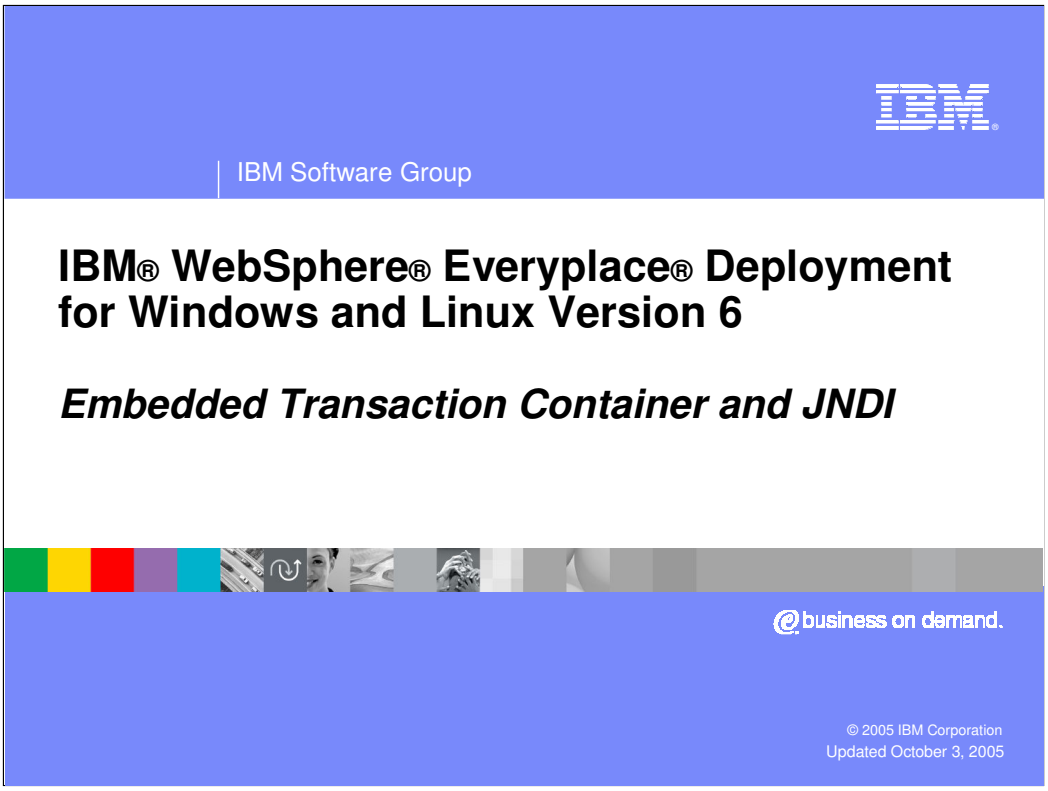
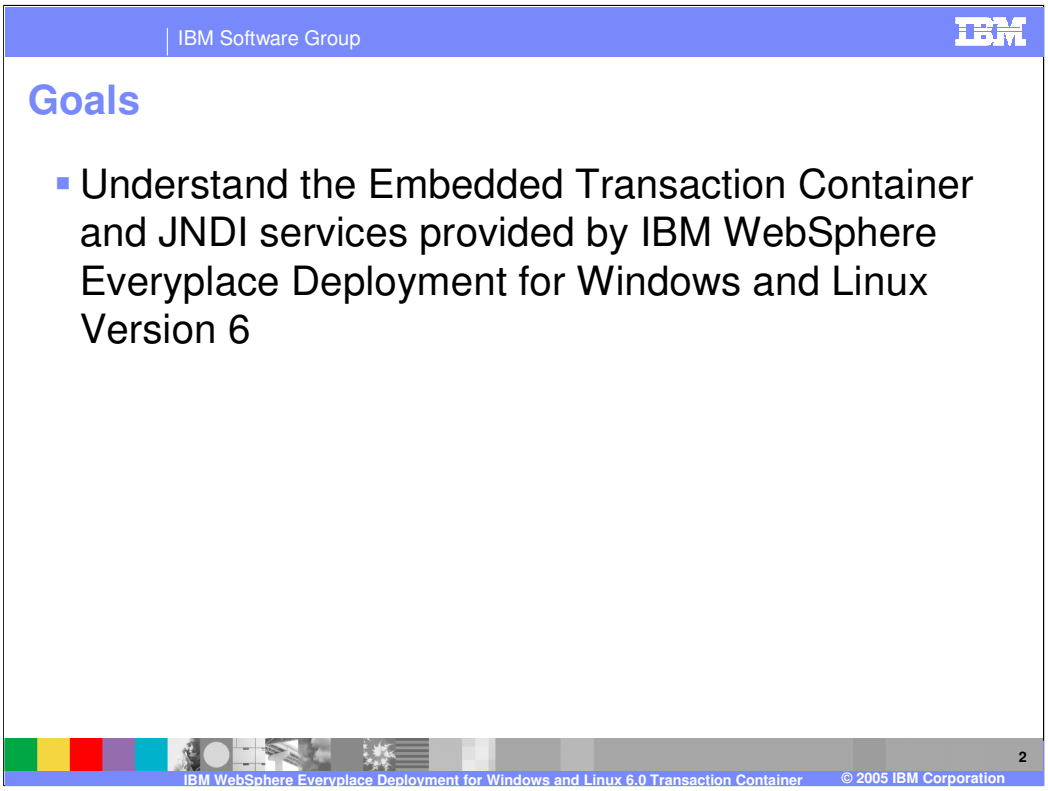
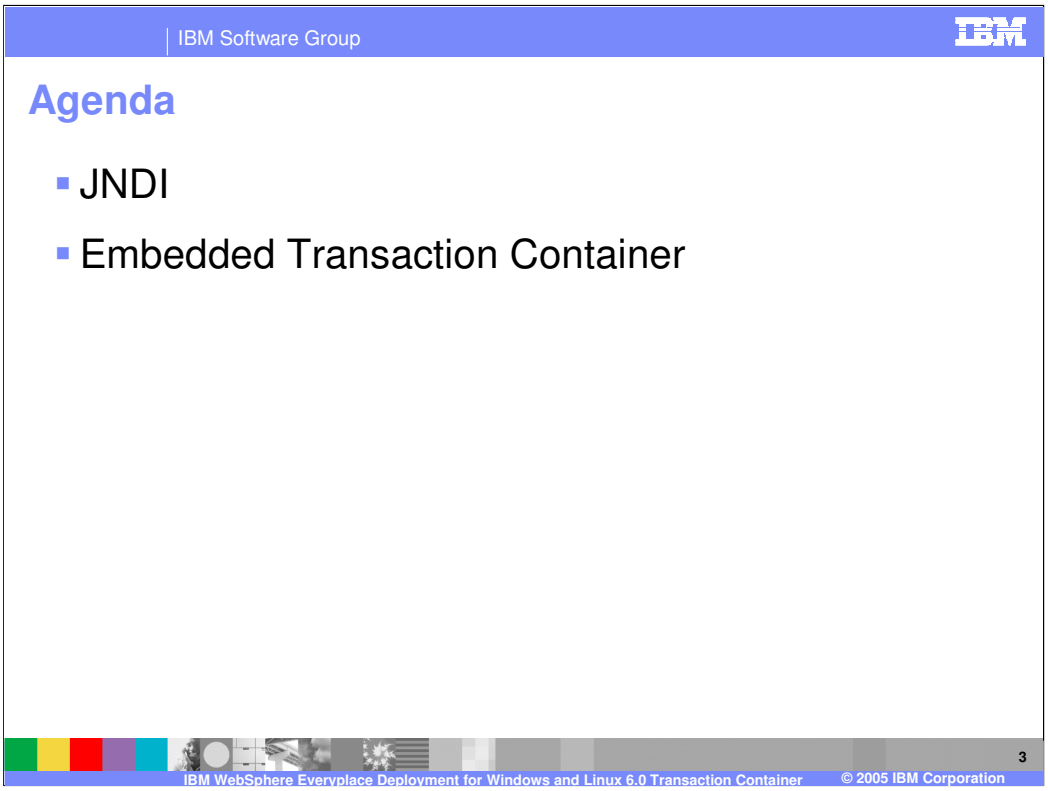


