



# Persistence - Part 3

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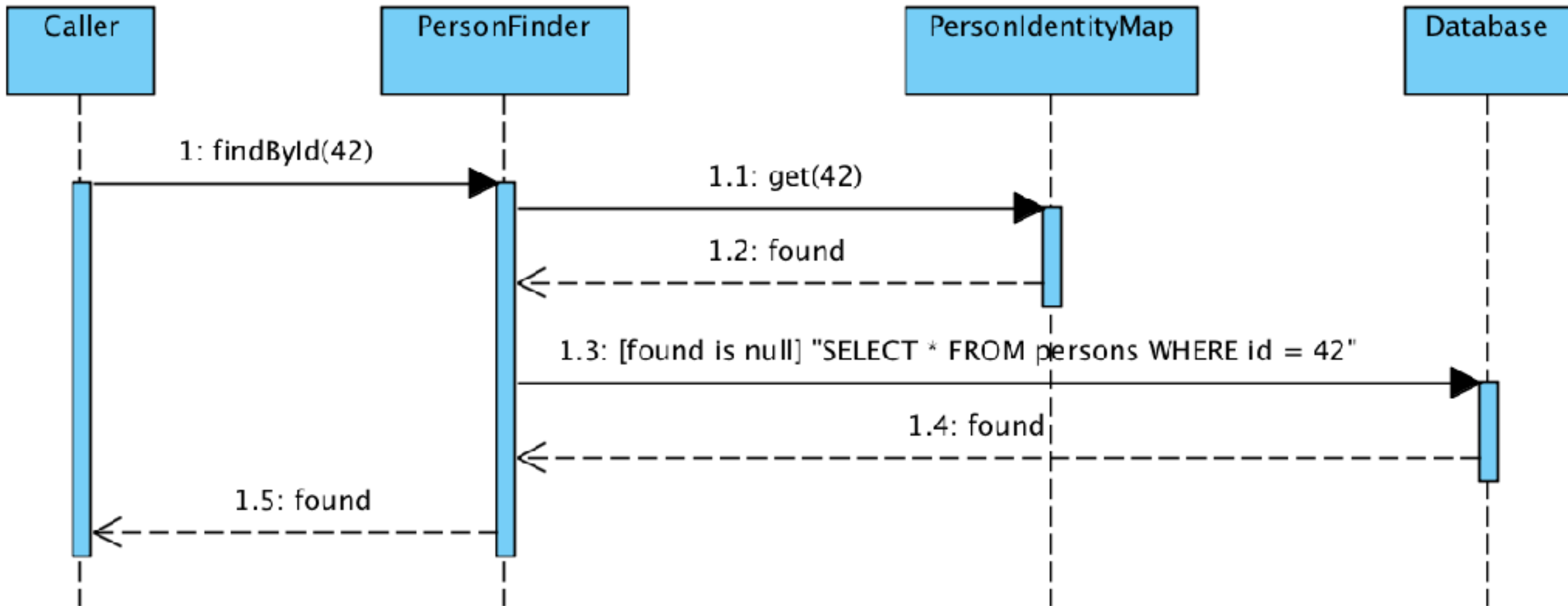
Make your beans **persistent**

**Again...**

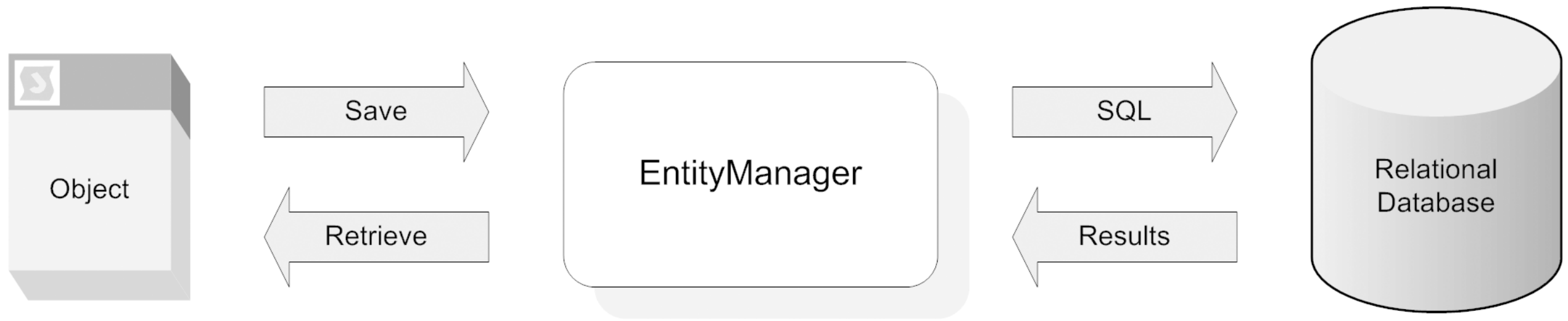


How to accelerate the  
access to the  
persistent layer?

