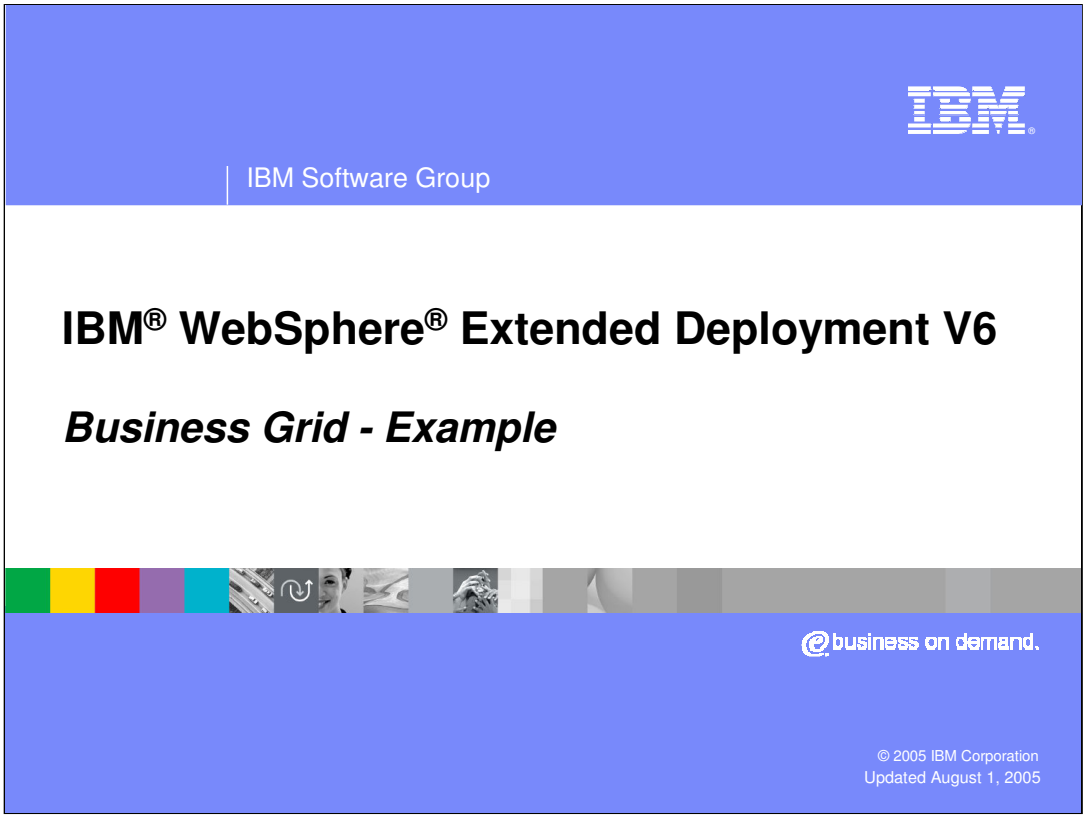
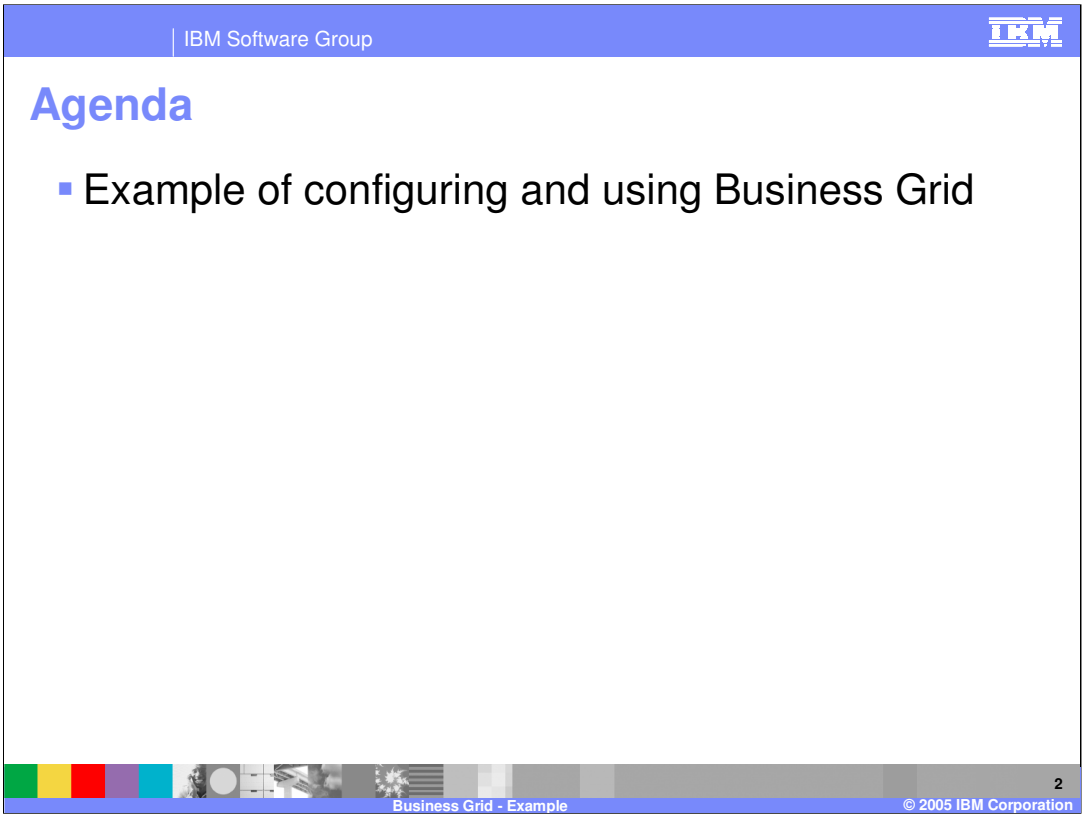