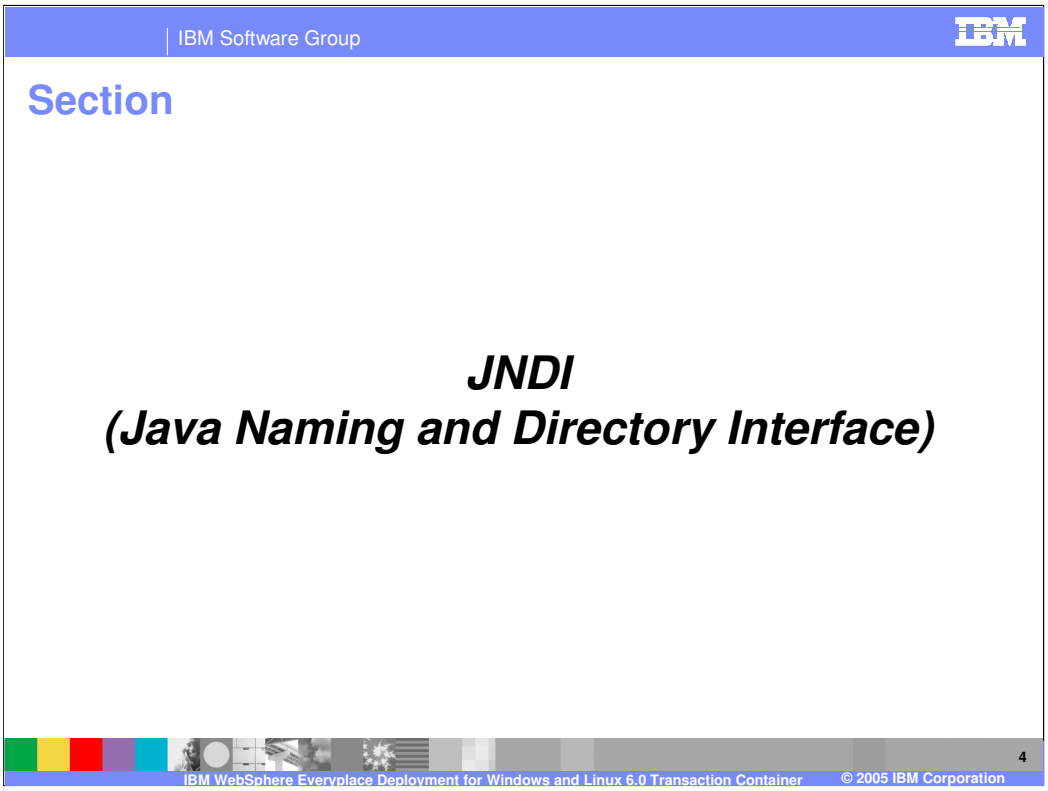
This presentation explains the Embedded Transaction Container and JNDI services supported by IBM WebSphere Everyplace Deployment for Windows and Linux Version 6.



