IBM
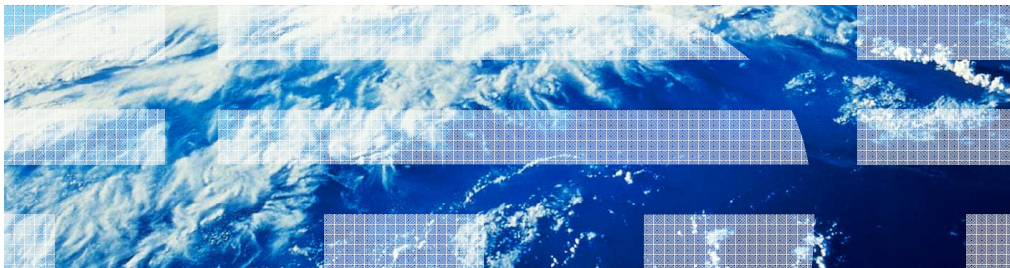
IBM WebSphere CloudBurst Appliance V2.0

DB2

This presentation will discuss WebSphere® CloudBurst™ Appliance and DB2®.

Agenda

- DB2
- DB2 and WebSphere CloudBurst
- DB2 pattern editing and deployment

DB2

This presentation will discuss IBM DB2, DB2 integration with WebSphere CloudBurst, and editing DB2 patterns and deployment of virtual systems containing DB2.

Section

DB2

This section will discuss a brief overview of IBM DB2.

DB2

- DB2 is a relational database management system
  – First released by IBM in 1983
  – Full-featured database server
  – www.ibm.com/db2

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DB2 is a relational database management system that was first released by IBM in 1983. It is a full featured database server that can be used in production environments to support enterprise applications. For more information specific to IBM DB2, visit the DB2 Web site at www.ibm.com/db2.

Section

DB2 and WebSphere CloudBurst

DB2

This section will discuss the integration of DB2 with WebSphere CloudBurst.

DB2 and WebSphere CloudBurst

DB2 Enterprise 9.7.0.0 32-bit Trial	
Description:	DB2 Enterprise 9.7.0.0 database server. This is a 32-bit image to be used for test and development and is not suitable for production use. Trial license is provided for a 90-day evaluation period.
Created on:	May 6, 2010 4:34:46 PM
Current status:	Read-only
Updated on:	May 6, 2010 6:31:06 PM
License agreement:	Accepted [view...]
Hypervisor type:	ESX
Operating system:	LINUX (SLES10SP2)
Version:	9.7.0.0
Image reference number:	1
Product IDs (e.g., 5724-X89):	Click to add
Contains parts:	Database server

- DB2 Virtual images pre-loaded in WebSphere CloudBurst V2.0 catalog
  - 32-bit and 64-bit **DB2 V9.7 Enterprise Server Edition** virtual images available
  - Download these and new DB2 images for WebSphere CloudBurst from:
  - http://www.ibm.com/services/forms/preLogin.do?source=swg-db2-cloudburst

6   DB2   © 2010 IBM Corporation

WebSphere CloudBurst V2.0 includes support for virtual images that contains IBM DB2 database management system. Suse linux 11 based images for both 32-bit and 64-bit flavors of DB2 Enterprise Server Edition version 9.7 are available and some are even pre-loaded in the WebSphere Cloudburst 2.0. To help you get started with DB2 in a WebSphere CloudBurst environment with minimal cost, few of the DB2 images can also be launched with a "trial" license to assist with evaluation, testing, and development of enterprise database applications. All of the currently available DB2 virtual images for Webphere CloudBurst Appliance, as well as any new images as and when they are made available, can be downloaded from the IBM Web site noted on the slide.

