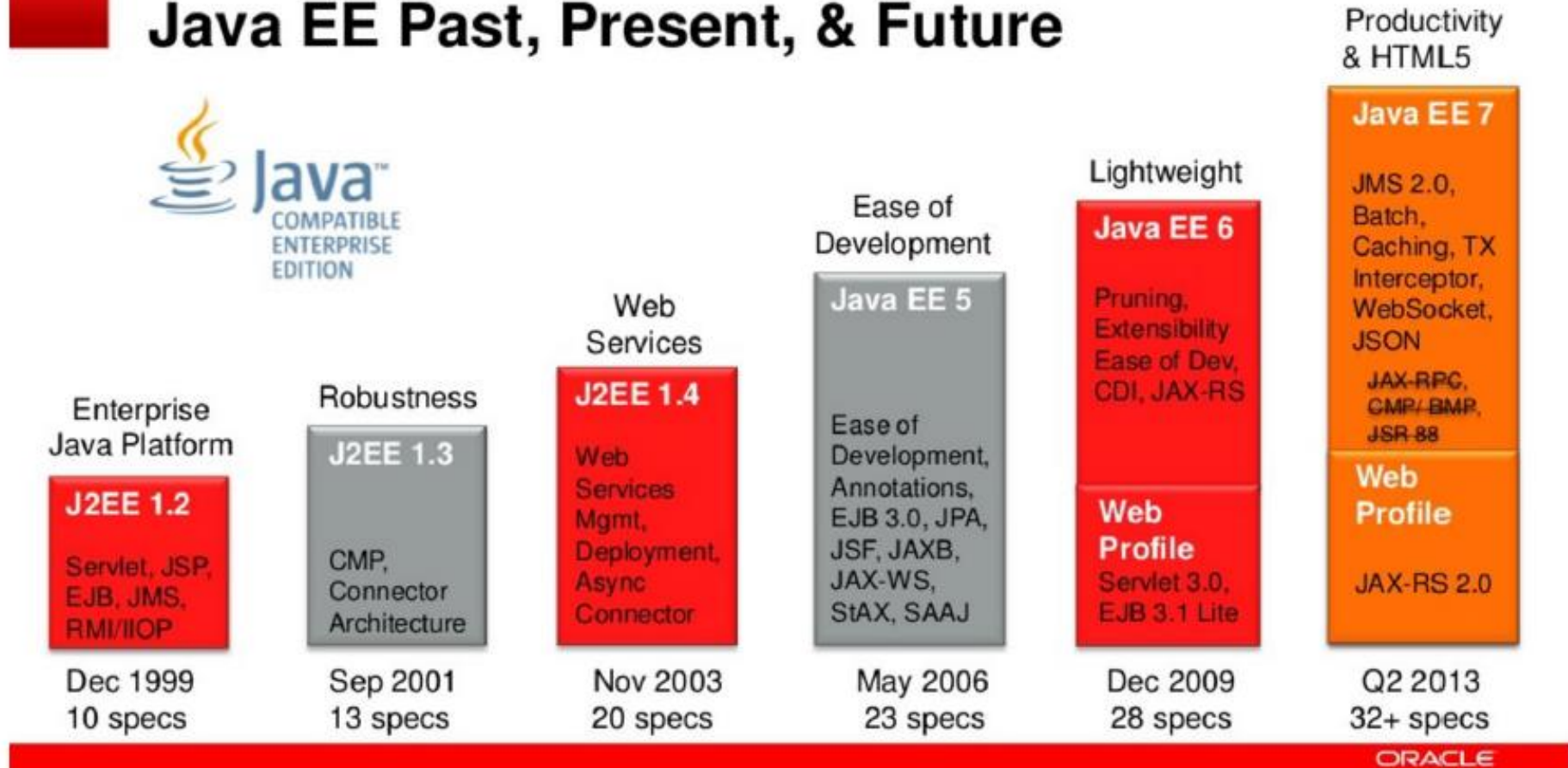


JMS

Java message service

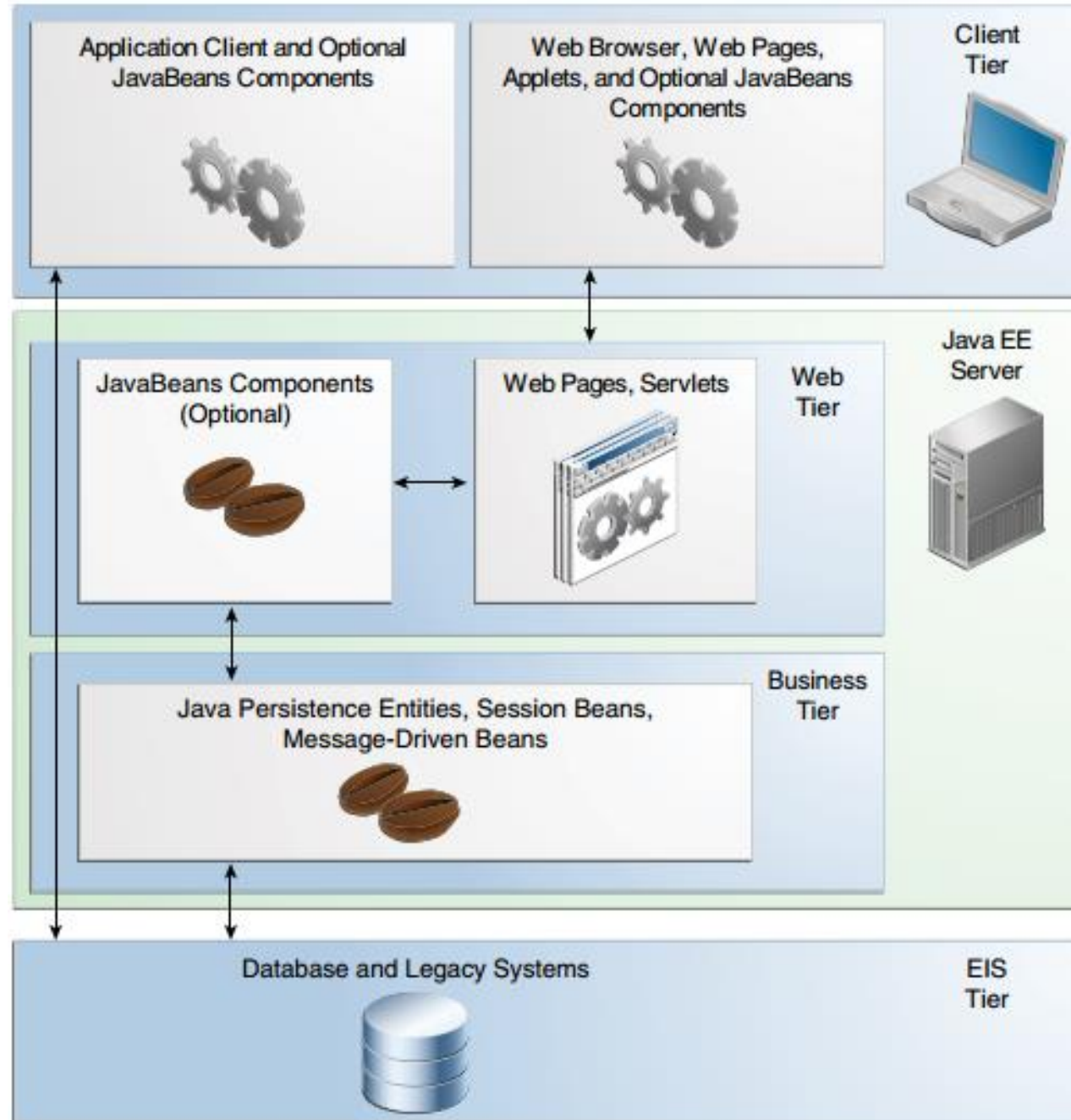
Java EE

Java EE Past, Present, & Future



Java EE

Komponen unutar aplikasi



Svrha i osobine

- Razmena poruka između Java EE komponenata
- Slabo spregnuta arhitektura koja omogućava olakšan i jednostavan način za komunikaciju, tj. razmenu poruka. Primalac i pošiljalac ne moraju postojati u isto vreme. Primalac ne mora čekati na poruku u trenutku kada je pošiljalac šalje kako bi je primio.
- Jednostavan i intuitivan API za ove svrhe

