IBM® Lotus® Expeditor 6.1 Server

DB2® Everyplace® Administration

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Hello, and welcome to this presentation on administering DB2 Everyplace for Lotus Expeditor 6.1 Server.

Agenda

- Mobile Device Administration Center (MDAC)
  - ▶ The Basics
  - ▶ Features

- XML Scripting
  - ▶ The Basics
  - ▶ Features

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This presentation will cover the basic operations of the Mobile Device Administration Center, referred to as MDAC, as well as certain features available in MDAC. The administration features of the XML scripting tool will also be covered.

MDAC: The basics
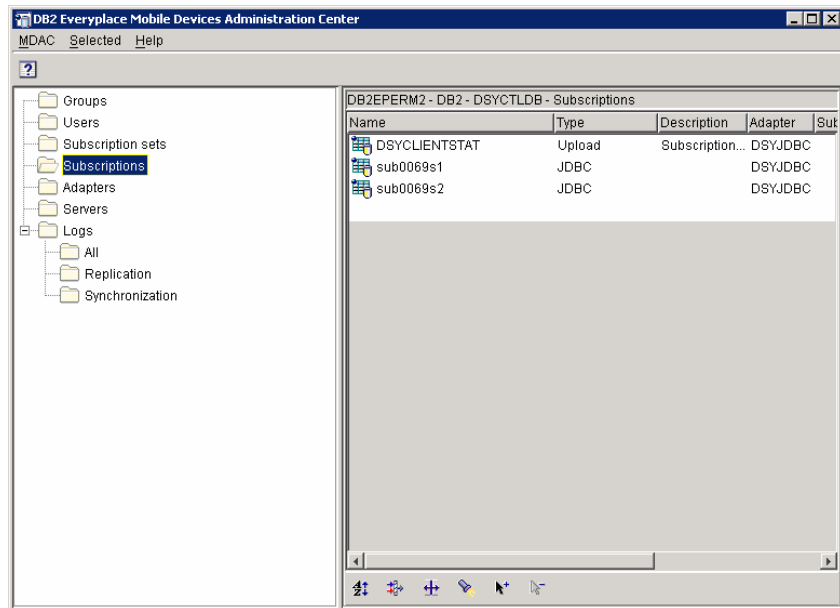
MDAC provides a GUI interface to the administration functions needed to configure DB2 Everyplace synchronization.

MDAC: The basics (cont.)

- Groups
- Users (and devices)
- Subscription Sets
- Subscriptions
- Adapters
- Servers
- Logs

Groups allow you to view the DB2 Everyplace groups defined in the Lotus Expeditor Server user repository. You define synchronization characteristics for each group, such as which applications the users in the group need to access to perform their jobs and what subsets of enterprise data they need to access.

Users allow you to view the users defined in the Lotus Expeditor synchronization group. You can also view and edit the devices a user has used to access the DB2 Everyplace server.

Subscription sets are a collection of subscriptions. To provide group members with access to the data and files defined in subscriptions, you collect the subscriptions together in a subscription set, then assign the subscription set to a group.

Subscriptions is a specification for what information in a source database or server is to be replicated to a target database (the DB2 Everyplace mobile database on the client).

Adapters define available adapters used for different types of subscriptions, such as JDBC, file, or custom.

Servers list all the DB2 Everyplace servers. In a cluster environment, this will list all the DB2 Everyplace servers in the cluster.

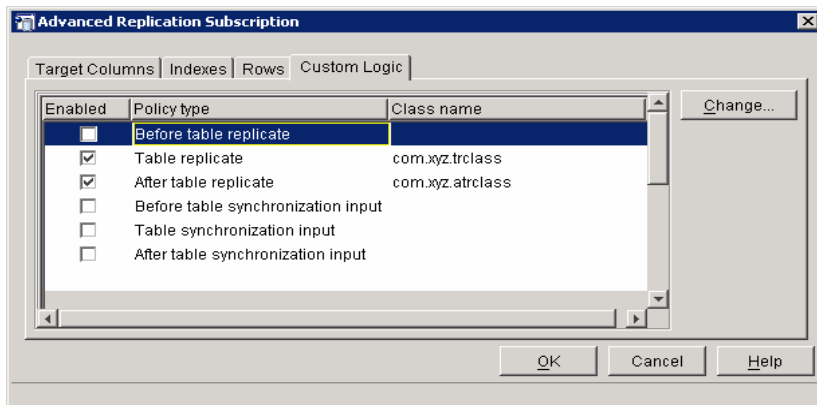Logs display the contents of replication and synchronization logs.

