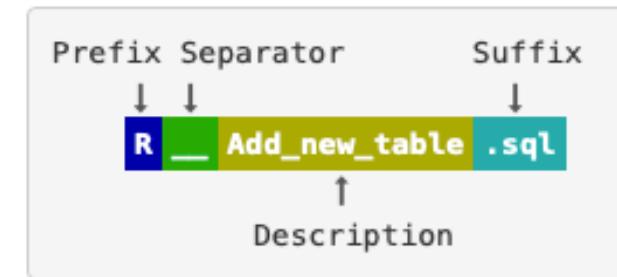
Versioned Migrations



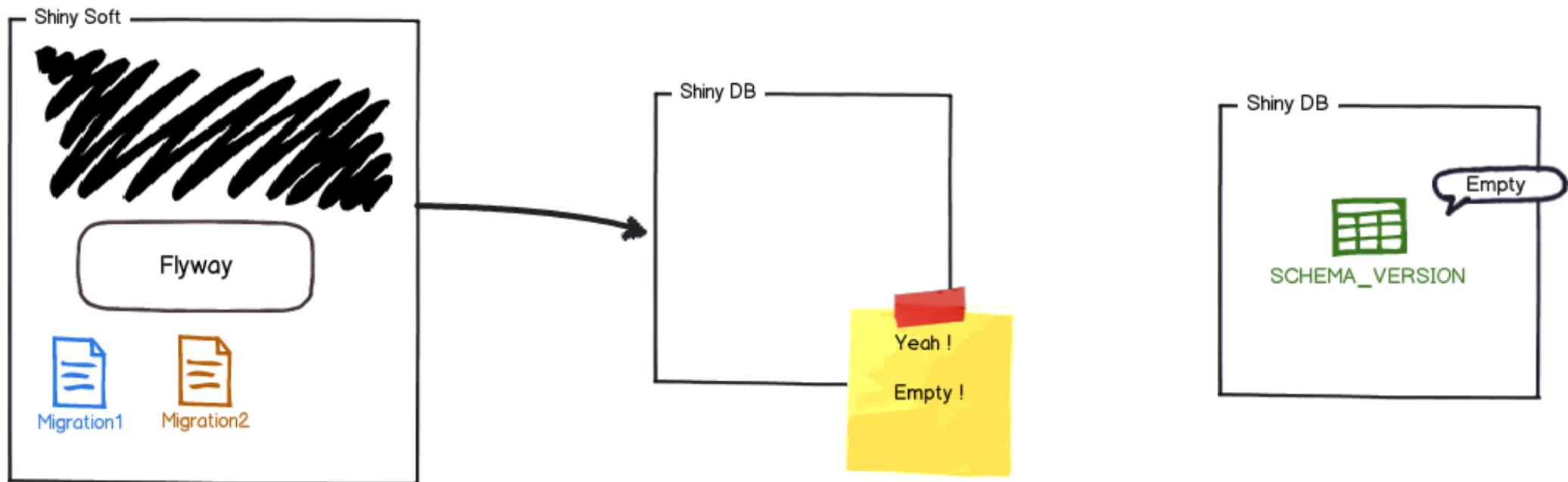
Undo Migrations

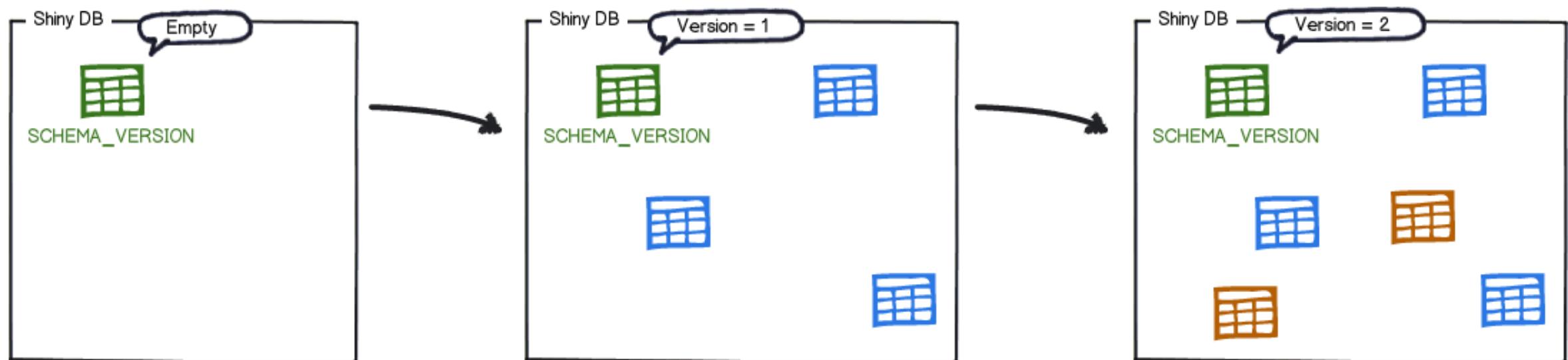


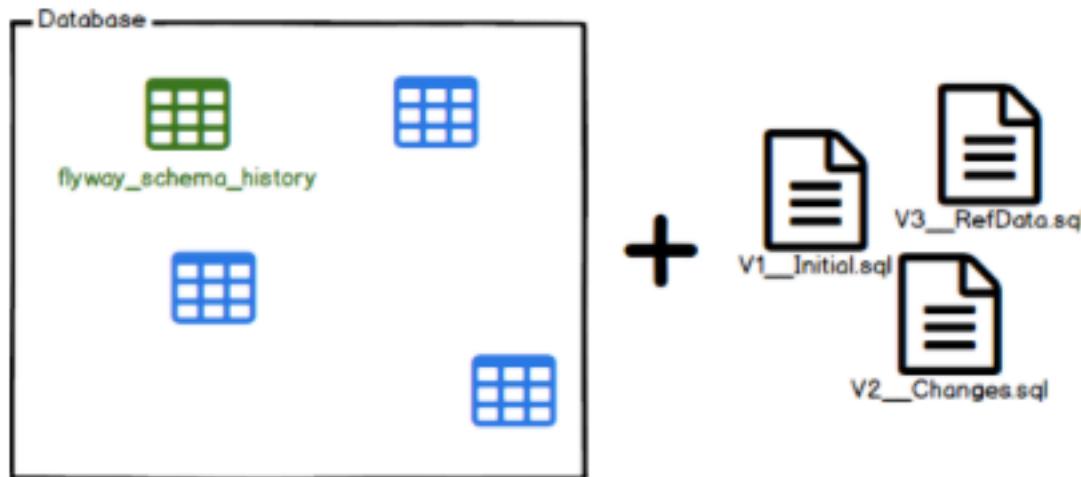
Repeatable Migrations



¿Cómo funciona?







Category	Version	Description	Type	Installed on	State
Versioned	1	Initial	SQL	2017-11-16 10:26:35	SUCCESS
Repeatable		Package	SQL	2017-11-16 10:26:37	SUCCESS
Versioned	2	RefData	JDBC	2017-11-16 10:26:41	PENDING



DEMO

Flyway app + container



Recap

- Migraciones bases de datos
- Flyway
- Open source, multi-plataforma
- Seis commandos (+1 pro)
- CLI, containers, SQL, Java, API



Preguntas?



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Referencias

- **Flyway**
 - [Flyway docs](#)
- **Otros**
 - [Docker Docs](#)
 - [Jenkins Handbook](#)
 - [Kubernetes Docs](#)
- **Libros**
 - [The Phoenix / Unicorn Project](#)
 - [The DevOps Handbook](#)
 - [Kubernetes: Up and Running](#)
- [Designing Distributed Systems](#)
- [Continuous Delivery](#)
- [Refactoring databases](#)
- [Database Reliability Engineering](#)



Articulos y mas

- **YouTube**
 - [SQL Containers on Docker & Kubernetes](#)
 - [SQL Server containers in Microsoft Azure](#)
- **Articles**
 - [Redgate - Simple Talk](#)
 - [SQL Server Central](#)
 - [MSQL Tips](#)





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crobles@dbamastery.com



croblesdba

Gracias!