Podešavanja

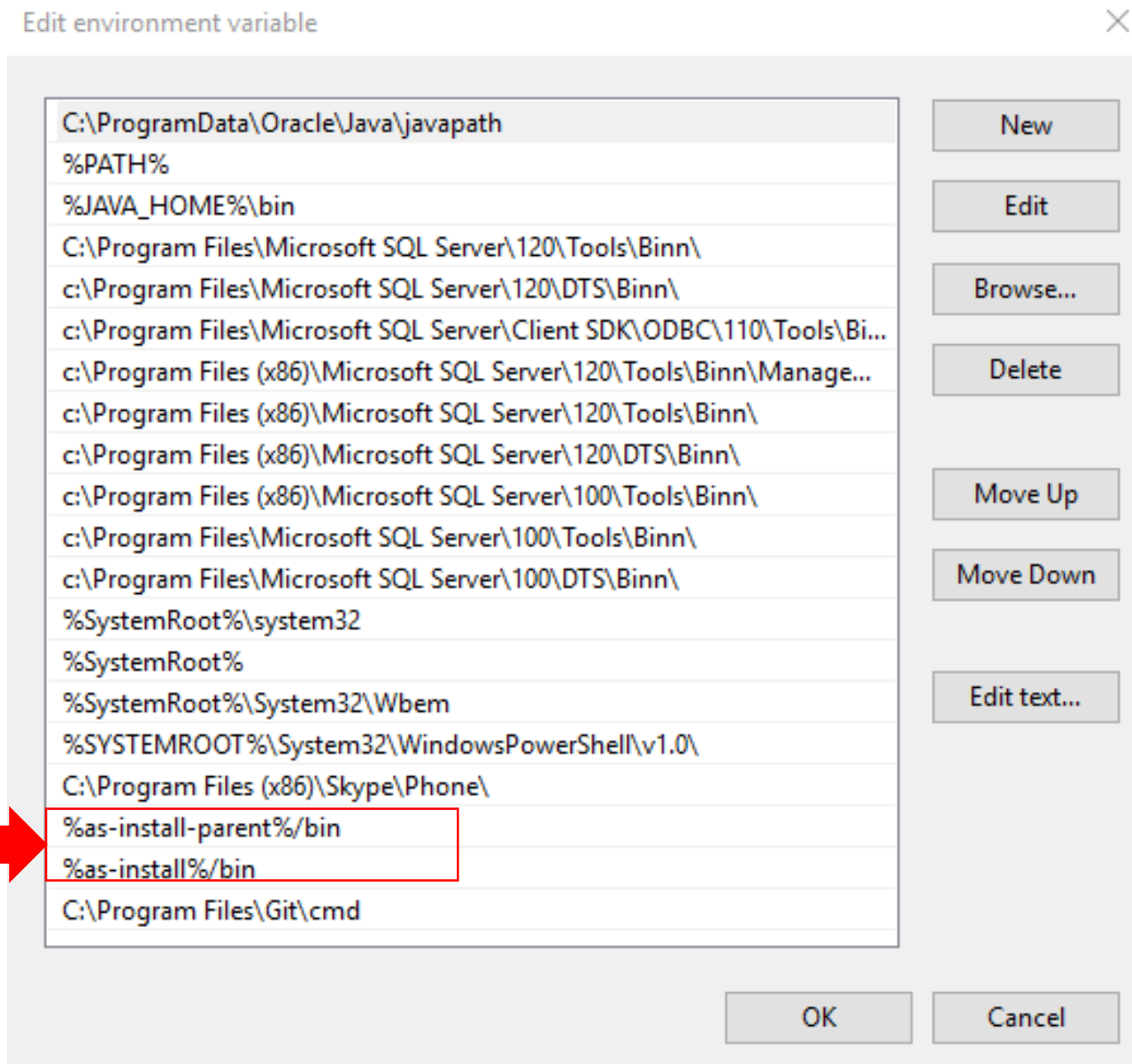
Osnovne putanje

Placeholder	Description	Default Value
<i>as-install</i>	Represents the base installation directory for GlassFish Server or the SDK of which GlassFish Server is a part.	Installations on the Solaris operating system, Linux operating system, and Mac operating system: <i>user's-home-directory/glassfish4/glassfish</i> Windows, all installations: <i>SystemDrive:\glassfish4\glassfish</i>
<i>as-install-parent</i>	Represents the parent of the base installation directory for GlassFish Server.	Installations on the Solaris operating system, Linux operating system, and Mac operating system: <i>user's-home-directory/glassfish4</i> Windows, all installations: <i>SystemDrive:\glassfish4</i>
<i>tut-install</i>	Represents the base installation directory for the <i>Java EE Tutorial</i> after you install GlassFish Server or the SDK and run the Update Tool.	<i>as-install-parent/docs/javaee-tutorial</i>
<i>domain-dir</i>	Represents the directory in which a domain's configuration is stored.	<i>as-install/domains/domain1</i>

Podešavanja

Variable name	Variable value
as-install	C:\glassfish4\glassfish
as-install-parent	C:\glassfish4

Podešavanja



Glassfish server

- Aplikativni server – Java EE aplikacija radi na ovom serveru
- Domen je skup jedne ili više insanci Glassfish servera i domenom upravlja administratorski server. Podrazumevani postojeći domen je „domain1“. Elementi vezani za domen su:
 - Glassfish podrazumevani broj porta je 8080
 - Podrazumevani broj porta administratorskog servera je 4848
 - Podrazumevano administratorsko korisničko ime i lozinka su: „admin“, „“.