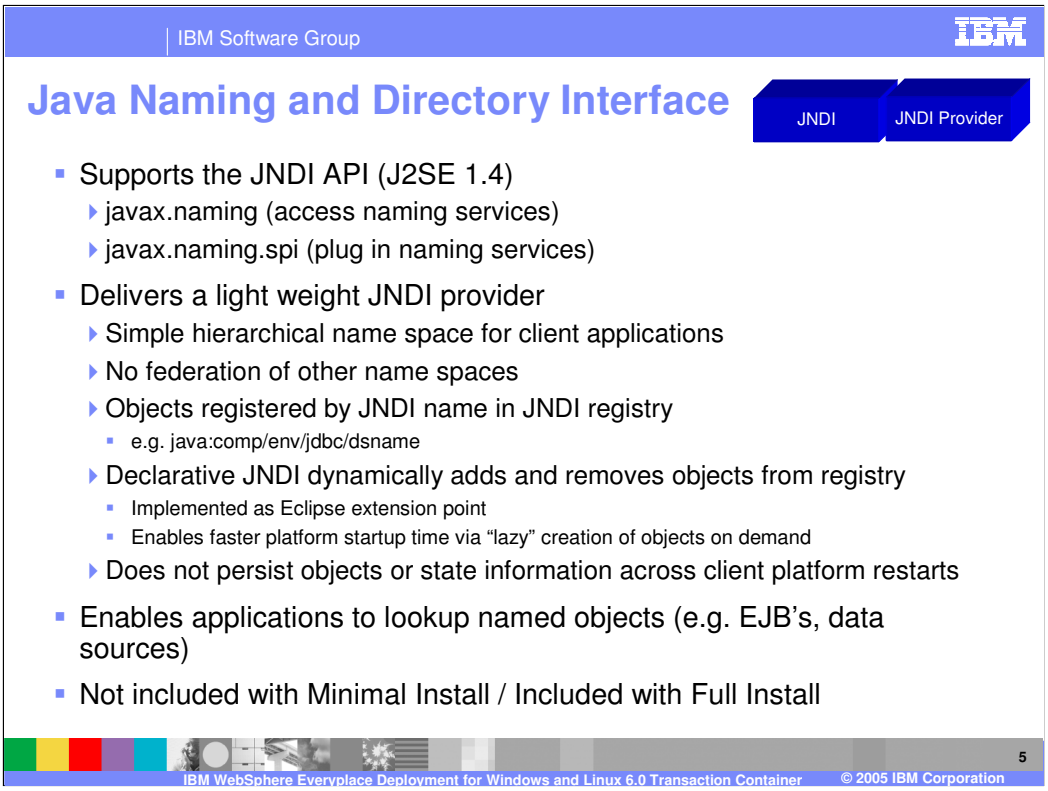
The goal of this presentation is to understand the Embedded Transaction Container and JNDI services supported by IBM WebSphere Everyplace Deployment for Windows and Linux Version 6.



