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WebSphere® Message Broker Overview

Systems Administration

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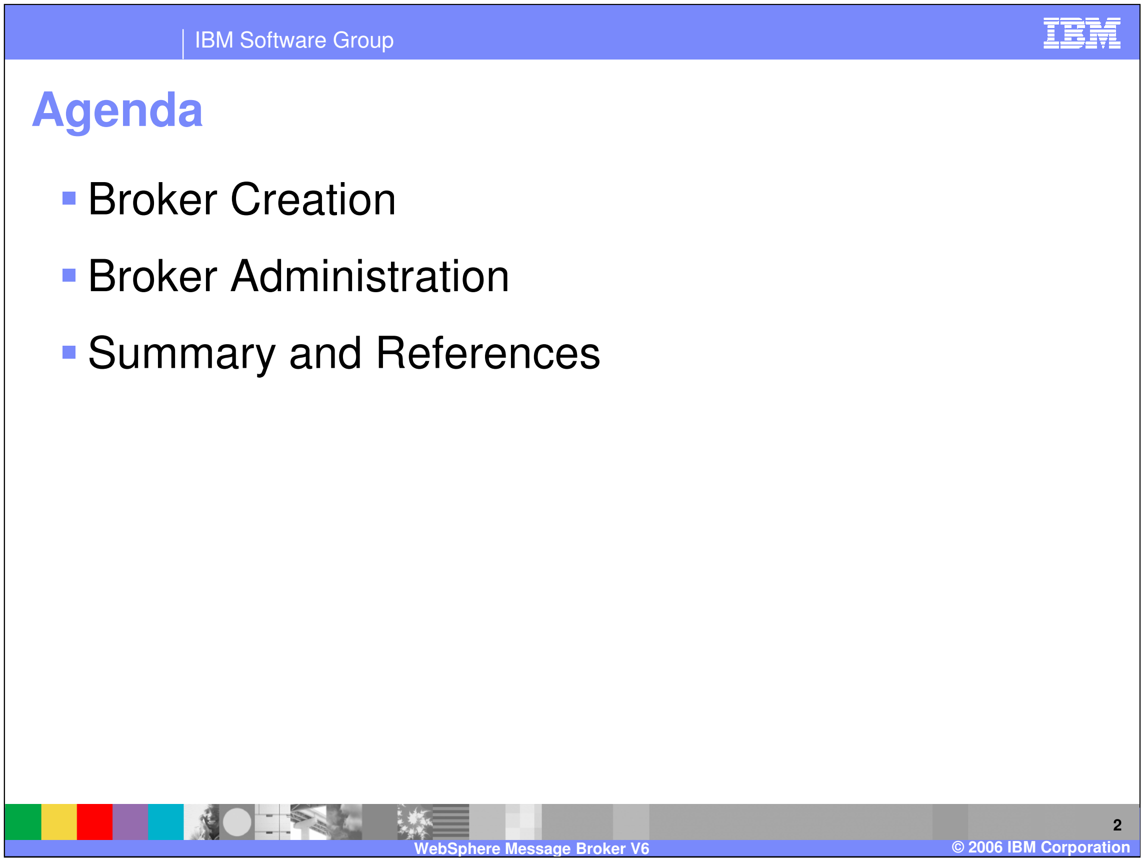
This presentation provides an introduction to the Systems Administration functions WebSphere Message Broker.