MDAC Features

- Custom Logic

- Logging

- Reset/Remove devices

- Client Trace Upload

Some features available with the MDAC console include custom logic, logging, ability to reset or remove devices, and option to upload the client trace to the server.

Custom logic

- Panels to support Custom Logic feature
- Write custom Java™ code to run during synchronization and replication processes

Advanced Replication Subscription

Target Columns | Indexes | Rows | Custom Logic

Enabled	Policy type	Class name
☐	Before table replicate	
☑	Table replicate	com.xyz.trclass
☑	After table replicate	com.xyz.atrclass
☐	Before table synchronization input	
☐	Table synchronization input	
☐	After table synchronization input	

Change...

OK   Cancel   Help

The Custom logic feature can be use to define Java classes that are run during the synchronization and replication process. Custom logic can be defined as part of the subscription.

Logging

- Details on replication status
  - Table level status and failure information
- Details on synchronization status
  - Subscription level status and failure information
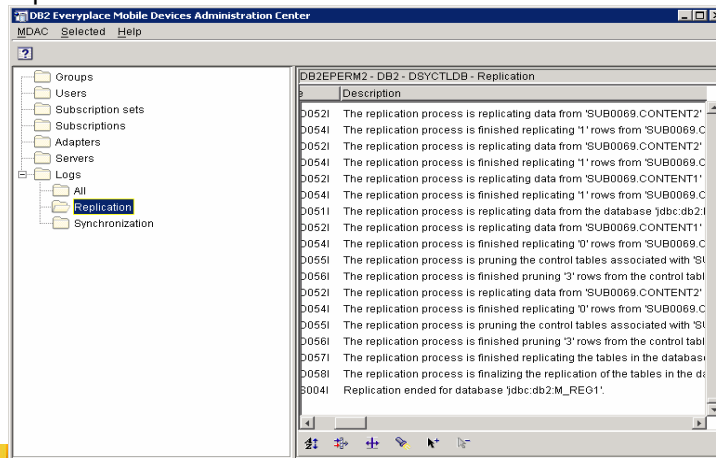
Replication and synchronization logs can be accessed from MDAC to view the status of synchronization and replication request. There is also a view which will combine both logs to allow you to see the timing between synchronization and replication request.
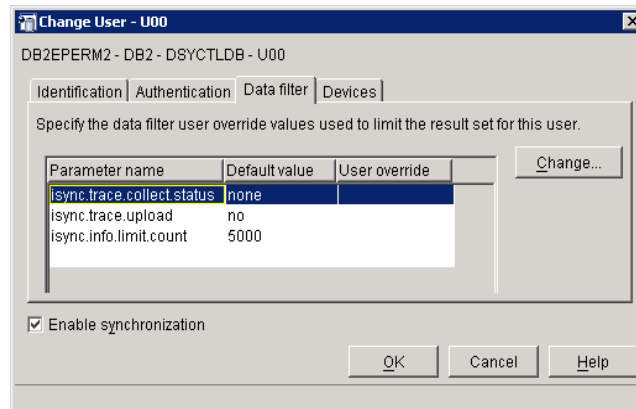
Reset/remove devices
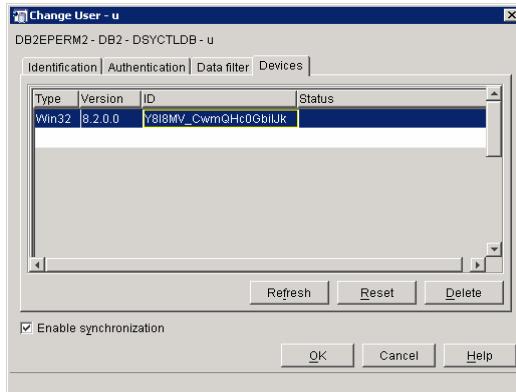
- 'Client device record' not removed on reset.

- Use 'Delete' to associate a device to a different user.

- Use 'Reset' to get a client back in sync after changing a filter parameter or if the client has worked with rows that are out of its filter scope.

When a user synchronizes with the DB2 Everyplace server, the device is associated with the user performing the request. The list of devices for a particular user can be displayed in MDAC. You can also delete devices for a user or reset the device to get it back in sync after making configuration changes.