The agenda of this presentation is to explain the JNDI and Embedded Transaction Container services.



Let’s start with an explanation of JNDI.



The client platform provides a simple Java object JNDI registry that enables applications to lookup named objects (e.g. EJB's, data sources).

The JNDI provider enables a local naming directory for objects running in the client platform to communicate via standard Java naming APIs. The runtime client JNDI implementation is very lightweight and does not support federation of other name spaces, rather it provides a simple hierarchical name space for client applications. In most cases, applications leveraging JNDI do not need to interact directly with JNDI Name objects and simply use String representations of the names to be bound or located.

The JNDI provider does not persist objects or their state information across platform restarts, so the platform administrator is responsible for binding the objects each time the platform starts and configuring those objects as needed before binding them into the JNDI registry. While the application itself could programmatically register the objects that it needs each time the platform starts, the client platform provides another declarative model for JNDI bindings. Objects that need to be bound into JNDI can be declared using Eclipse extension points, so that when a lookup request is made for a specific object via its JNDI name the JNDI provider will locate the declarative definition, create the object and return it to the client application on-demand. This "lazy" creation of objects provides for faster platform startup and memory allocation based on actual need, rather than expected need.

JNDI is not included with the Minimal Install – it is included with the Full Install of the client platform.

JNDI Object Factories

- Used by JNDI Provider to create objects defined via Extension Points
- Three defined factories
  - com.ibm.pvc.jndi.provider.java.GenericObjectFactory
    - creates objects of any type
    - calls methods on objects
  - com.ibm.pvc.txncontainer.EJBObjectFactory
    - creates EJB Objects
  - com.ibm.pvc.txncontainer.TxnDataSourceObjectFactory
    - creates special type of DataSource for Transaction Container managed transactions

JNDI Binding Extension Point

- com.ibm.pvc.jndi.provider.java.binding
  - defines an object that can be located via JNDI
  - references an object factory that knows how to create the object
  - Extension Registry searched on lookup request

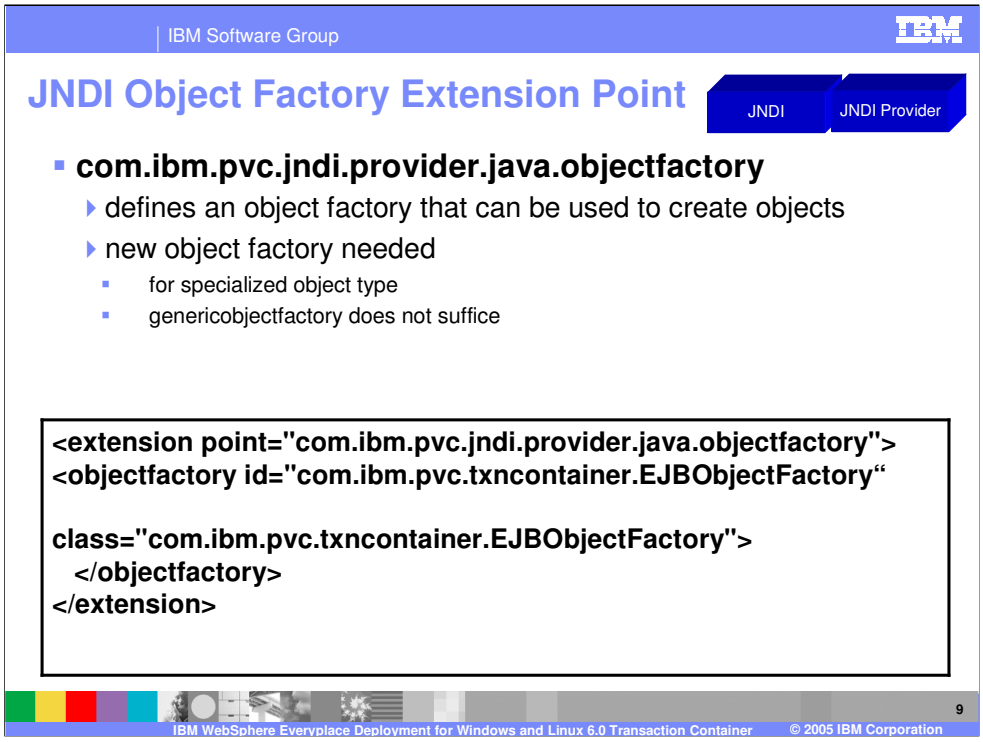
```
<extension point="com.ibm.pvc.jndi.provider.java.binding">
  <binding
     jndi-name="java:comp/env/jdbc/dsname“
    objectFactory-id="com.ibm.pvc.jndi.provider.java.genericobjectfactory">
 </binding>
</extension>
```