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Agenda

- Broker Creation
- Broker Administration
- Summary and References

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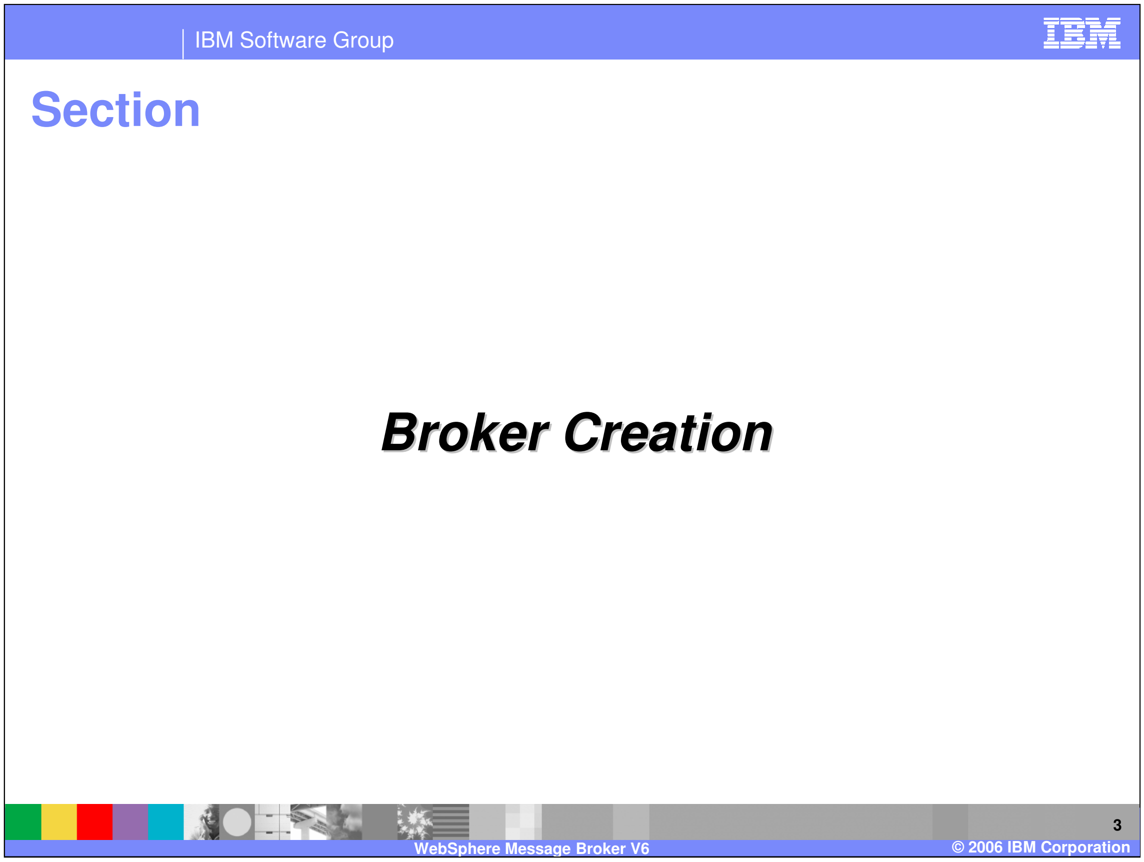
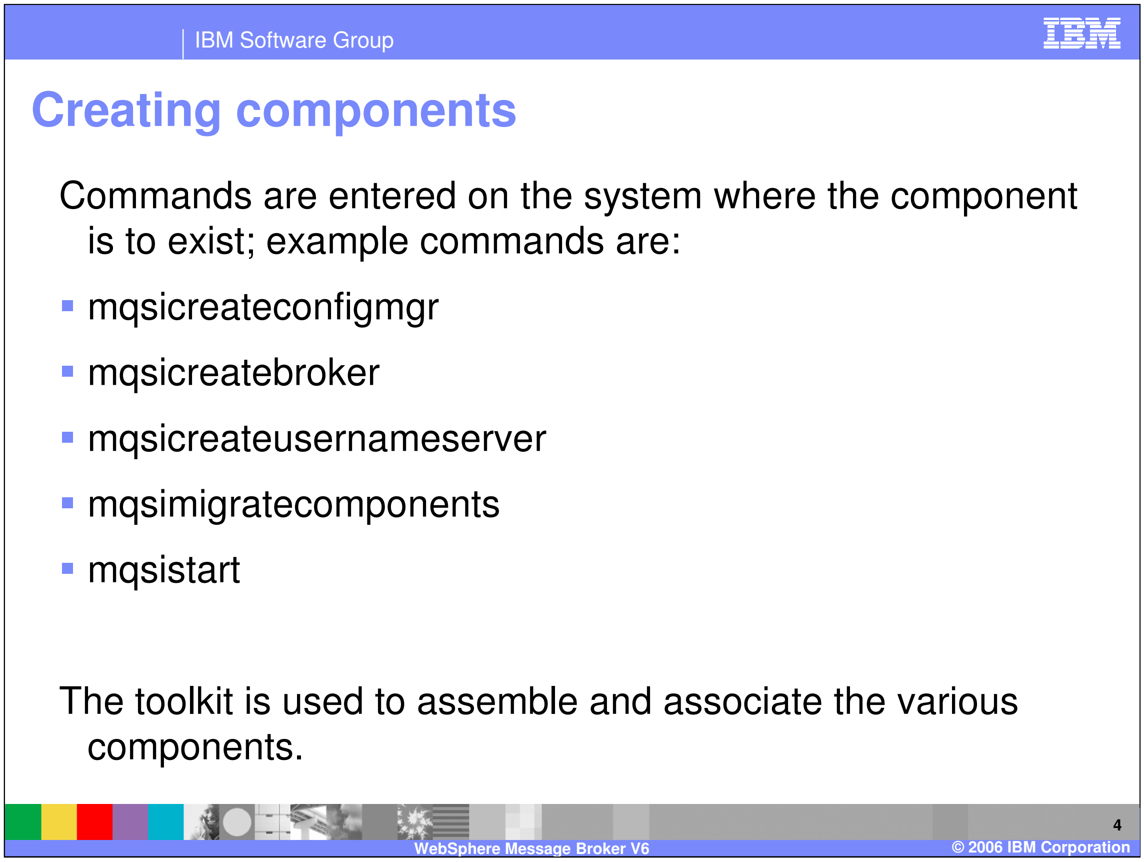
This presentation will discuss broker creation and broker administration in the toolkit.



Section

Broker Creation

The first section addresses how you would create the various components of a broker.



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Creating components

Commands are entered on the system where the component is to exist; example commands are:

- mqsicreateconfigmgr
- mqsicreatebroker
- mqsicreateusernameserver
- mqsimigratecomponents
- mqsistart

The toolkit is used to assemble and associate the various components.

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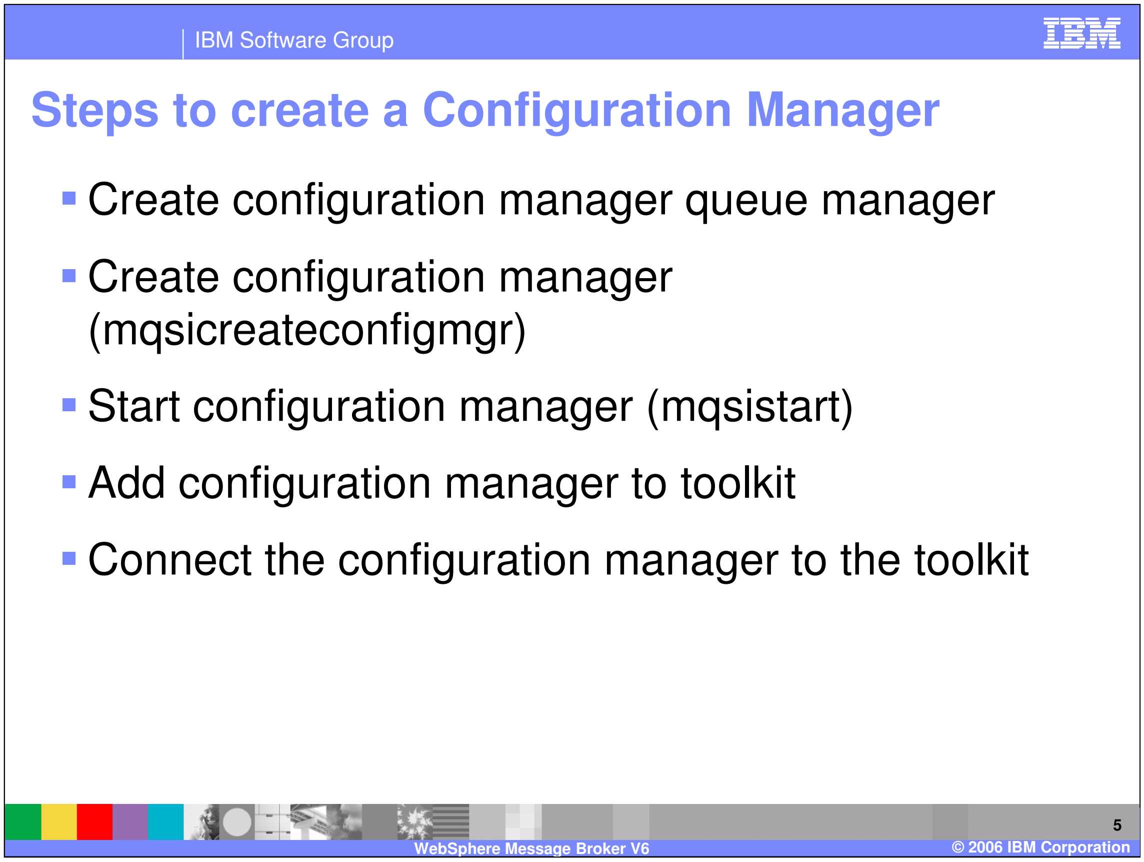
The various components of a broker must be created on the system where the component is to exist. To create a Configuration Manager, use the command mqsicreateconfigmgr. To create a Broker, use mqsicreatebroker. For a User Name Server, use mqsicreateusernameserver. mqsimigratecomponents provides the capability of migrating a broker, Configuration Manager or User Name Server. There are similar commands to delete and start the various components.

