

# Stateful Session Beans

## Remote Home Interface

```
public interface BeanRemoteHome extends EJBHome {
    public BeanRemote createMethod1(p1, ..., pn)
        throws RemoteException, CreateException [, ApplicationException];
    ...
    public BeanRemote createMethodN(p1, ..., pn)
        throws RemoteException, CreateException [, ApplicationException];
}
```

## Remote Component Interface

```
public interface BeanRemote extends EJBObject {
    public Type businessMethod1(p1, ..., pn)
        throws RemoteException [, ApplicationException];
    ...
    public Type businessMethodN(p1, ..., pn)
        throws RemoteException [, ApplicationException];
}
```

## Stateful Session Bean Class

```
public abstract final class BeanEJB [extends SomeSuperClass]
    implements SessionBean [, OtherInterfaces, BeanRemote, SessionSynchronization] {
    [public BeanEJB(){}]
```

```
public static final void ejbCreateMethod1(p1, ..., pn)
    throws CreateException [,AppException] {...}
...
public static final void ejbCreateMethodN(p1, ..., pn)
    throws CreateException [,AppException] {...}
```

```
public static final Type businessMethod1(p1, ..., pn) [throws AppException] {...}
...
public static final Type businessMethodN(p1, ..., pn) [throws AppException] {...}
```

```
public void ejbPassivate() throws RemoteException, EJBException {...}
public void ejbActivate() throws RemoteException, EJBException {...}
public void ejbRemove() throws RemoteException, EJBException {...}
public void setSessionContext(ctx) throws RemoteException, EJBException {...}
```

```
[
    public void afterBegin() {...}
    public void beforeCompletion() {...}
    public void afterCompletion(boolean committed) {...}
]
```

```

    [private Type helperMethod(p1, ..., pn) {...}]
    protected void finalize() throws Throwable {...}
}
```

**Notice:** content between square brackets [...] is optional and stroked content is strictly forbidden.

# Stateless Session Beans

## Remote Home Interface

```
public interface BeanRemoteHome extends EJBHome {
    public BeanRemote create()
        throws RemoteException, CreateException [, AppException];
}
```

## Remote Component Interface

```
public interface BeanRemote extends EJBObject {
    public Type businessMethod1(p1, ..., pn)
        throws RemoteException [, AppException];
    ...
    public Type businessMethodN(p1, ..., pn)
        throws RemoteException [, AppException];
}
```

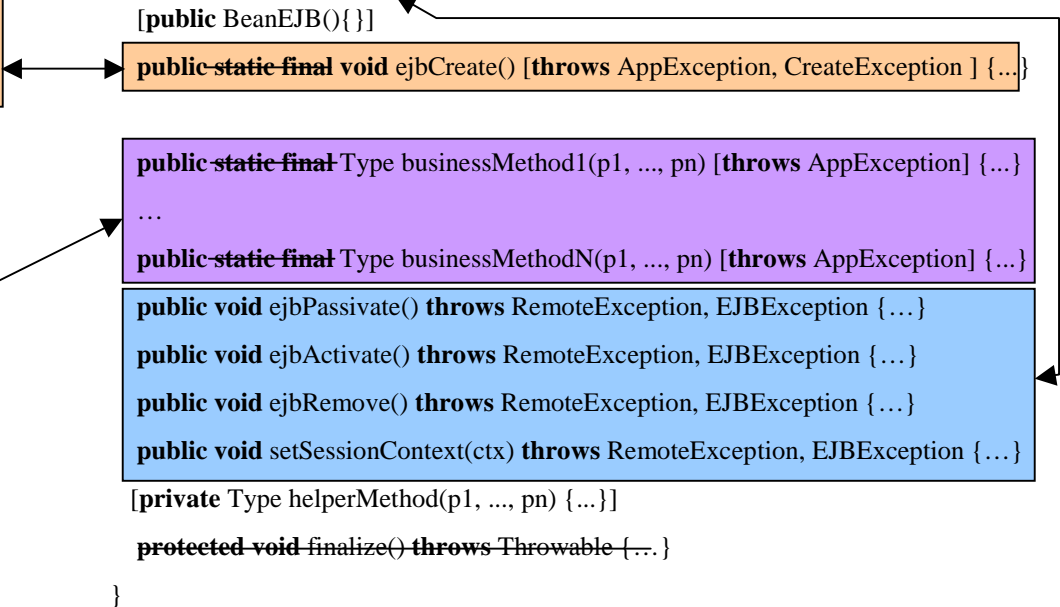
## Stateless Session Bean Class

```
public abstract final class BeanEJB [extends SomeSuperClass]
    implements SessionBean [OtherInterfaces, BeanRemote] {
    [public BeanEJB(){}]
    public static final void ejbCreate() [throws AppException, CreateException ] {...}

    public static final Type businessMethod1(p1, ..., pn) [throws AppException] {...}
    ...
    public static final Type businessMethodN(p1, ..., pn) [throws AppException] {...}

    public void ejbPassivate() throws RemoteException, EJBException {...}
    public void ejbActivate() throws RemoteException, EJBException {...}
    public void ejbRemove() throws RemoteException, EJBException {...}
    public void setSessionContext(ctx) throws RemoteException, EJBException {...}

    [private Type helperMethod(p1, ..., pn) {...}]
    protected void finalize() throws Throwable {...}
}
```