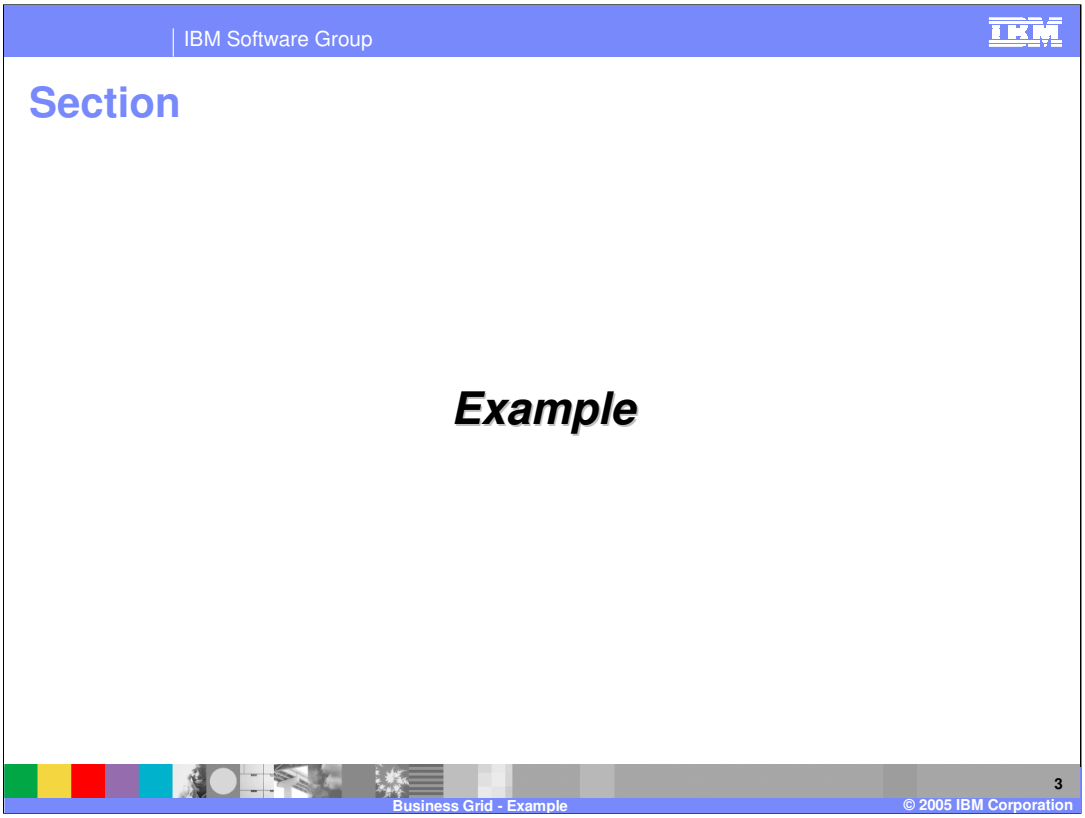