On z/OS®, there are batch jobs provided to issue these commands.

The toolkit is used to assemble and associate the various components with each other.



Steps to create a Configuration Manager

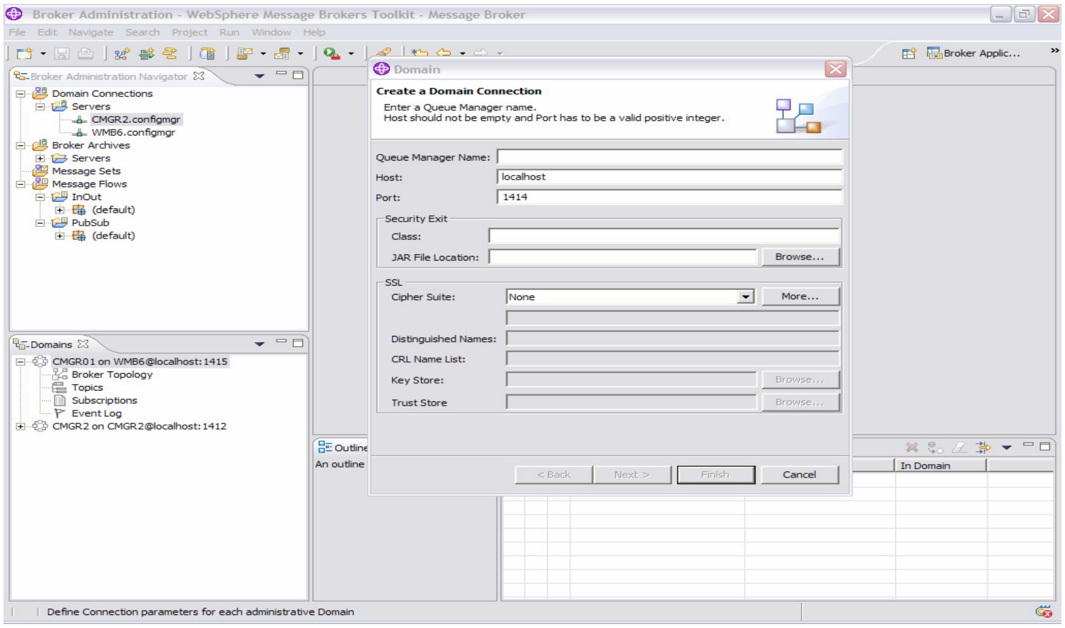
- Create configuration manager queue manager
- Create configuration manager (mqsicreateconfigmgr)
- Start configuration manager (mqsistart)
- Add configuration manager to toolkit
- Connect the configuration manager to the toolkit

The configuration manager must be associated with a WebSphere MQ queue manager. If the queue manager name you specify in the mqsicreateconfigmgr command does not exist, it will be created for you (except on z/OS). You can create a new queue manager or use an existing one; however, only one configuration manager can be associated with a queue manager.

After creating the configuration manager with the mqsicreateconfigmgr command, you must start it using mqsistart. On Windows®, you can include the configuration manager start in the system services so that it is started automatically.

After creating the configuration manager, you must associate it with the toolkit that will administer this configuration manager.

Create Domain Connection



Broker Administration - WebSphere Message Brokers Toolkit - Message Broker

Domain

Create a Domain Connection

Enter a Queue Manager name.
Host should not be empty and Port has to be a valid positive integer.

