

IBM DB2 Change Management Expert for Multiplatforms V1 An Overview Presentation

This brief presentation on DB2 Change Management Expert highlights the capabilities and value of this new tool from IBM.

In today's fast-paced business environments, change is a constant: applications and systems that use data change to handle new demands. Organizations evolve. New kinds of data need to be added. These types of changes require updates to the database and data structure

The main database change management challenges are: assessing the impact of changes and determining the best action plan, reducing potential for error, and limiting the time spent in the process, by automating the labor intensive manual tasks. In other words to reduce Total Cost of Ownership, efficient, error-free change management is critical.

IBM DB2 Change Management Expert helps database administrators address these key database change management challenges. DB2 Change Management Expert is built on the Eclipse open source platform. DB2 Change Management Expert can connect to databases on DB2 UDB for Linux, UNIX and Windows.

In DB2 Change Management Expert, you use physical data models to specify changes, which are then deployed to target databases. Live database connections are shown in the Database Explorer. Models are created based on these databases and are shown in the Data Project Explorer, along with other resources such as scripts. Scripts and data models, and other files, like the deployment log, are grouped together into projects.

Let's consider a typical database change management task—specifying a change and deploying it. Let's say a DBA wants to change the data type of a column in the Employee table in the HR schema.

The DBA begins by creating a deployment script, which ties together the resources and actions involved in deploying a change. The DBA specifies the project to be used, a name for the script, then specifies the connection to the database and the schema to use, in this case the HR schema. The deployment script automatically creates two models of the database schema—the base model, which is used as a reference and the target model which will be modified and then deployed to the target database.

By going to the data models page in the deployment script editor, the DBA can edit the target model, in this case to change the data type of the employee number column. The DBA can easily see which schema objects would be impacted by this change by using the 'analyze impact' command. In this case, he notes that there's a dependent key. Upon saving, DB2 Change Management Expert checks to make sure the model is valid.

When the DBA is ready, Change Management Expert will generate the resultant change commands—the DDL as well as the data preservation commands that are needed due to the destructive change. A wizard walks the DBA through the process, supporting any customization of the import and export commands that may be needed. The wizard page for exporting allows the user to drag and drop the appropriate columns and edit as

needed, for example to cast data types, as in this situation. The wizard provides options for keeping track of authorizations and running DB2 maintenance commands such as rebind and runstats. Finally all the change commands can be reviewed and edited if needed before deployment.

Deploying the change to the target database is also guided by a wizard, with an option to check that the base model is in synch with the current state of the database. The formatted change commands are shown before deployment. After deployment, the data output view shows information about the deployment and a deployment log keeps track of what was deployed and when.

If something unforeseen arises and it turns out that change should not have been deployed, the DBA can easily review the undo commands and undo the change.

Now let's consider a change migration scenario. In this situation, say that a DBA plans to migrate or promote some changes from the final test environment to the production environment.

Let's say the Test team has verified the changes and checked them into their library control system. Using the Eclipse 'Team' function, the DBA can check out the appropriate project from library control.

The DBA has already created a deployment script, as in the other scenario. The deployment script wizard created two models—the base model for reference and the target model which will have changes applied to it. In this scenario, a source model exists, which has the changes that will be applied to the target. The DBA adds the source model on the Data Models page, then clicks Migrate, in order to see the two models side by side and specify the changes to migrate. The compare editor can be expanded to full screen. Clicking the down arrow jumps to the next change. Clicking the 'move' button, moves the desired changes to the target model.

As in the previous scenario, a click generates the change commands. The wizard driven process helps the DBA with any necessary data preservation and DB2 maintenance commands. Then, after a successful deployment, the DBA could easily deploy the changes to several databases by using DB2 Change Management Expert's multiple deployment function.

Finally, in a shop that has an Eclipse plug-in for library control, the project –models, scripts and deployment log can be directly checked into library control.

To summarize, DB2 Change Management Expert meets key database change management challenges with its level of automation and usability features to increase productivity and reduce the likelihood of errors. Some of these key features include: ability for the user to describe the target, while the tool automatically generates the change commands, including data preservation and DB2 maintenance commands. It also handles merging of changes, validates models and scripts, enables visualizations of database relationships and provides a one- step undo capability.

DB2 Change Management Expert works hand in hand with Rational Data Architect. Customers with both products can reuse the same physical data models, SQL scripts and data design projects. DB2 Change Management Expert can also leverage DB2

Grouper, which finds related objects, including those related by application referential integrity.

For further information on this tool and other tools from IBM, visit the DB2 and IMS Tools website: <http://www.ibm.com/software/data/db2imstools>

Thank you.