DB2 and WebSphere CloudBurst scenarios

1. DB2 virtual system deployed separately from WebSphere Application Server virtual system
2. DB2 instance included in a pattern that also includes a WebSphere Application Server instance

There are two scenarios to consider when thinking about using IBM DB2 with the WebSphere CloudBurst Appliance. First, the DB2 virtual image can be used to create a separate pattern that contains only DB2. Second, the DB2 virtual image can be used to include the DB2 enterprise data server pattern part in a pattern that contains other virtual image pattern parts, such as WebSphere Application Server. When DB2 is deployed in its own virtual system, changes to the DB2 virtual system and any other virtual systems that it interacts with are performed separately. For example, you can have a virtual system with WebSphere Application Server that has an application that relies on DB2 but DB2 is deployed in a separate virtual system. If the virtual system containing WebSphere Application Server is upgraded to a new release by deploying a new virtual system based on a new virtual image, the DB2 instance will remain operational and unaffected by the upgrade. Alternatively, if the DB2 pattern part is deployed as part of the virtual system that contains WebSphere Application Server, then upgrading the WebSphere Application Server parts using a new virtual image destroys the deployed instance of DB2. In that case, DB2 instance will have to be re-created when the new pattern is deployed.

DB2 and WebSphere CloudBurst scenarios

- DB2 is always deployed in its own virtual machine
  - Whether deployed in its own virtual system
  - Whether deployed in the same virtual system as WebSphere Application Server
- WebSphere Application Server access to DB2 is consistent in both scenarios

DB2

DB2 is always deployed in its own virtual machine so it looks the same to applications, regardless if you deploy it in a separate virtual system or a virtual system hosting applications that interface with it. Since it is always deployed in its own virtual machine DB2 has its own unique IP address. Because of this, instances of WebSphere Application Server that access DB2 are configured the same, regardless if they are deployed in the same virtual system as DB2 or not.

Section

DB2 pattern editing and deployment

DB2

This section will discuss editing a WebSphere CloudBurst pattern that contains DB2 and deploying a virtual system that contains DB2.

DB2 pattern

When the DB2 virtual image is available in the WebSphere CloudBurst catalog, DB2 patterns can be created using the pattern editor. There is a predefined pattern part available in the pattern editor called **Database server.** New patterns containing the DB2 enterprise database server pattern part can be created, and the pattern part can be added to patterns containing parts from other available virtual images. The DB2 enterprise database server pattern part is dragged onto the canvas and added to a pattern just like any other pattern part.

DB2 pattern options

Properties for part Database server

Name:	DB2DatabaseServer	
Virtual CPUs:	1	🔓
Memory size (MB):	1024	🔓
Instance password:		🔓
Verify password:		
DB2 Service port:	50001	🔓
FCM start of port range:	60000	🔓
FCM end of port range:	60003	🔓

OK   Cancel

Like other pattern parts in the WebSphere CloudBurst pattern editor, the DB2 Enterprise Data Server pattern part has configurable options. The common settings for WebSphere CloudBurst pattern parts are available, in addition to some DB2 specific options. DB2 options that can be configured include the password for the DB2inst1 username, the DB2 service port, and the fast communications manager port range. Common WebSphere CloudBurst configuration options include the number of virtual processors and how much memory to assign the pattern part, and the passwords for the root and virtuser users.

DB2 deployment with WebSphere CloudBurst V2.0

- DB2 virtual systems deployment roles
  - DB2 administrators
  - System administrators

- Deployment of DB2 similar to WebSphere Application Server deployment
  - Provide virtual system name
  - Cloud group
  - Pattern information not locked into the pattern during editing
  - Create database using a script package during deployment