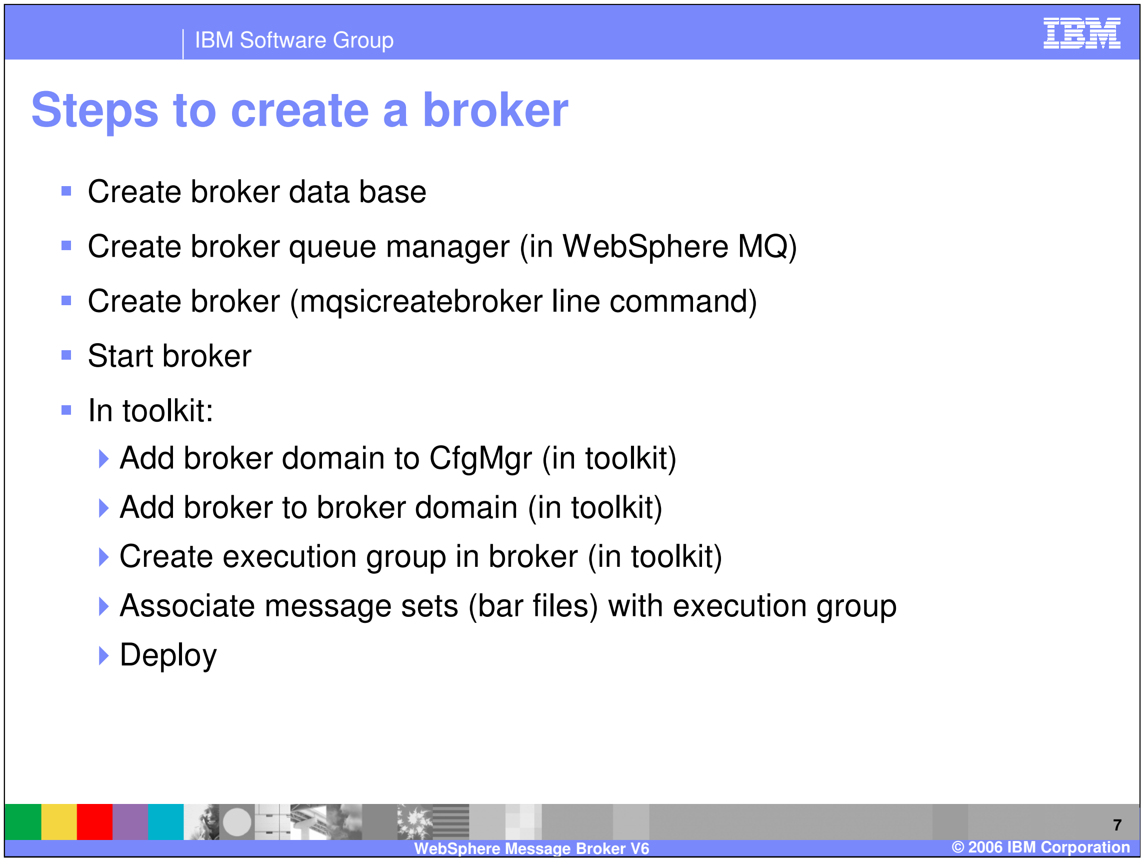
Queue Manager Name:
Host: localhost
Port: 1414

Security Exit
Class:
JAR File Location:

SSL
Cipher Suite: None
Distinguished Names:
CRL Name List:
Key Store:
Trust Store

Define Connection parameters for each administrative Domain

In the toolkit Broker Administration Perspective, you must create a domain connection for the configuration manager you just created. This slide shows the menu for doing this.



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Steps to create a broker

- Create broker data base
- Create broker queue manager (in WebSphere MQ)
- Create broker (mqsicreatebroker line command)
- Start broker
- In toolkit:
  - Add broker domain to CfgMgr (in toolkit)
  - Add broker to broker domain (in toolkit)
  - Create execution group in broker (in toolkit)
  - Associate message sets (bar files) with execution group
  - Deploy

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The broker database stores its configuration information provided by the configuration manager at deploy. This can be a DB2®, Informix, Oracle, Sybase, or Microsoft® SQL Server, depending on the operating system platform.

The broker also uses a WebSphere MQ queue manager to store information. The broker can share an existing queue manager or have its own; it can share a queue manager with a Configuration Manager, but not with another broker. As in the Configuration Manager, if the queue manager named in the mqsicreatebroker command does not exist, WebSphere Message Broker will create one for you (except on z/OS).

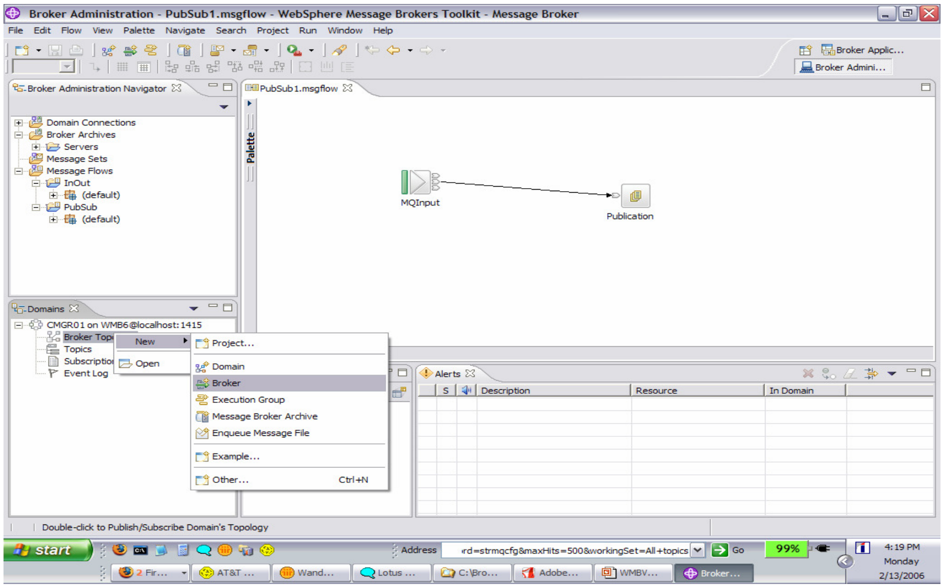
As with the configuration manager, you can start the broker with an mqsistart line command or you can have Windows services start the broker automatically.

In the toolkit the new broker must be associated with the configuration manager that will control it.

An execution group is a named grouping of message flows that have been assigned to a broker. The broker enforces a degree of isolation between message flows in distinct execution groups by ensuring that they run in separate address spaces, or as unique processes.