Pokretanje Glassfish-a iz komandne linije:

```
asadmin start-domain --verbose
```

Pokretanje administratorske konzole:

```
http://localhost:4848/
```

Zaustavljanje Glassfish-a iz komandne linije:

```
asadmin stop-domain domain1
```

Pokretanje JavaDB servera:

```
asadmin start-database
```

Zaustavljanje JavaDB servera:

```
asadmin stop-database
```

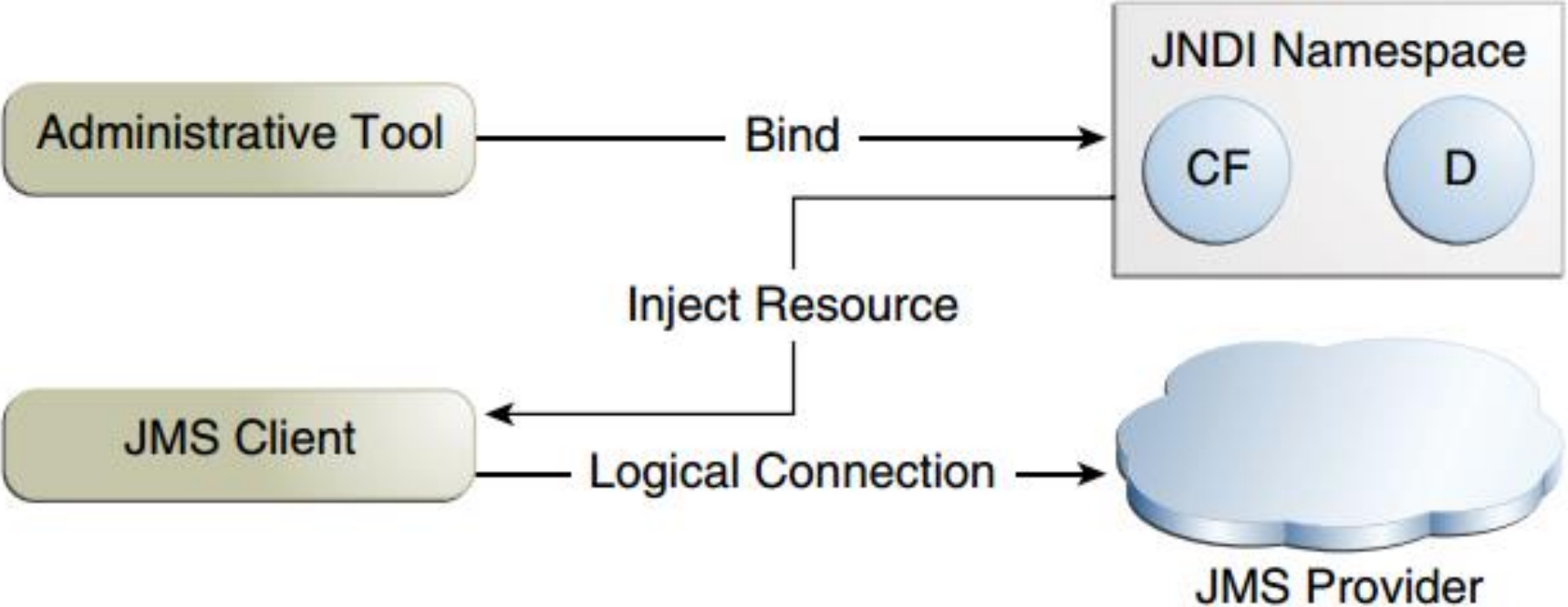

Resource injection

- Administratorski server može definisati objekte koje će moći da koriste sve komponente jedne Java EE aplikacije (servlet, enterprise bean, managed bean, web component, java client component).
- Resursi bivaju kreirani unutar JNDI (Java Naming and Directory Interface) prostora imena
- Java komponente ih mogu koristiti koristeći sledeću anotaciju
`@Resource(lookup = „jndiResourceName“)`