JNDI Generic Object Extension Point

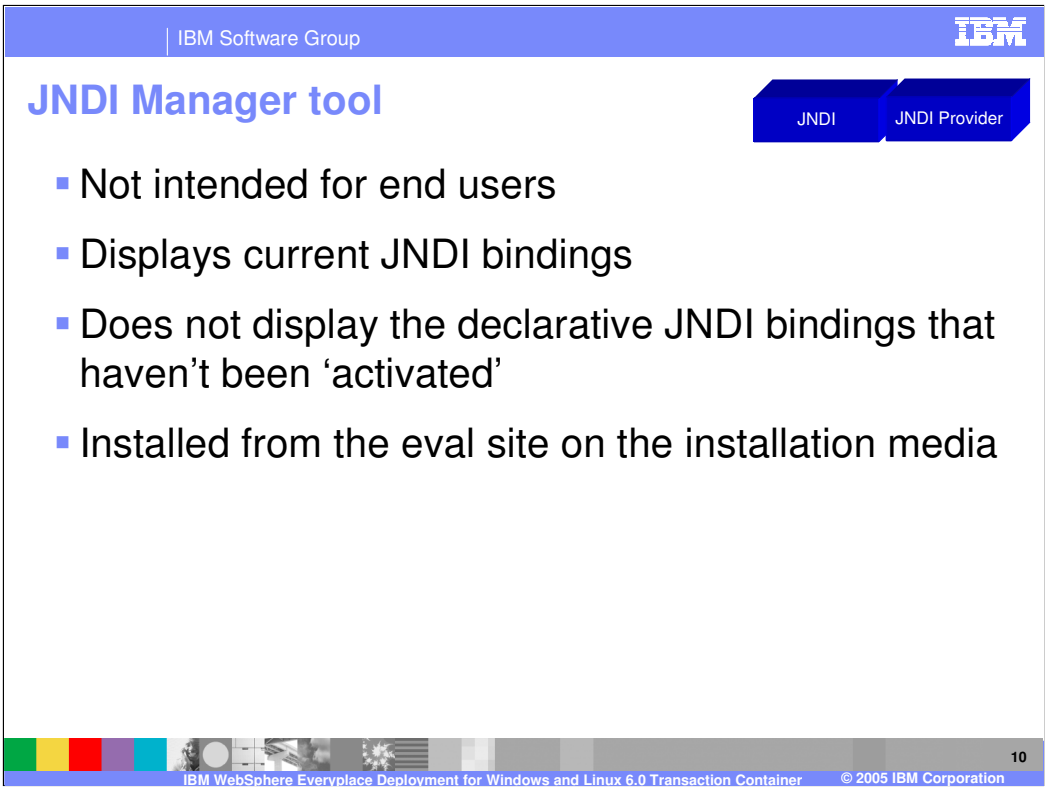
JNDI | JNDI Provider

- **com.ibm.pvc.jndi.provider.java.genericobjectfactory**
  - defines how to create object
    - object class
    - methods with parameters to call on object
  - used for general data source objects

```
<extension
point="com.ibm.pvc.jndi.provider.java.genericobjectfactory">
   <object jndi-name="java:comp/env/jdbc/dsname“
            class="com.ibm.db2e.DB2eDataSource">
      <method name="setUrl">
        <method-parameter type="String" value="jdbc:db2e:oedb“/>
      </method>
  </object>
</extension>
```



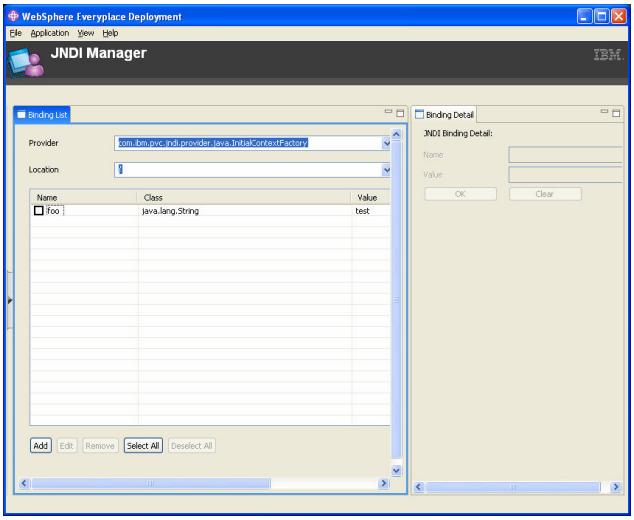
While this capability is provided, it is not expected that you will create your own object factory instance.



