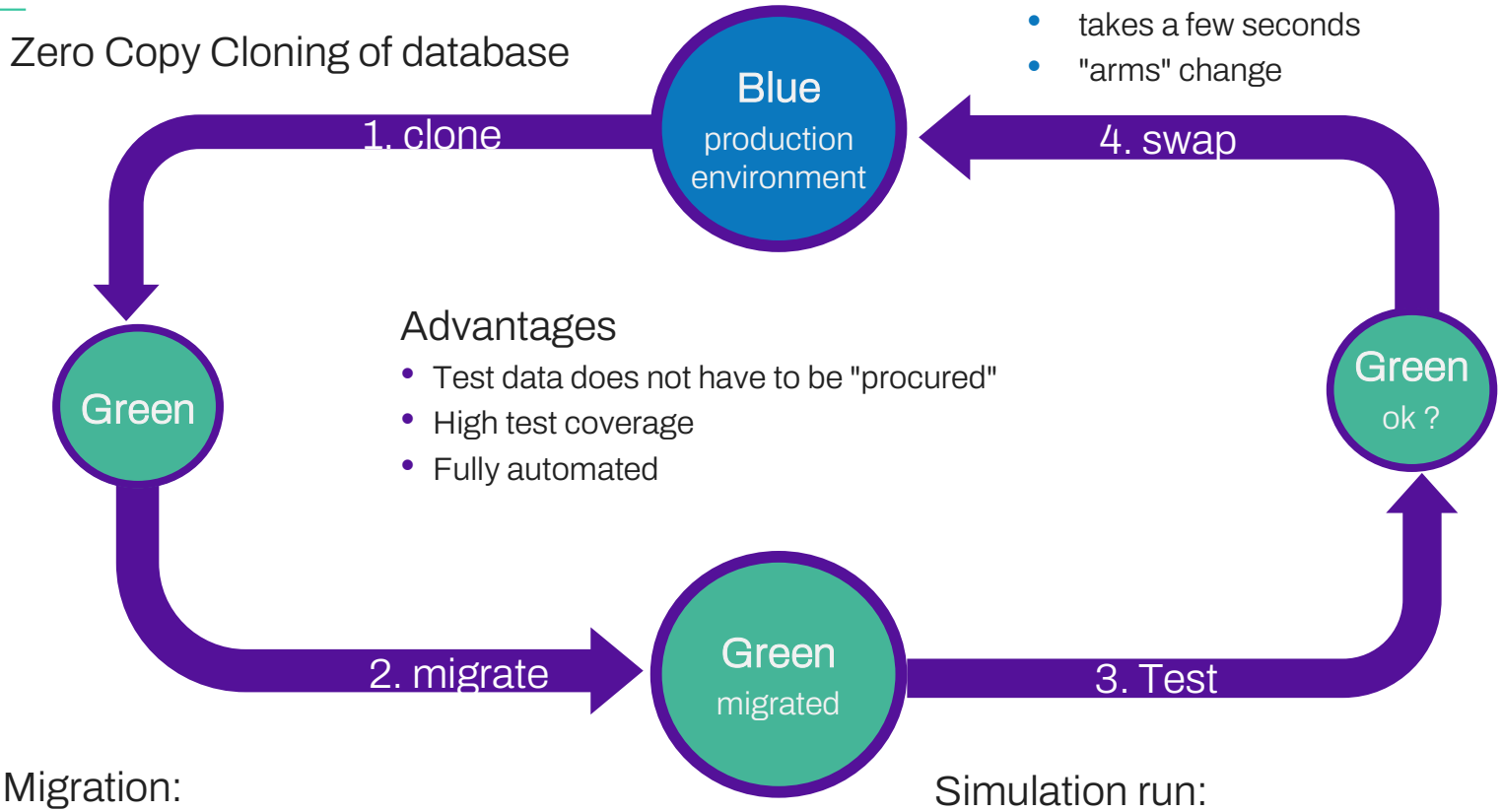
Deployment (19) : risk-free automated go-live with Blue / Green method



Acceptance

- Check test results
- Only manual step in the overall process

Automatic comparison

- Compare old original data with the results of the simulation run
- enter all deviations in metadata tables

Migration:

- technical: structure of the data model
- functional: content of the data records

Simulation run:

- based on the same delivery data as the original run
- uses newly installed logic

Deployment (19) : Risk-free automated production go live

After a data modeler has made changes to the DVG (data model / business logic of the rule engine), the following steps can run automatically in a CI/CD pipeline:

- DVG generator generates code, migration scripts, documentation, lineage, etc.
- Generate DB clone from production. As DVG installs all logic within the database, the data and logic of the current production status are copied. Thanks to Snowflake's zero copy cloning, this does not require any additional storage.
- The installation and migration scripts generated by DVG are executed on the clone. This not only changes the structure of the data model, but also applies newly defined business logic to the entire business data history. Thanks to the bitemporal history, the business history is then available in both the old and the new logic.
- A simulation run is carried out on the existing data. This sets the technical validity in such a way that this result data can be evaluated with specific queries but is not included in the standard reports.
- The data created with the old logic in productive operation is compared with the simulation run (new logic). (all tables, columns and rows). All deviations are entered in metadata tables. As the original and simulation runs are based on exactly the same data from the delivery systems, all deviations are due to the changed logic and not to any deviating input data.
- The deviations are checked and assessed in a release procedure to ensure that they correspond exactly to the intended changes and that no undesirable side effects occur. This is the only manual step in the entire process.
- A quick swap command is used to replace the production environment with the DB clone. This is the only step that changes the production environment. All previous steps were carried out on the DB clone without any risk to ongoing productive operation.

Notes:

- All steps can also be carried out manually by calling shell scripts. However, integration in CI/CD pipelines is recommended
- the same procedure can also be carried out in test or acceptance environments
- Usually, all steps before the functional acceptance are integrated into a pipeline that is started when a merge request is made in Git; the swap is part of a pipeline that starts after a merge request has been executed.