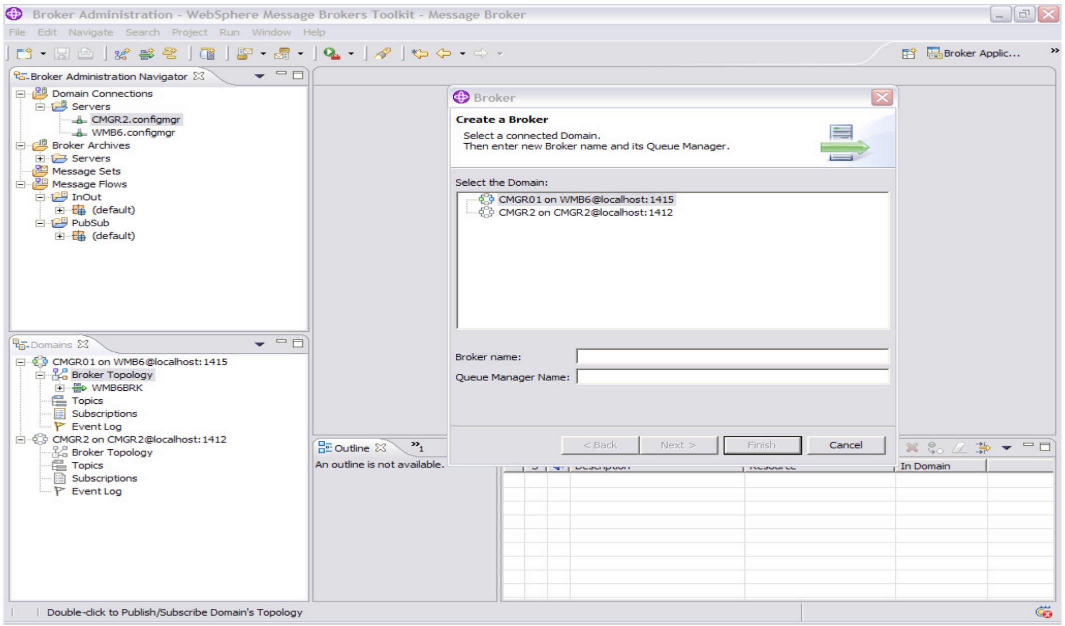
The broker is associated with message flows through one or more execution groups. Broker archives, or .bar files, contain message sets, or runtime dictionaries, compiled message flows, Java™ and xml objects. After packaging all the relevant resources into the .bar file, you then deploy.

Adding a Broker to Broker Domain



The broker just created must be associated with its Configuration Manager. In the Broker Administration Perspective, right click on the broker topology for the configuration manager that is to administer the broker, select new, broker as shown in the slide above.

Adding a Broker to Broker Domain


Broker Administration - WebSphere Message Brokers Toolkit - Message Broker
File Edit Navigate Search Project Run Window Help
Broker Applic...
Broker Administration Navigator
Domain Connections
Servers
CMGR2.configmgr
WMB6.configmgr
Broker Archives
Servers
Message Sets
Message Flows
InOut
(default)
PubSub
(default)
Domains
CMGR01 on WMB6@localhost:1415
Broker Topology
WMB6BRK
Topics
Subscriptions
Event Log
CMGR2 on CMGR2@localhost:1412
Broker Topology
Topics
Subscriptions
Event Log
Outline
An outline is not available.
In Domain
Double-click to Publish/Subscribe Domain's Topology

Broker

Create a Broker

Select a connected Domain.
Then enter new Broker name and its Queue Manager.

Select the Domain:

- CMGR01 on WMB6@localhost:1415
- CMGR2 on CMGR2@localhost:1412

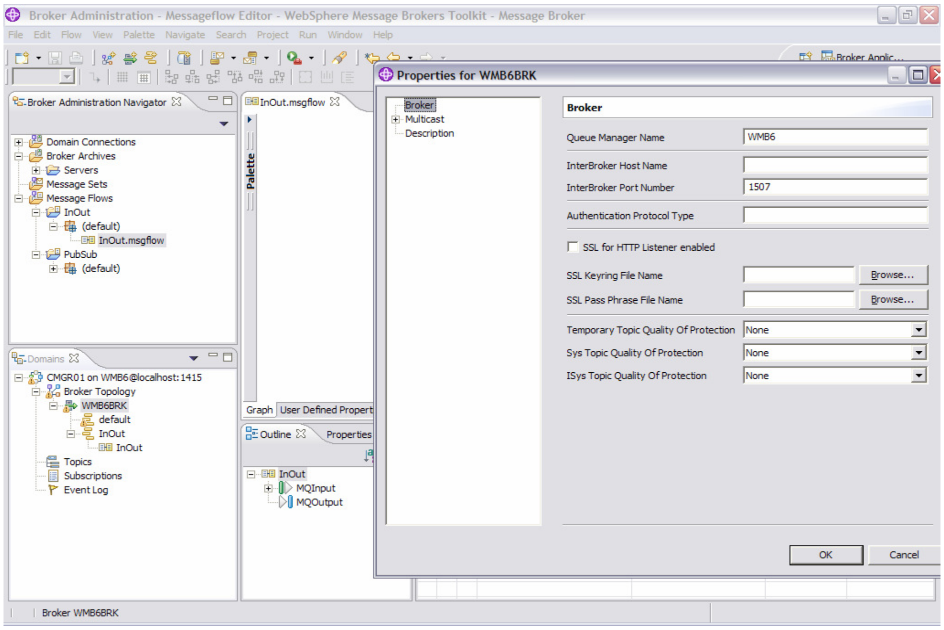
Broker name:

Queue Manager Name:

< Back | Next > | Finish | Cancel

In the toolkit you must supply the broker name and its queue manager name.