JMS arhitektura

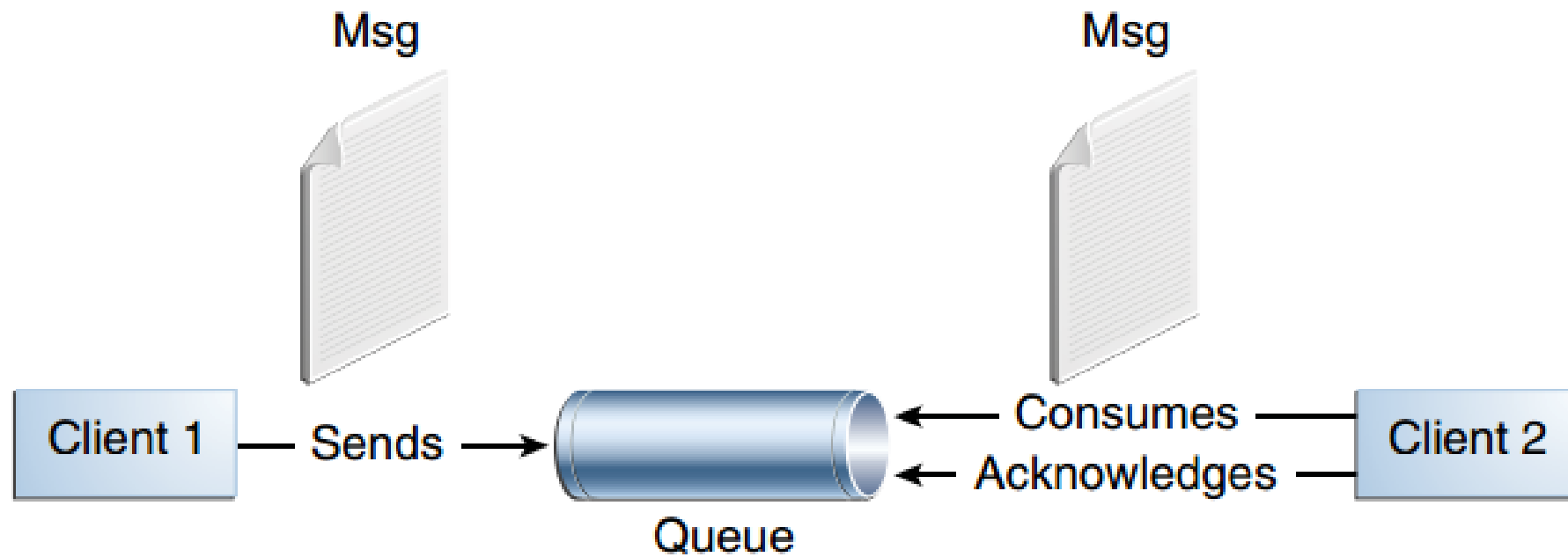
- JMS provider
- JMS clients
- Messages
- Administered objects