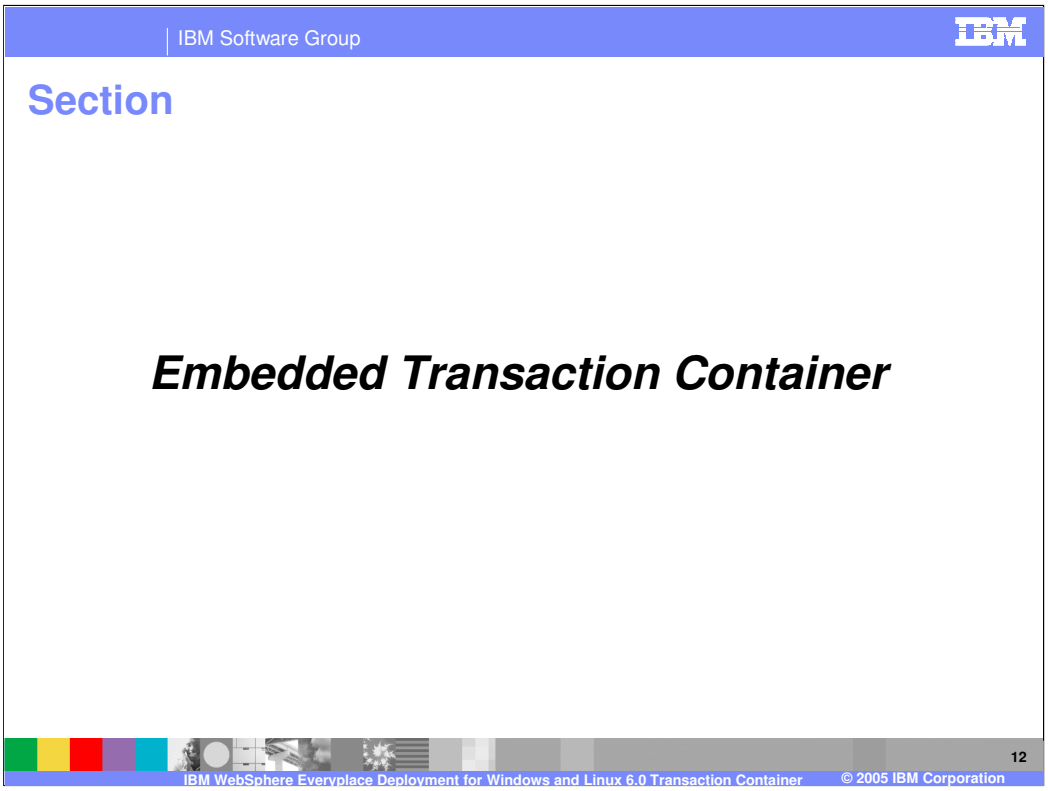
The JNDI Manager is a rich client application tool consisting of one perspective and two views – the Binding List view and the Binding Detail view. The purpose of the Binding List view is to provide easy access to controls which allow for looking up objects bound within the JNDI on the platform. It also provides controls to add, edit or remove those objects. The Binding Detail view is where specific binding information is entered if a binding is to be added or edited.