Broker Properties



Broker

Queue Manager Name: WMB6

InterBroker Host Name:

InterBroker Port Number: 1507

Authentication Protocol Type:

☐ SSL for HTTP Listener enabled

SSL Keyring File Name:

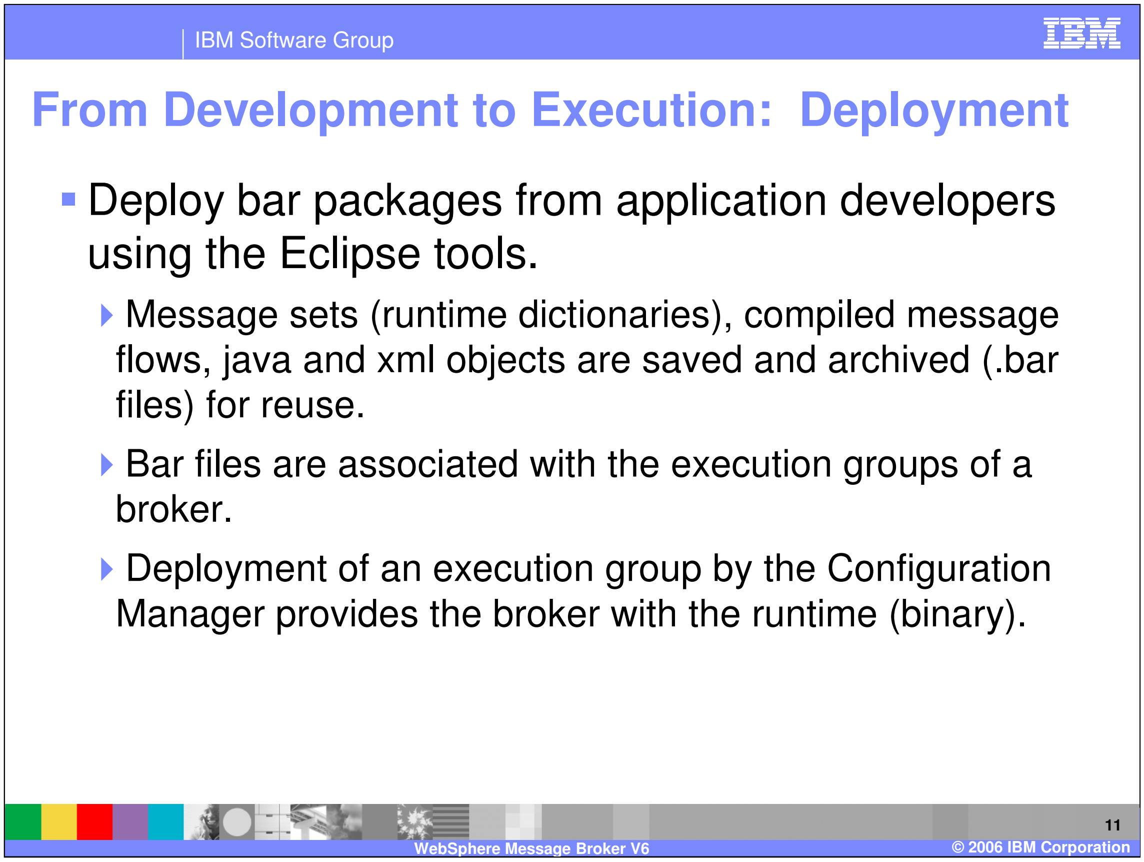
SSL Pass Phrase File Name:

Temporary Topic Quality Of Protection: None

Sys Topic Quality Of Protection: None

ISys Topic Quality Of Protection: None

Once added, you can view the properties of each component by selecting the properties tab on the component.



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From Development to Execution: Deployment

- Deploy bar packages from application developers using the Eclipse tools.
  - Message sets (runtime dictionaries), compiled message flows, java and xml objects are saved and archived (.bar files) for reuse.
  - Bar files are associated with the execution groups of a broker.
  - Deployment of an execution group by the Configuration Manager provides the broker with the runtime (binary).

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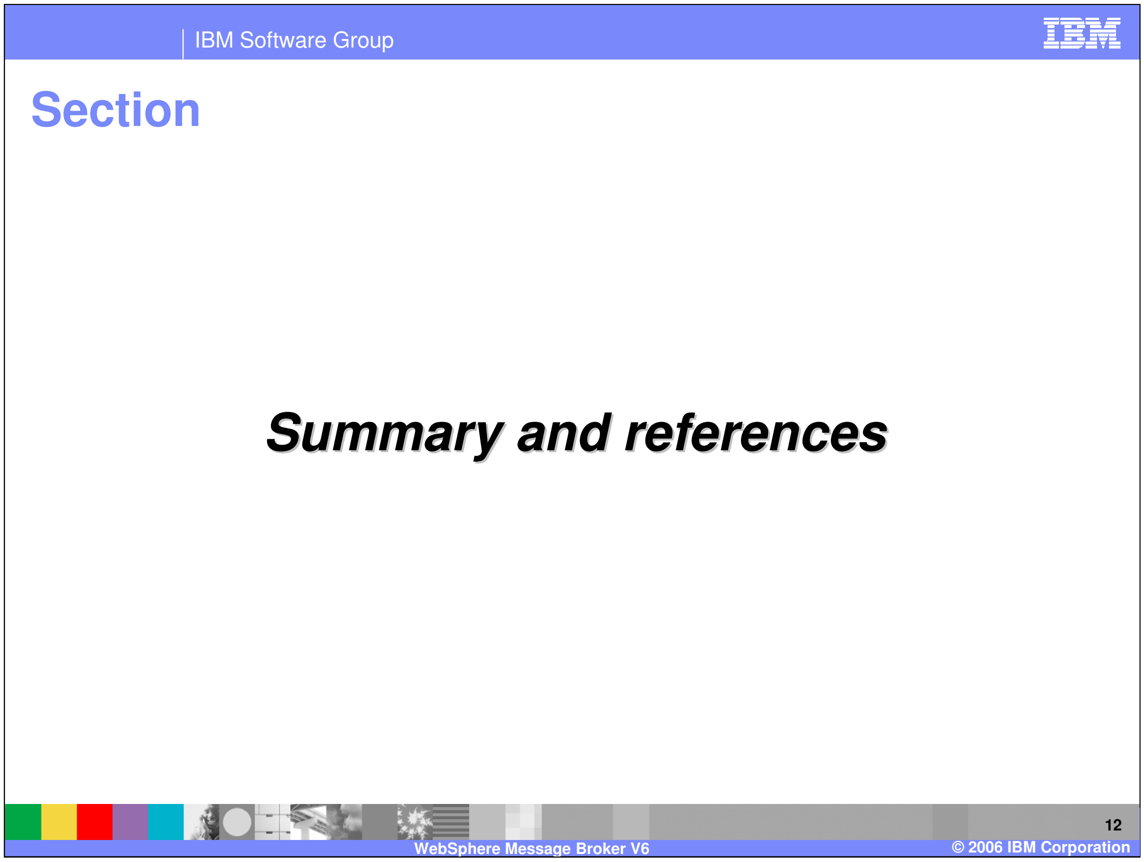
Message sets (runtime dictionaries), compiled message flows, java and xml objects from application developers are packaged as broker archive files and deployed from the Eclipse tools by system administrators into the runtime where they become executable operating system objects.