JMS architektura



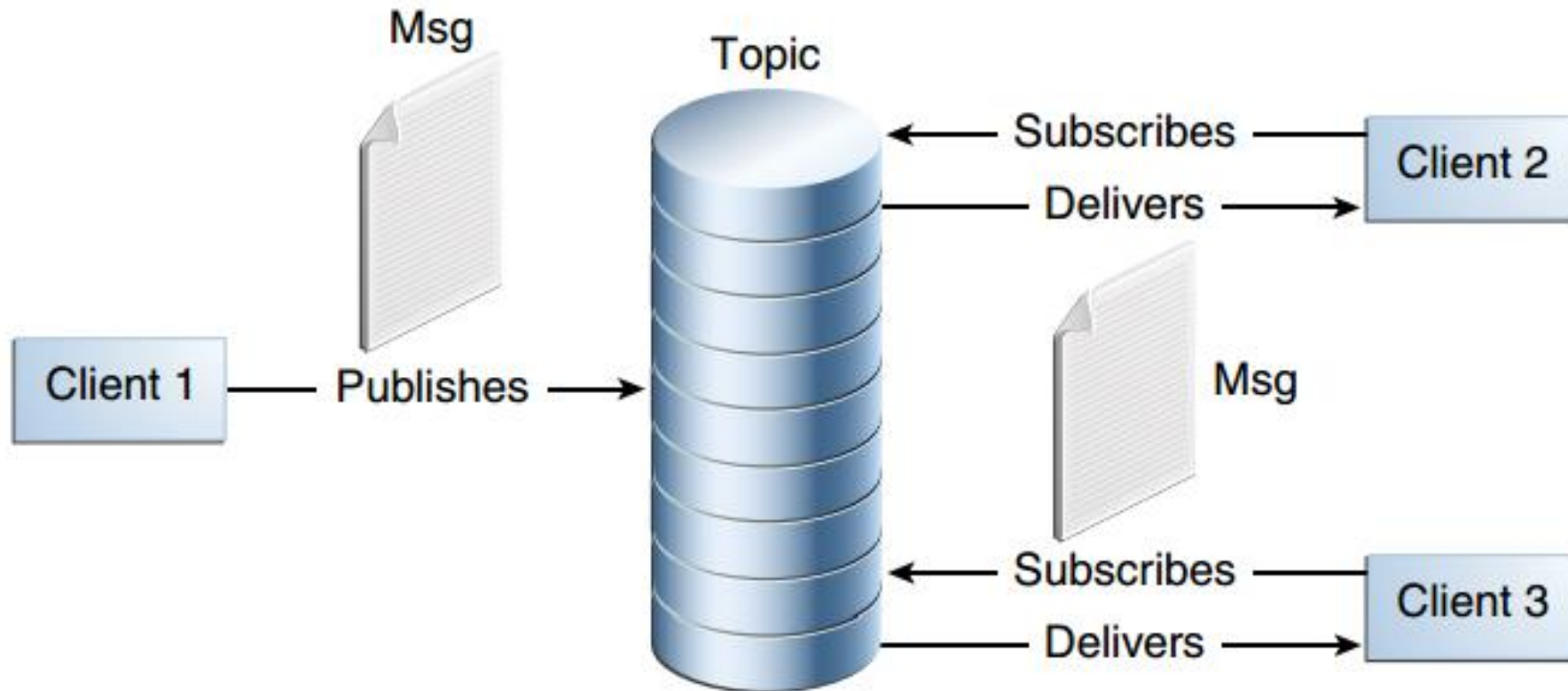
Vrste komunikacije

- Point-to-point (PTP)



Vrste komunikacije

- Publish/subscribe (pub/sub)