Client trace upload

- Three new parameters created for all users.
    - isync.trace.collect.status (none,error,all) - detail level
    - isync.trace.upload (no,yes) - on/off switch
    - isync.info.limit.count (positive integer) - how many rows the client can send at one time

Change User - U00

DB2EPERM2 - DB2 - DSYCTLDB - U00

Identification | Authentication | Data filter | Devices

Specify the data filter user override values used to limit the result set for this user.

Parameter name	Default value	User override
isync.trace.collect.status	none	
isync.trace.upload	no	
isync.info.limit.count	5000	

Change...

☑ Enable synchronization

OK   Cancel   Help

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You are also able to configure, on a per user basis, if client trace information will be collected during synchronization. You can turn tracing on or off, and set the level of tracing to collect and how much information is sent.

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XML scripting: Basics

- Do everything you can in MDAC…

- Except:
  - ▶ look at the logs

- Plus:
  - ▶ Set/view properties
  - ▶ Setup Data Propagator subscriptions
  - ▶ Prune mirror tables
  - ▶ Replicate

DB2 Everyplace provides an XML based scripting function that can be used for everything you can perform with MDAC, except view logs. In addition XML scripting provides additional functions which are not available in MDAC, such as: set and view properties, setup Data Propagator subscriptions, prune tables in a mirror database, and perform replication.

XML scripting: Basics (cont.)

```xml
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE Root SYSTEM
    "file:/com/ibm/mobileservices/xmlscripting/mdas3.dtd">
<Root>
<AddJdbcSubscription>
    <Name>sub0067s</Name>
    <Description></Description>
    <SubAdapter>DSYJDBC</SubAdapter>
    <EncryptionLevel>0</EncryptionLevel>
    <Block>N</Block>
    <MasterDb>jdbc:db2:REG1</MasterDb>
    <MasterDriver>COM.ibm.db2.jdbc.app.DB2Driver</MasterDriver>
    <MirrorDb>jdbc:db2:M_REG1</MirrorDb>
    <MirrorDriver>COM.ibm.db2.jdbc.app.DB2Driver</MirrorDriver>
    <AddTable>
        <TargetSchema>SUB0067</TargetSchema>
        <TargetTable>CONTENT1</TargetTable>
        <SourceSchema>SUB0067</SourceSchema>
        <SourceTable>CONTENT1</SourceTable>
        <DeleteAuth>Y</DeleteAuth>
        <InsertAuth>Y</InsertAuth>
        <UpdateAuth>Y</UpdateAuth>
        <SelectAuth>Y</SelectAuth>

        <WhereClauseMirrorToMobile></WhereClauseMirrorToMobile>
        <WhereClauseMasterToMirror>( bin1 &gt; 80 ) AND (bin1 &lt;
150)</WhereClauseMasterToMirror>
        <JoinFilter>G</JoinFilter>
        <Order>1</Order>
        <Encrypt>N</Encrypt>
    <AddColumn>
        <SourceColumn>AIN1</SourceColumn>
        <TargetColumn>AIN1</TargetColumn>
        <Subscribe>Y</Subscribe>
        <Replicate>Y</Replicate>
        <Key>Y</Key>
    </AddColumn>
    <AddColumn>
        <SourceColumn>BIN1</SourceColumn>
        <TargetColumn>BIN1</TargetColumn>
        <Subscribe>Y</Subscribe>
        <Replicate>Y</Replicate>
        <Key>N</Key>
    </AddColumn>
    </AddTable>
</AddJdbcSubscription>
</Root>
```

This slide shows an example XML file that would be used by the XML scripting tool. This example adds a JDBC subscription.

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XML scripting: Basics (cont.)

- Use dsyadminxml.bat/sh to apply (-d) xml scripts or extract them (-x)

- When extracting xml scripts you can:

  ▸ Include/Exclude certain object types in your script

  ```
  dsyadminxml.bat -x myfile.xml -include subs
  dsyadminxml.bat -d myfile.xml
  ```

  ▸ Generate Add/Remove tags corresponding to the objects in the control database for DB2 Everyplace.

  ```
  dsyadminxml.bat -x myfile.xml -remove -include subs
  dsyadminxml.bat -d myfile.xml
  ```

Use the dsyadminxml command to run XML scripts or extract information into an XML file. When extracting information into xml script files, you can have the generated XML script file include add or remove tags around corresponding objects. For example, this would allow you to extract an XML file that will remove all subscriptions. You may also use a command line switch to include or exclude certain object types. For instance, include all subscriptions would generate an XML file containing all subscriptions.