JNDI Manager

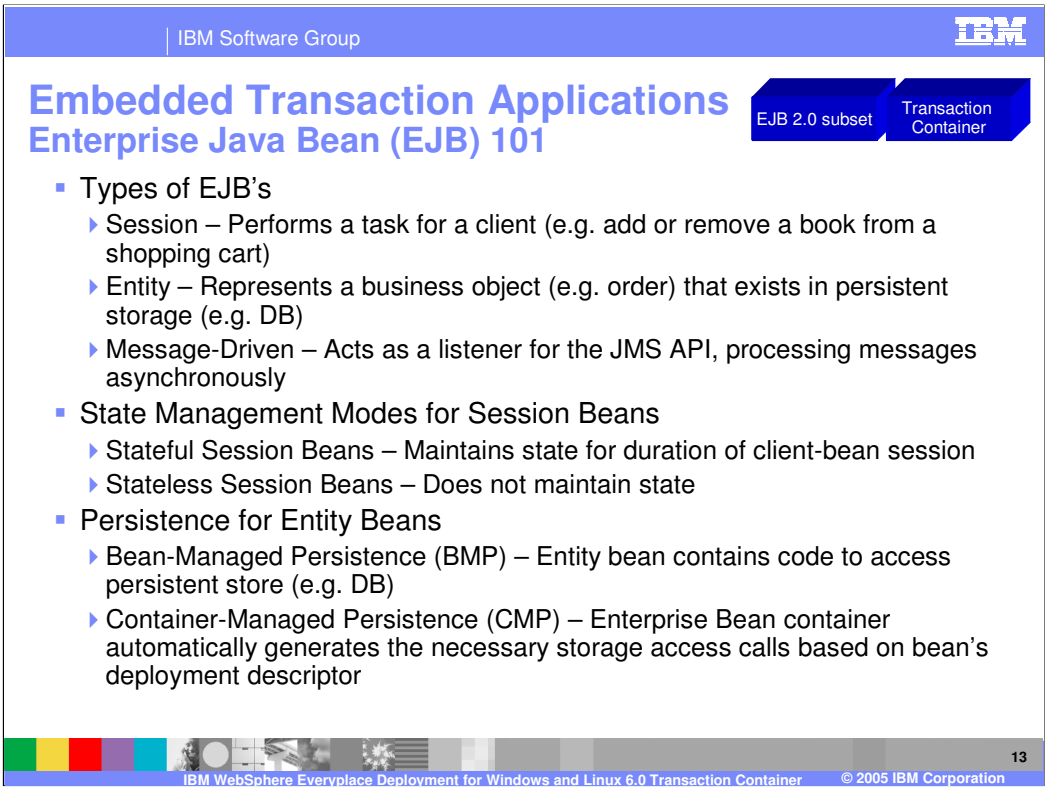
JNDI | JNDI Provider



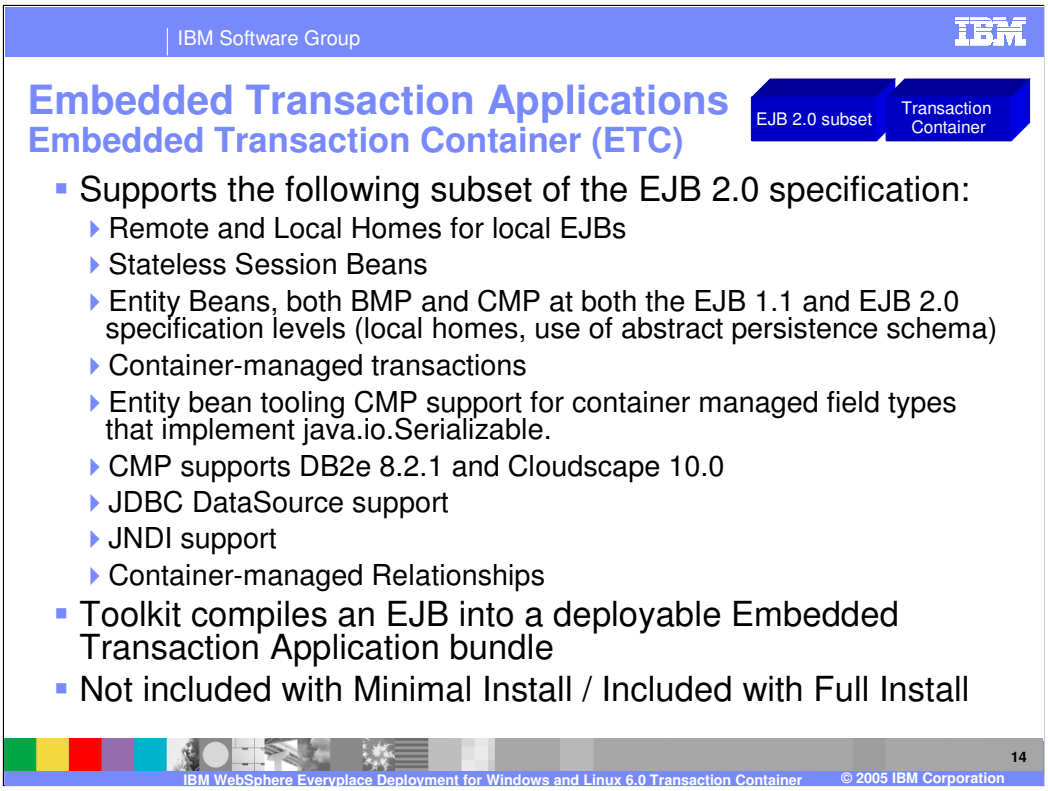
Here is a screen shot of the JNDI Manager tool.