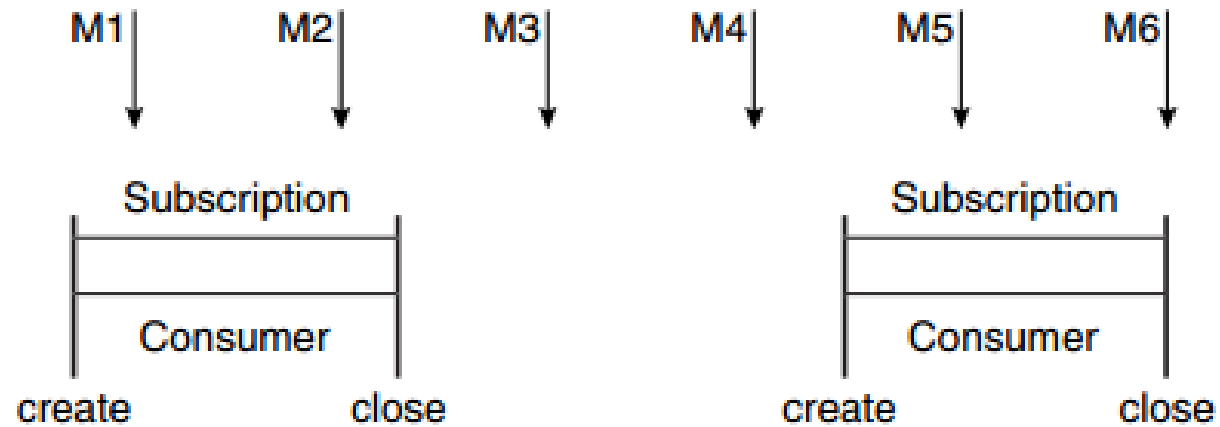


Vrste prijava

	Shared	Not Shared
Non Durable		
Durable		

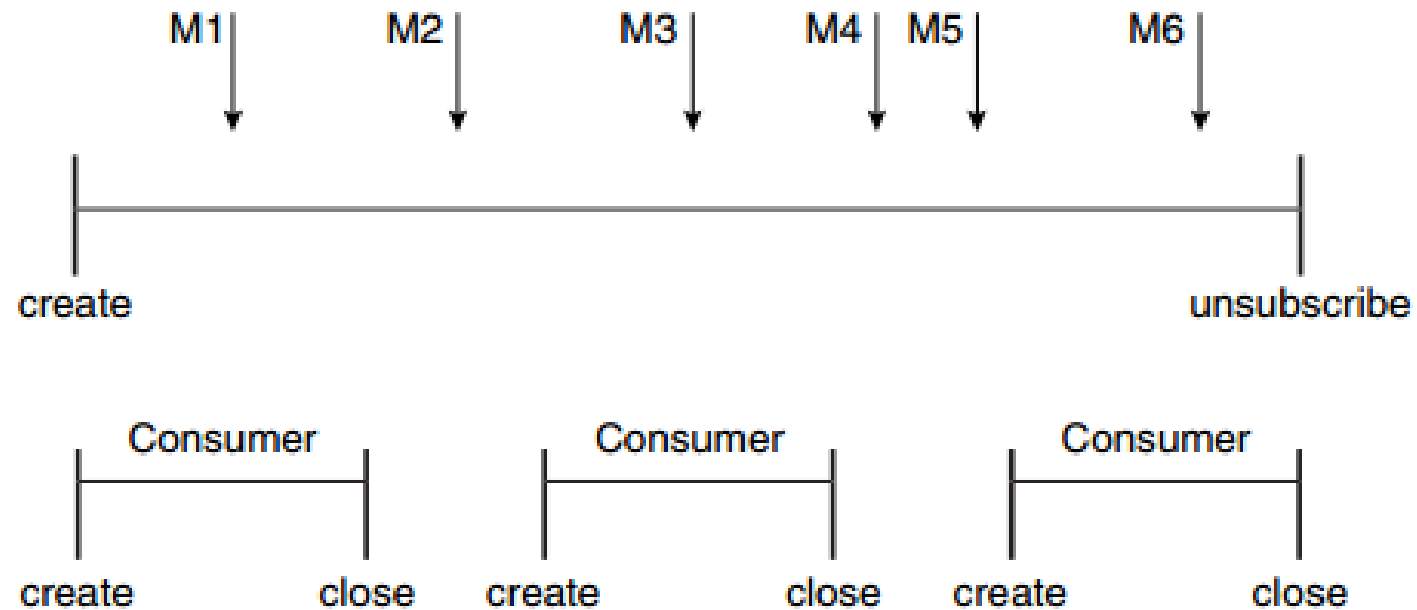
Nondurable Subscription

Figure 45–6 Nondurable Subscriptions and Consumers



Durable Subscription