# Message-Driven Beans

## Message-Driven Bean Class

```
public abstract final class BeanEJB [extends SomeSuperClass] implements MessageListener, MessageDrivenBean [, OtherInterfaces] {  
    [public BeanEJB(){}]  
    public static final void ejbCreate() throws AppException {...}  
  
    public static final void onMessage(Message msg) throws AppException {...}  
  
    public void ejbRemove() throws EJBException, AppException {...}  
    public void setMessageDrivenContext(ctx) throws EJBException {...}  
    [private Type helperMethod(p1, ..., pn) {...}]  
    protected void finalize() throws Throwable {...}  
}
```

```
graph TD
    subgraph BeanEJB
        B1[public static final void ejbCreate() throws AppException {...}]
        B2[public static final void onMessage(Message msg) throws AppException {...}]
        B3[public void ejbRemove() throws EJBException, AppException {...}]
        B4[public void setMessageDrivenContext(ctx) throws EJBException {...}]
    end
    subgraph Interfaces
        IL[MessageListener]
        MD[MessageDrivenBean]
    end
    B2 --> IL
    B3 --> MD
    B4 --> MD
```

# Entity Beans

## Remote Home Interface

**public interface** BeanRemoteHome **extends** EJBHome {

```
public BeanRemote createMethod1(p1, ..., pn)
    throws RemoteException, CreateException [, AppException];
...
public BeanRemote createMethodN(p1, ..., pn)
    throws RemoteException, CreateException [, AppException];
```

```
public Type homeMethod1(p1, ..., pn) throws RemoteException;
...
public Type homeMethodN(p1, ..., pn) throws RemoteException;
```

```
public BeanRemote [or Collection] find<METHOD>(p1, ..., pn)
    throws RemoteException, FinderException;
public BeanRemote findByPrimaryKey(PKeyType pk)
    throws RemoteException, FinderException;
}
```

## Remote Component Interface

**public interface** BeanRemote **extends** EJBObject {

```
public Type businessMethod1(p1, ..., pn)
    throws RemoteException [, AppException];
...
public Type businessMethodN(p1, ..., pn)
    throws RemoteException [, AppException];
}
```

## Abstract Entity Bean Class

**public abstract class** BeanEJB [**extends** SomeSuperClass] **implements** EntityBean [, OtherInterfaces, BeanRemote] {

[**public** BeanEJB(){}]

```
public static final PKeyType ejbCreateMethod1(p1, ..., pn) throws CreateException [,AppException] {...}
...
public static final PKeyType ejbCreateMethodN(p1, ..., pn) throws CreateException [,AppException] {...}
public static final void ejbPostCreateMethod1(p1, ..., pn) throws CreateException [,AppException] {...}
...
public static final void ejbPostCreateMethodN(p1, ..., pn) throws CreateException [,AppException] {...}
```

```
public static Type ejbHomeMethod1(p1, ..., pn) [throws AppException] {...}
...
public static Type ejbHomeMethodN(p1, ..., pn) [throws AppException] {...}
```

**public abstract** Type ejbSelect<METHOD>(p1, ..., pn) **throws** FinderException [, AppException];

```
public static final Type businessMethod1(p1, ..., pn) [throws AppException] {...}
...
public static final Type businessMethodN(p1, ..., pn) [throws AppException] {...}
```

```
public void ejbPassivate() throws RemoteException, EJBException {...}
public void ejbActivate() throws RemoteException, EJBException {...}
public void ejbLoad() throws RemoteException, EJBException {...}
public void ejbStore() throws RemoteException, EJBException {...}
public void ejbRemove() throws RemoteException, RemoveException, EJBException {...}
public void setEntityContext(ctx) throws RemoteException, EJBException {...}
public void unsetEntityContext() throws RemoteException, EJBException {...}
```

**public abstract** void setCMPField(Type f);

**public abstract** Type getCMPField();

**public abstract** void setCMRField(Type f);

**public abstract** Type getCMRField();

[**private** Type helperMethod(p1, ..., pn) {...}]

**protected void** finalize() **throws** Throwable {...}

}

EntityBean