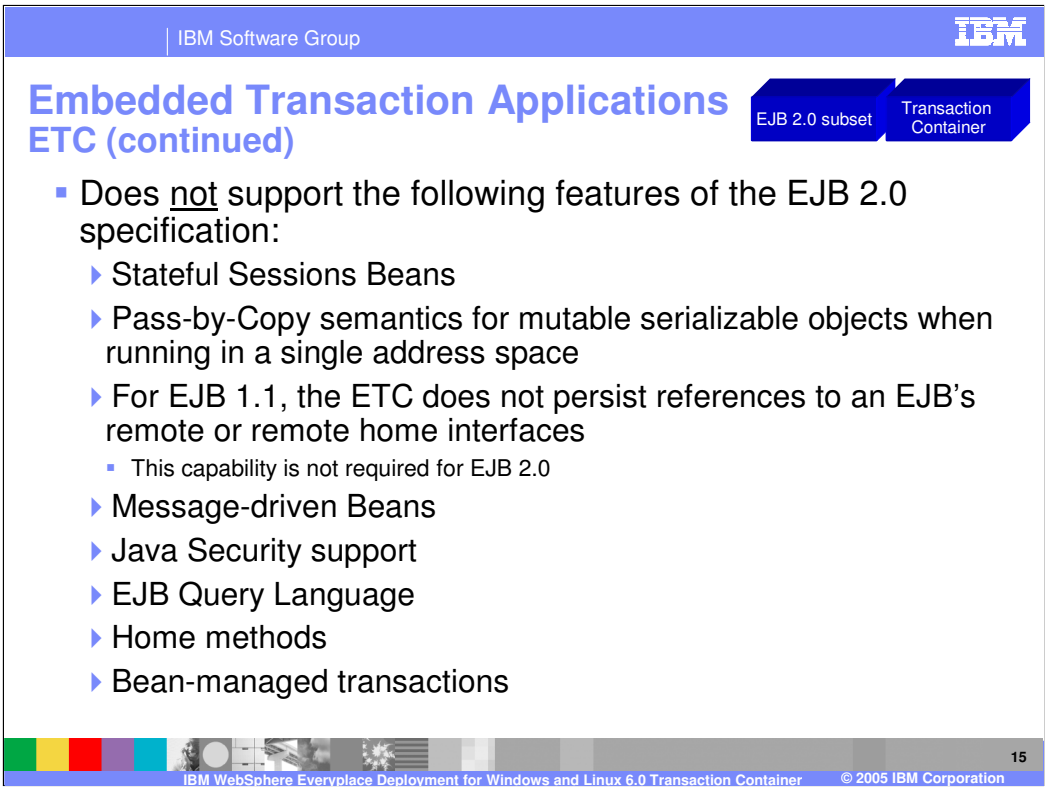
Next, let's study the Embedded Transaction Container.



The Embedded Transaction Container (ETC) provides the ability to deploy Enterprise Java Beans to the client platform. Before we describe the details of the ETC, here is a quick review of key concepts for Enterprise JavaBeans (EJB's).

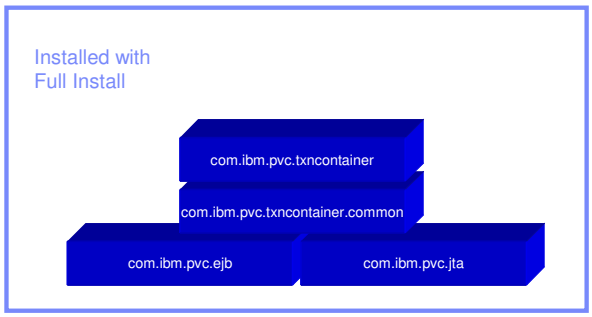


The Embedded Transaction Container (ETC) provides tooling and runtime support for local Enterprise Java Beans (EJBs). The ETC supports a subset of features in the EJB 2.0 specification as shown in this slide. The toolkit compiles and packages an EJB into a deployable bundle, called an Embedded Transaction Application bundle. The Embedded Transaction Application can be deployed onto any platform that is supported by the Embedded Transaction Container. The Embedded Transaction Container is not included with the Minimal Install – it is included with the Full Install of the client platform.



The ETC is designed to be a light weight container and, therefore, does not support certain features in the EJB 2.0 specification as shown in this slide. Please keep these restrictions in mind as you develop your Embedded Transaction Applications.

Transaction Container infrastructure



Plug-in ID	Description
com.ibm.pvc.ejb	EJB APIs
com.ibm.pvc.jta	JTA APIs
com.ibm.pvc.txncontainer.common	Common classes shared between runtime and tools
com.ibm.pvc.txncontainer	Transaction Container Implementation

This slide shows the Transaction Container infrastructure on the client platform, including the plug-ins (components) installed with the Full Install of the client platform and a description of each of these plug-ins.

Transaction Container Serviceability

EJB 2.0 subset | Transaction Container

- Tracing capabilities provided specific to Transaction Container
- Set system properties to enable tracing
- Output typically written to OSGi Log Service
- Documented in Application Developer's Guide

EJB Packaging

EJB 2.0 subset | Transaction Container

- One or more beans exist in each bundle
- Definitions for JNDI binding generated by tools
- Bundle containing bean is started when bean lookup occurs

Template Revision: 9/28/2005 5:50 PM

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