XML scripting: Features

- Data Propagator Support

- Replicate tag

- Prune tag

- Remove/Reset Devices

- Encrypted Password Support

Some features of the XML scripting tool are data propagator support, the ability to start a replication, the ability to prune tables in a mirror database, remove or reset devices, and support for encrypted passwords for security.

Data propagator support

- Requires DB2 9.1

- All the DPropR setup can be done automatically

- Flexibility of selecting Tablespaces and Apply Qualifiers.

- Need to start Capture process manually on source.

- `<AddReplMaster CreateDPropRControlTables="TRUE">`

- `<AddReplMirror CreateDPropRControlTables="TRUE">`

- `<AddDproprSubscription Replicate="FALSE" SetupDPropRSourceAndMirror="TRUE">`

You must use the XML scripting tool to setup Data propagator subscriptions since this function is not available in the MDAC console. Data propagator only supports DB2 9.1 for the mirror and source database. The data propagator support provides flexibility of selecting Tablespaces and applying qualifiers in the XML script. You will need to manually start the capture process on the source database server.

Replicate tag

```
<ReplicateMirror Timeout="60">
  <Database>jdbc:db2:SRCDB</Database>
</ReplicateMirror>
```

- Allows replication to be performed while executing XML Script.

- Alternative to dsyreplicate.bat/sh

- Timeout attribute is maximum number of seconds to wait to start replicating (in case replication is already being performed).

XML scripting also supports performing replication while executing a script. This can be used as an alternative to the dsyreplicate command. The replicate tag supports a timeout value which represents the maximum seconds to wait for replication to start in the case where replication is already being performed.

Prune mirror tables

```
<PruneMirror PruneAll="TRUE"/>
<PruneMirror PruneAll="FALSE">
  <Database>jdbc:db2:MRRDB</Database>
</PruneMirror>
```

- Mirror table, DSY.EHxxxx, (Extended History) can grow rather large in some circumstances
  - ▶ Large volatility of data
  - ▶ Long delays between device synchronization
- Normally pruned periodically in the Sync Server, but additional pruning may be desired
  - ▶ After resetting/deleting a number of devices
  - ▶ Before performing some sort of database maintenance

The Extended History table in the mirror database may grow rather large in certain circumstances. The Extended History table is periodically pruned by the DB2 Everyplace Sync Server, but if additional pruning is needed, the XML scripting allows the Extended History table to be pruned at anytime by executing a script. Additional pruning may be desired after resetting or deleting a large number of devices, or before performing database maintenance.

Reset/remove devices

```
<ResetDevice><Id>_mWkRSupl9j9jBYWr4jg</Id></ResetDevice>
<RemoveDevice><UserName>user1</UserName></RemoveDevice>
<RemoveDevice><Id>_mWkRSupl9j9jBYWr4jg</Id></RemoveDevice>
```

- Same reasons as with MDAC.
- The terminology is different but the action is the same. XML Scripting has RemoveDevice instead of Delete.

XML scripting can be used to reset or remove devices just like MDAC. Note, there is a difference in terminology between XML script and MDAC for deleting a device. The XML script uses a remove device tag instead of delete device.

Encrypted password support

```
<AddJdbcMaster>

    <Database>jdbc:db2:REG1</Database>

    <Driver>COM.ibm.db2.jdbc.app.DB2Driver</Driver>

    <UserId>db2admin</UserId>

    <Password
 Encryption="DSY">QmlUOzeUngArzGq1xptlhA==</Password>

</AddJdbcMaster>
```

- Allows passwords to be entered as encrypted values instead of clear text.

- Default when script is generated with -x option.

- Get your own encrypted passwords for use in XML Scripts with dsyencrypt.bat/sh utility.

- Security by obscurity.

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For security purposes it is desirable to encrypt passwords stored in XML script files. The XML scripting tool supports entering encrypted passwords in the file. If you want to enter an encrypted password in an XML file, use the dsyencrypt utility to generate the encrypted password. If you export DB2 Everyplace information to an XML file, all passwords will be encrypted by default.

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