System administrators and DB2 administrators are two roles that are likely to use WebSphere CloudBurst to deploy and manage virtual systems that contain DB2. Deployments of virtual systems with DB2 are very similar to deployments of virtual systems containing WebSphere Application Server. Once your pattern has been created, you can deploy your DB2 virtual system by selecting the deploy icon in the pattern editor. You provide a virtual system name and cloud group, and any deploy time information that was not locked into your pattern. You can also use the WebSphere CloudBurst deploy feature to schedule your deployment to occur at a specific time. You can take advantage of WebSphere CloudBurst's script package functionality to create a DB2 database and perform any customization at deploy time using a script package.
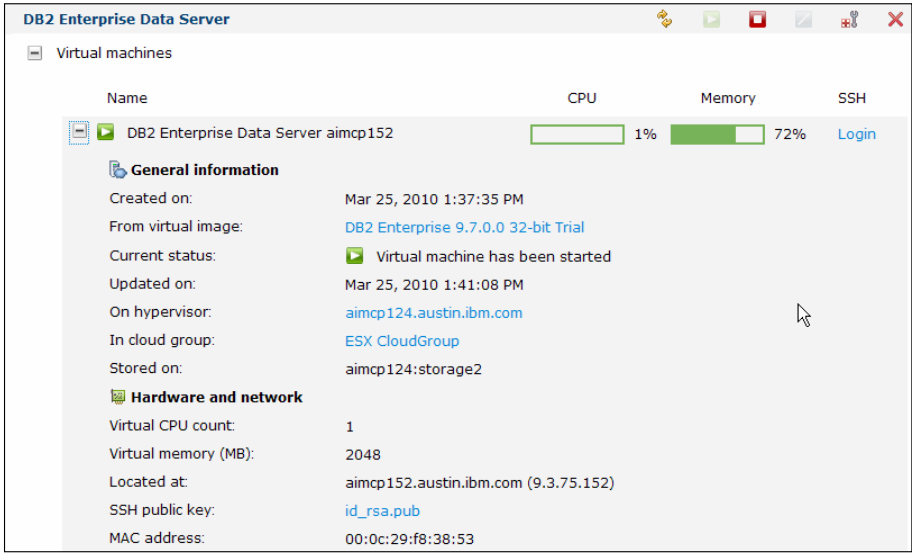
DB2 virtual system management

- Users expected to manage DB2 deployments the same way they do on physical deployments

- Backups, restores, and data moves are all managed the same as a regular DB2 management scenario

- IBM Data Studio (stand-alone)
  – Eclipse based database client
  – Connect to and manage databases graphically
  – Trial download available
    • http://www.ibm.com/services/forms/preLogin.do?source=swg-idssa

DB2

The DB2 administrator has the same responsibilities for database management using a virtual system deployment as a traditional physical deployment. Users of DB2 in the virtual environment are still expected to perform backups, restores, and data moves in the same way they are done in a regular DB2 scenario. IBM Data Studio (stand-alone) is an Eclipse based database client application that is available for trial download from IBM. This application can be used to connect to your DB2 databases deployed by WebSphere CloudBurst. It has graphical components that allow you to connect to, view, and manipulate DB2 database data and configurations.

DB2 virtual system management

- WebSphere CloudBurst administrative console and command-line tools

The WebSphere CloudBurst administrative console and command-line tools provide means to access and manage your DB2 virtual systems. In the Virtual Systems page of the WebSphere CloudBurst administrative console you can view the details for your DB2 virtual system and access the details of its virtual machines. You can use this page to launch the Web browser based SSH client to access the operating system hosting your DB2 deployment. You can also access information about the virtual machines using the command-line tools.

IBM

Summary

This section will summarize the integration of DB2 with WebSphere CloudBurst.

CB20_DB2.ppt

Summary

- DB2 images available in the WebSphere CloudBurst V2.0 catalog

- Patterns can add the DB2 Enterprise Server Edition pattern part

- Can be deployed
  - In its own virtual system
  - As part of a multi image virtual system that includes WebSphere Application Server components

- Script package can be used to create the DB2 database instance on deployment

DB2

Several virtual images containing DB2 data server are available for use with WebSphere CloudBurst Applliance. These DB2 virtual images can be downloaded from IBM and some of them are included in the WebSphere CloudBurst V2.0 catalog. Patterns can contain the DB2 Enterprise Database Server pattern part. DB2 can be deployed in its own virtual system, or can be deployed as part of a multi image virtual system that contains pattern parts from other virtual images. Instances of WebSphere Application Server can connect to the DB2 deployments regardless if they are in the same virtual system as the deployed DB2 instance or not. The WebSphere CloudBurst script package feature can be used to create a DB2 database during the deployment of a virtual system that contains an instance of DB2.

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DB2

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