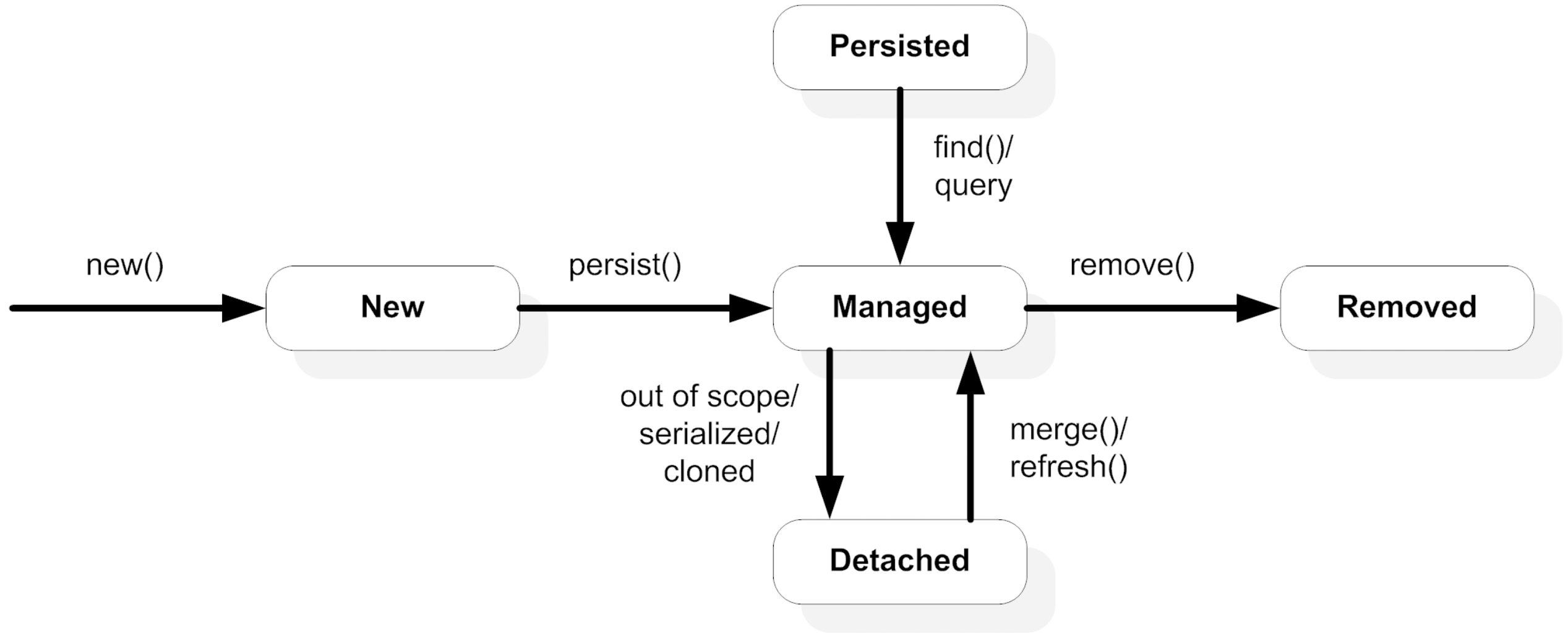
# The Identity Map Pattern



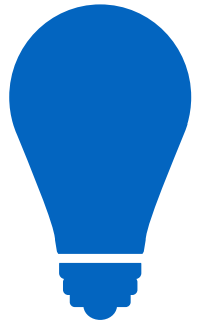
# Role of the EntityManager



# Entity lifecycle



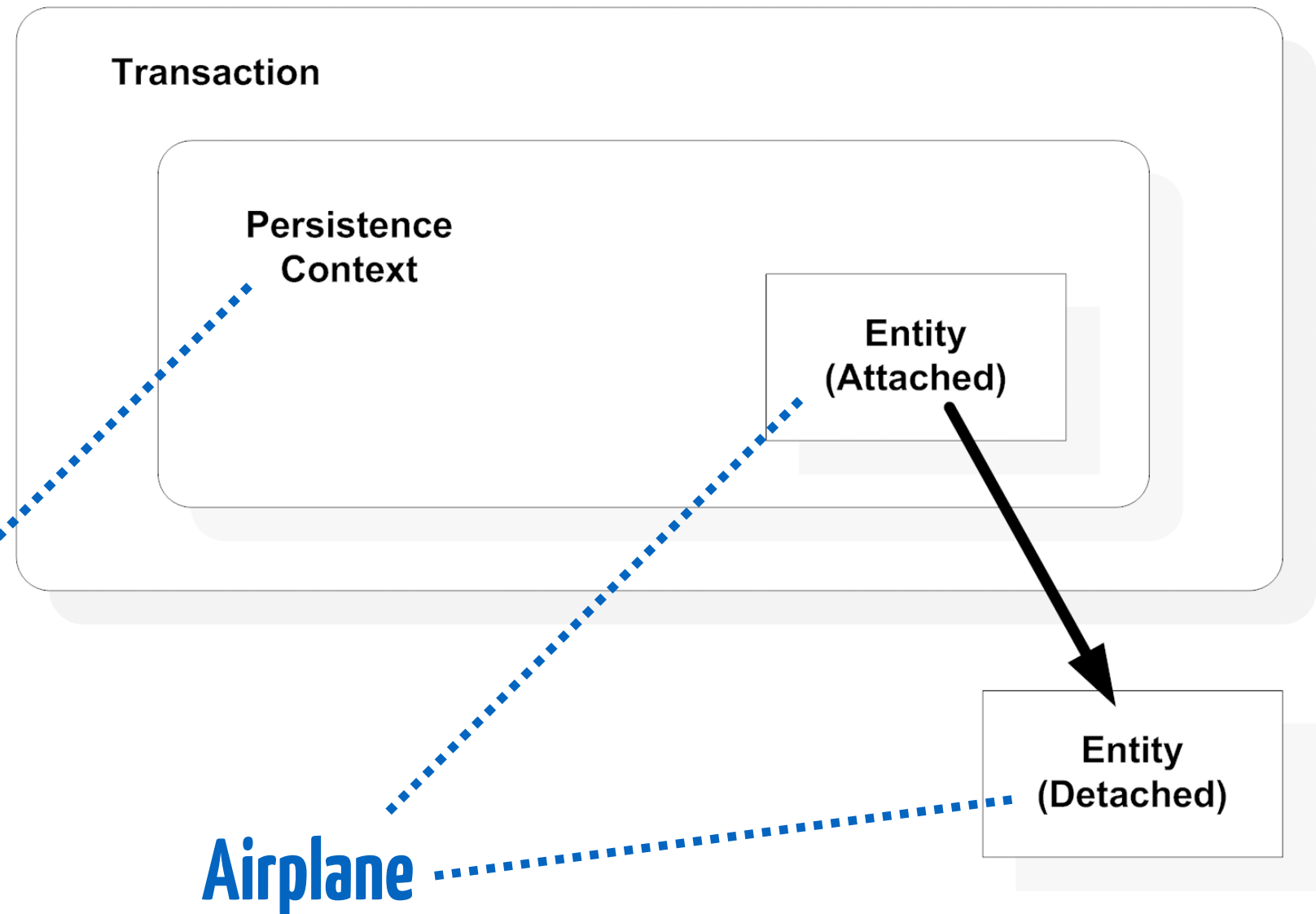
# Attach/Detach



**EntityManager =  
Air Traffic Control**

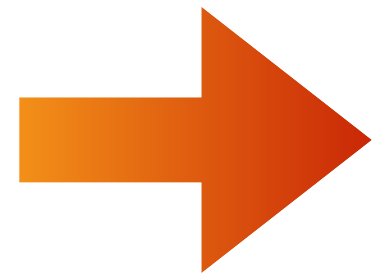
**Radar range**

**Airplane**



**End of transaction -> entities detached**

# Stateless beans cannot guarantee that calls from the same client will be service by the same bean instance



## No guarantee an entity will be handled by the same EntityManager instance across method calls

Web (presentation) tier



Persistence context



Detached entity

merge ()

Managed entity

State synchronization



Database



# TCF Example (v2.1)

---

```
public class CartStatelessBean extends CartBean {  
  
    @PersistenceContext  
    private EntityManager entityManager;  
  
    @Override  
    public boolean add(Customer c, Item item) {  
        c = entityManager.merge(c);  
        c.setCart(updateCart(c, item));  
        return true;  
    }  
  
    @Override  
    public Set<Item> contents(Customer c) {  
        c = entityManager.merge(c);  
        return c.getCart();  
    }  
}
```

# Persistence context is **Injected**

---

```
@PersistenceContext(unitName="admin")
```

```
EntityManager manager
```

```
@Resource
```

```
private UserTransaction transaction;
```

```
public void createAndStore() {
```

```
    AnEntityBean b = new AnEntityBean("Parameters");
```

```
    transaction.begin();
```

```
    try {
```

```
        manager.persist(b);
```

```
    } finally {
```

```
        transaction.commit();
```

```
    }
```

```
}
```

See **[EiA]**, chapter 10



Advanced concepts

**& tricks...**



# Stop!

[https://github.com/collet/4A\\_ISA\\_TheCookieFactory/  
blob/develop/chapters/Persistence.md](https://github.com/collet/4A_ISA_TheCookieFactory/blob/develop/chapters/Persistence.md)

# First