Message sets (runtime dictionaries), compiled message flows, java and xml objects are saved and archived (.bar files) for reuse; they can be used in any number of execution groups.

Deployment is the process of transferring data to an execution group on a broker so that it can take effect in the broker domain. For deploying message flows and associated resources, the data is packaged in a broker archive (.bar) file before being sent to the Configuration Manager, where it is unpackaged and distributed appropriately.

An execution group is associated with a broker.

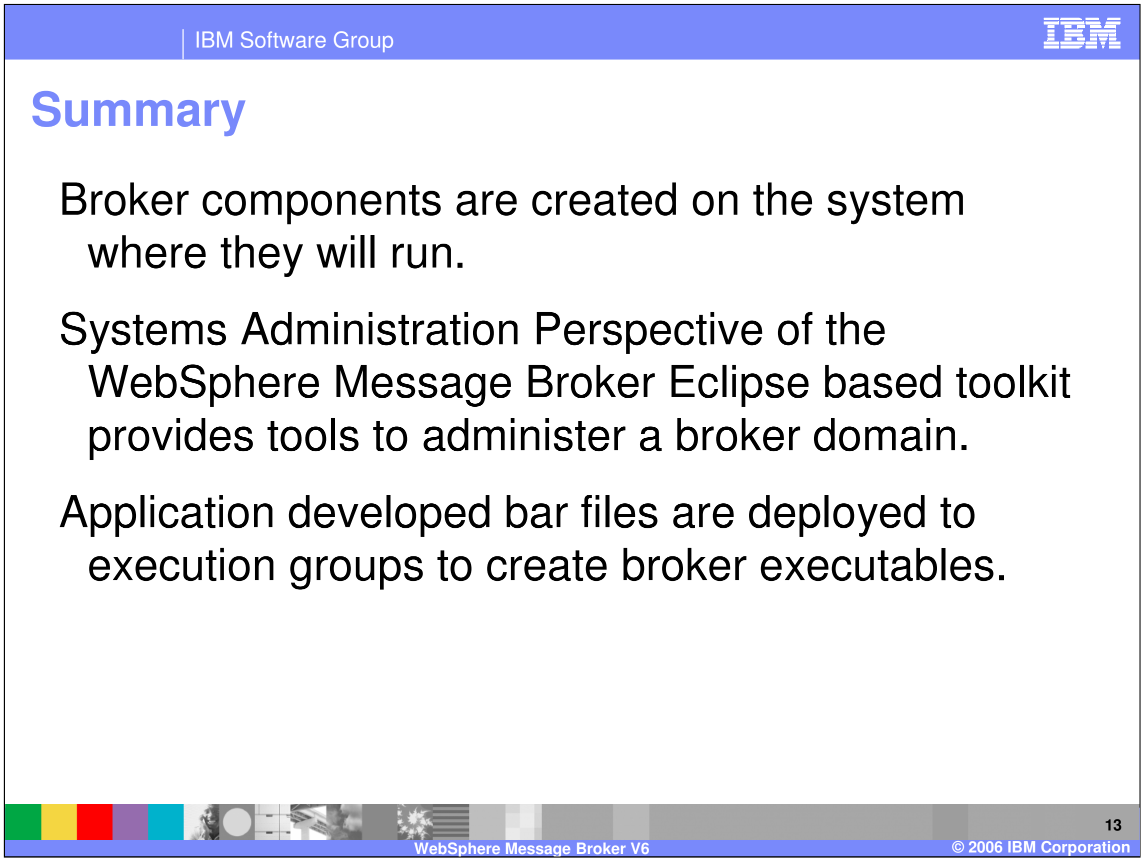
Deployment of an execution group by the Configuration Manager provides the broker with the runtime (binary).



Section

Summary and references

The last portion of the presentation contains a summary and references.



Summary

Broker components are created on the system where they will run.