This presentation will provide an example of how to use the business grid component offered in WebSphere Extended Deployment V6.



This presentation will provide an example of how to configure your WebSphere environment to support the Business Grid, and explain how to deploy long-running applications to the environment.



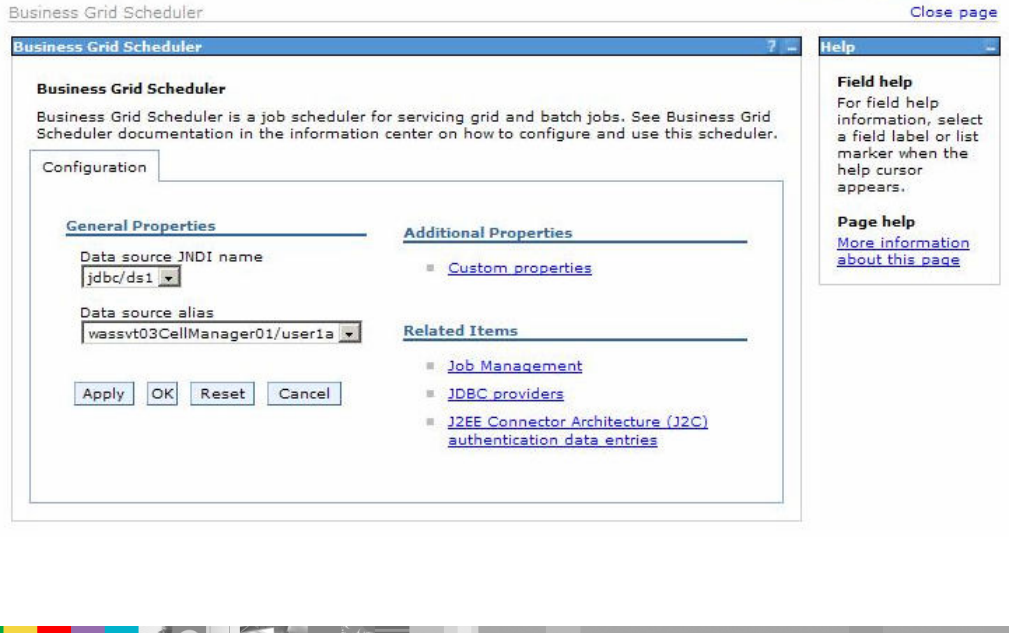
The next section provides an example of the Business Grid.

Scheduler configuration

- Use DDL provided with WebSphere XD to create scheduler and execution environment tables
- Define corresponding DataSource in WebSphere Application Server
  - The DataSource must be accessible to all nodes that can run the scheduler and execution endpoint
- Configure the scheduler with the Java™ Naming and Directory Interface (JNDI) name and authentication information for the DataSource

In order to create an environment that will support long-running applications a number of steps must be taken. First you must create the databases for the scheduler component and for the long-running execution environment, DDLs to accomplish this are provided with WebSphere Extended Deployment. Once the tables are created, datasources must be created for the environment. The datasources must be accessible to any nodes that will either host the scheduler or run long-running applications. The scheduler must then be configured with the JNDI name for the resource as well as any security information it may need to use the datasource.

Scheduler configuration panel



Under the configuration panel for the scheduler you can configure the JNDI name for the datasource as well as the data source alias to use.

Develop long-running application

- Develop long-running applications using normal J2EE development tools
  - WebSphere Studio Application Developer
  - Rational Application Developer
  - Eclipse
- A long-running application is packaged in an ordinary EAR file
- EJB jar file contains deployment information for LongRunningController Stateless Session Bean and code for asynchronous bean (compute-intensive) or entity beans (batch)

Application developers should then create long-running applications based on either the computationally intensive or batch programming model using the normal J2EE development tools. Long-running applications are packaged into normal ear files. While the EJB jar file for the application contains some specific information for long-running applications, such as the deployment information for the controller bean and the actual bean implementations of the applications.

Deploy long-running application

- Deploy the Long-Running Execution Environment to each dynamic cluster that will host long-running applications
- Long-running applications are deployed as regular J2EE applications
  - When the application is deployed, WebSphere XD automatically detects that it is a long-running application
- User is responsible for ensuring that a dynamic cluster contains only long-running applications or transactional applications
  - Never mix the two types of applications
- Once the application is deployed, define service policies for the new long-running application