Figure 45-7 Consumers on a Durable Subscription



Načini primanja poruka

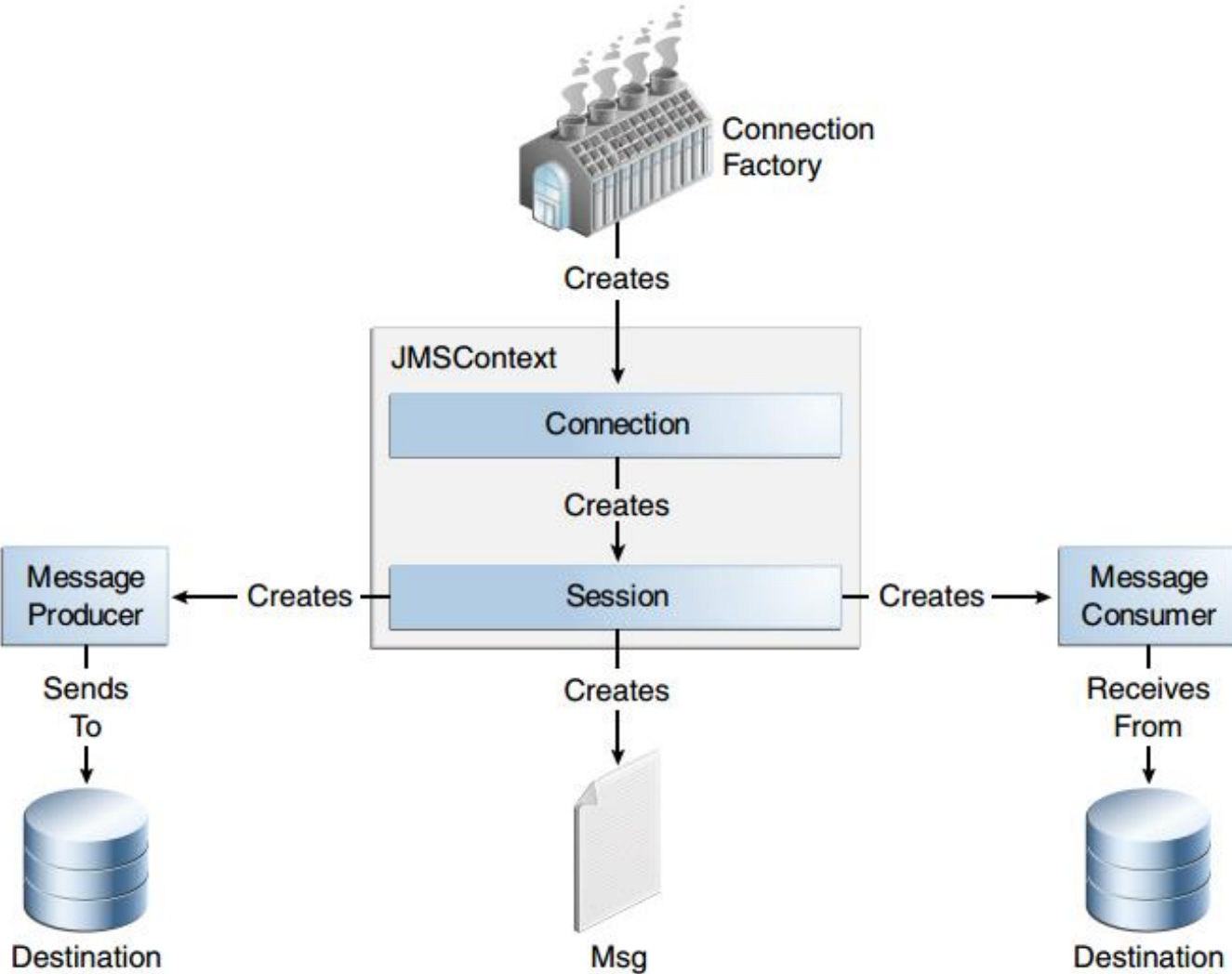
- Sinhrono – klijent se blokira dok ne dobije poruku
- Asinhrono – klijent koristi osluškivača (MessageListener) kao dodatnu nit u kojoj prima poruku