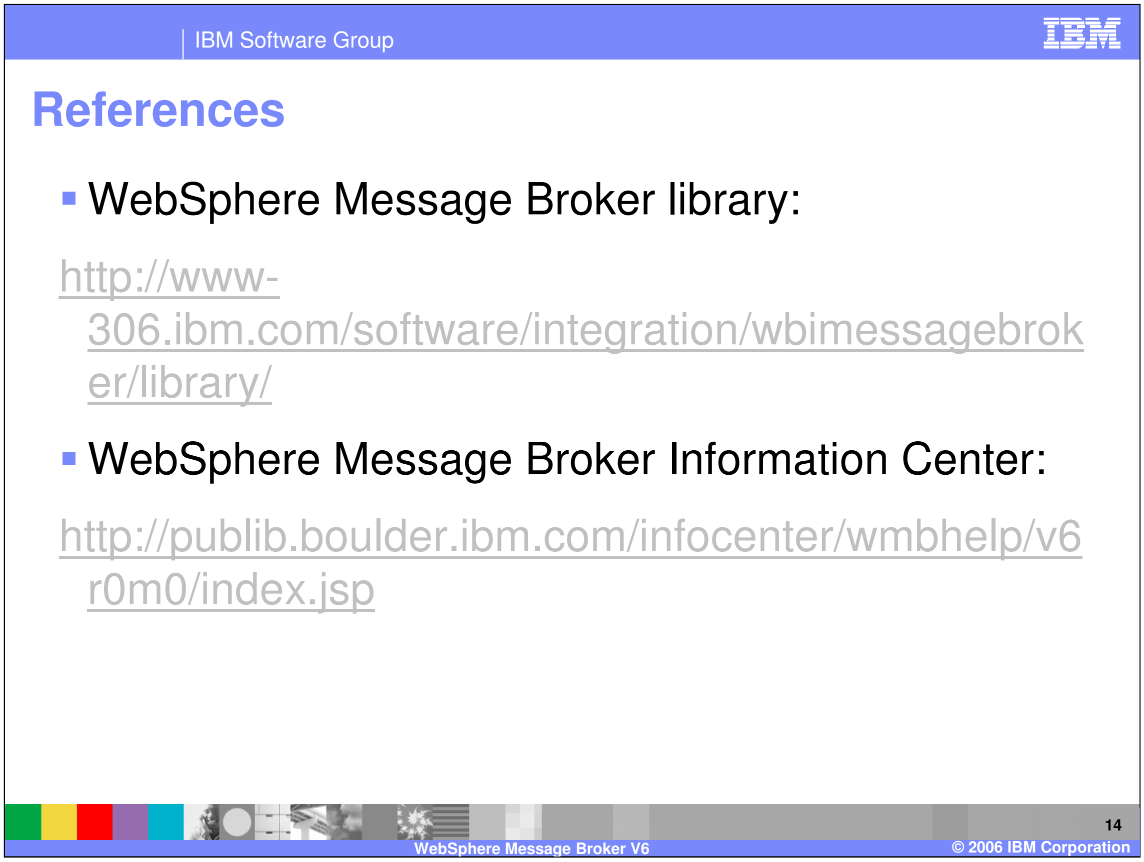
Systems Administration Perspective of the WebSphere Message Broker Eclipse based toolkit provides tools to administer a broker domain.

Application developed bar files are deployed to execution groups to create broker executables.

The components (Configuration Manager, Broker, and optional User Name Server) are created on the system where they will run using line commands. In z/OS, there are batch jobs provided to accomplish this.

From the Systems Administration Perspective of WebSphere Message Broker, a Broker Domain with Configuration Managers and associated brokers are controlled by the system administrator.

Message flows and message sets created by application developers are packaged, archived and deployed to the proper execution groups associated with a broker by the system administrator; the result is a broker executable.



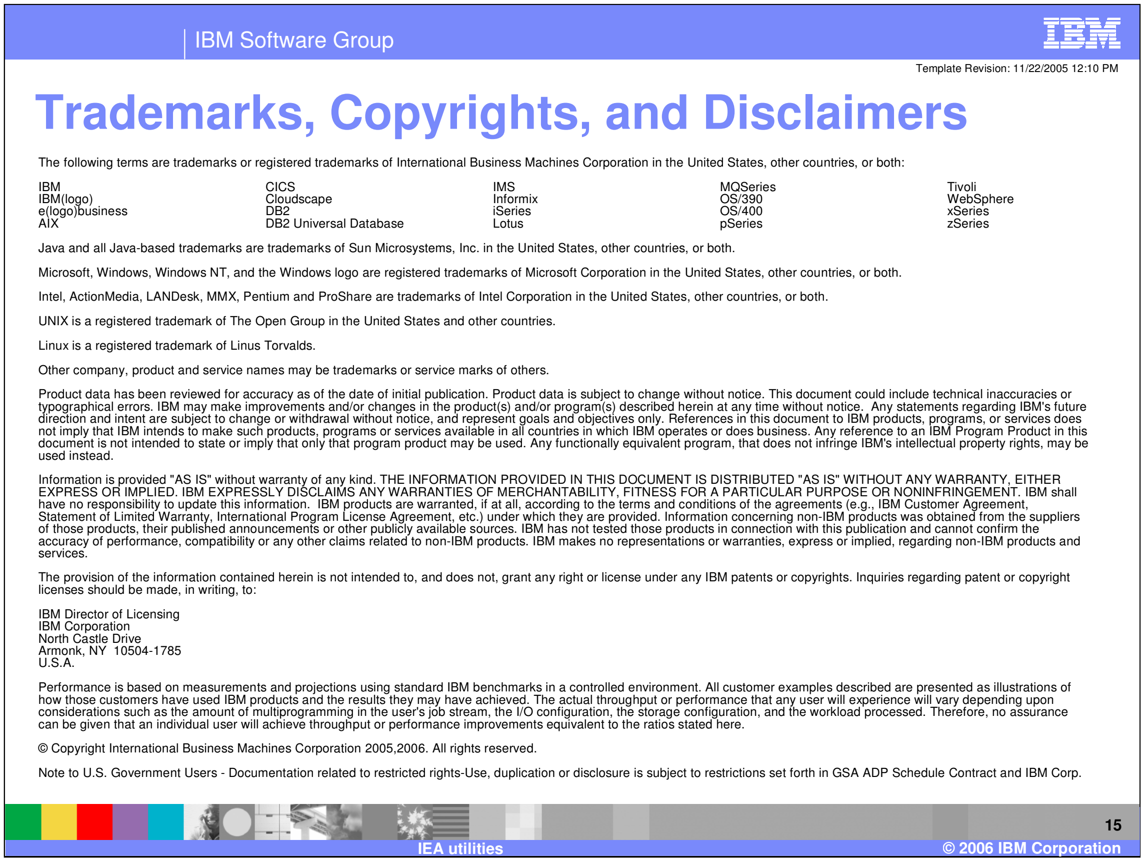
References

- WebSphere Message Broker library:

http://www-306.ibm.com/software/integration/wbimessagebroker/library/

- WebSphere Message Broker Information Center:

http://publib.boulder.ibm.com/infocenter/wmbhelp/v6r0m0/index.jsp



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