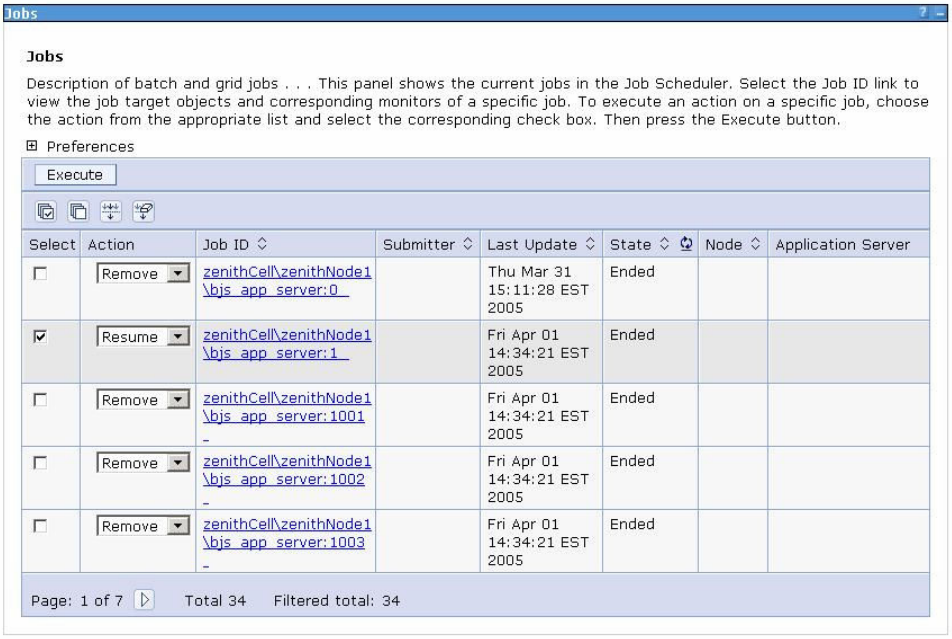
Long-running applications are deployed like any regular J2EE application. Once it has been deployed WebSphere Extended Deployment will detect that it is a long-running application. Users are responsible for ensuring their policy settings will only allow long-running or transactional work to run in a given dynamic cluster. Once the application has been deployed an administrator can define service policies for the application, in preparation for submitting a job. The service policies are different for long-running applications, the only metrics supported for long-running applications are maximum needed queue time and discretionary.

Submit job

- Construct xJCL to submit job to application
- Use one of the scheduler interfaces to submit job
  - CLI, Web Services, EJB
- Note job ID assigned by scheduler
- Use administrative console job management panels

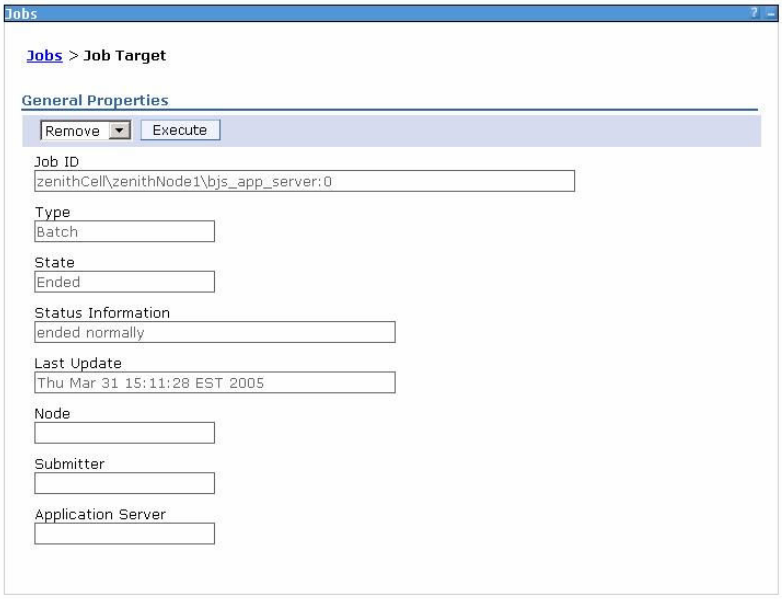
Prior to submitting a job, an administrator should construct an xJCL document to describe the behavior of the application. Then the administrator has a choice of interfaces to submit the job to the scheduler, noting the job ID assigned to the job by the scheduler. An administrator can then manage the job using panels in the administrative console.

Job management panel



Within the administrative console is the job management panel shown above, where administrators can submit jobs, as well as monitor the jobs that are currently running.

Job properties panel



By selecting an individual job from the previous panel an administrator can view more information specific to that job.

Summary

- WebSphere XD provides an environment for managing and executing batch-style and compute-intensive applications
  - Jobs are scheduled using the Long Running Scheduler (LongRunningScheduler.ear)
  - Jobs are executed in the Long Running Execution Environment (LREE.ear)
- A WebSphere XD Business Grid can dynamically balance the needs of long-running work against the needs of transactional applications within a cell

In summary, this presentation explained the benefits of the business gird provided by WebSphere Extended Deployment V6. It showed by example how to use the new business grid component provided with WebSphere Extended Deployment.

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