JMS API programski model

Bazični blokovi JMS aplikacije su:

- Administered objects: connection factories and destinations
- Connections
- Sessions
- JMSContext objects, which combine a connection and a session in one object
- Message producers
- Message consumers
- Messages

JMS API programski model



Poruke

Delovi poruke su:

- Headers (obavezni)
- Properties (opcioni) – mogu se dodavati na poruku
- Body (opcioni)

Headers

Header Field	Description	Set By
JMSDestination	Destination to which the message is being sent	JMS provider send method
JMSDeliveryMode	Delivery mode specified when the message was sent (see Specifying Message Persistence)	JMS provider send method
JMSDeliveryTime	The time the message was sent plus the delivery delay specified when the message was sent (see Specifying a Delivery Delay)	JMS provider send method
JMSExpiration	Expiration time of the message (see Allowing Messages to Expire)	JMS provider send method
JMSPriority	The priority of the message (see Setting Message Priority Levels)	JMS provider send method
JMSMessageID	Value that uniquely identifies each message sent by a provider	JMS provider send method
JMSTimestamp	The time the message was handed off to a provider to be sent	JMS provider send method
JMSCorrelationID	Value that links one message to another; commonly the JMSMessageID value is used	Client application
JMSReplyTo	Destination where replies to the message should be sent	Client application
JMSType	Type identifier supplied by client application	Client application
JMSRedelivered	Whether the message is being redelivered	JMS provider prior to delivery

Body

Message Type	Body Contains
TextMessage	A <code>java.lang.String</code> object (for example, the contents of an XML file).
MapMessage	A set of name-value pairs, with names as <code>String</code> objects and values as primitive types in the Java programming language. The entries can be accessed sequentially by enumerator or randomly by name. The order of the entries is undefined.
BytesMessage	A stream of uninterpreted bytes. This message type is for literally encoding a body to match an existing message format.
StreamMessage	A stream of primitive values in the Java programming language, filled and read sequentially.
ObjectMessage	A <code>Serializable</code> object in the Java programming language.
Message	Nothing. Composed of header fields and properties only. This message type is useful when a message body is not required.

JMS Queue Browsers

JMS Queue Browsers objekti se koriste radi prolaska kroz sve poruke koje postoje u redu i čitanja informacija vezanih za svaku od njih.

JMS Queue Browsers objekte kreira JMSContext instanca.

Dodatne komande

- Kreiranje JMS resursa

```
asadmin add-resources glassfish-resources.xml
```

```
asadmin create-jms-resource
```

- Pregled JMS resursa

```
asadmin list-jms-resources
```

- Brisanje JMS resursa

```
asadmin delete-jms-resource
```

- Pokretanje Enterprise Client Application

```
appclient -client jarFileInTargetFolderAfterBuild.jar
```


Okruženja, alati, serveri...

- NetBeans IDE (prilikom insaliranja ne instalirati Glassfish server koji je ponuđen prilikom instalacije)
- Glassfish Server – aplikativni server (instalirati ga zasebno sa matičnog sajta, a potom ga povezati u NetBeans)