

### Beispiel zur Verwendung des Criteria API:

```
public List<Employee> findEmployees(final String name, final String department,
                                   final String projectName, final String city) {

    final CriteriaBuilder criteriaBuilder = em.getCriteriaBuilder();
    final CriteriaQuery<Employee> query = criteriaBuilder.createQuery(Employee.class);

    final Root<Employee> employee = query.from(Employee.class);
    query.select(employee);
    query.distinct(true);

    final Join<Employee,Project> project = employee.join("projects", JoinType.LEFT);
    final List<Predicate> criteria = new ArrayList<Predicate>();

    if (name != null) {
        ParameterExpression<String> p = criteriaBuilder.parameter(String.class, "name");
        criteria.add(criteriaBuilder.equal(employee.get("name"), p));
    }
    if (department != null) {
        ParameterExpression<String> p = criteriaBuilder.parameter(String.class, "dept");
        criteria.add(criteriaBuilder.equal(employee.get("dept").get("name"), p));
    }
    if (projectName != null) {
        ParameterExpression<String> p = criteriaBuilder.parameter(String.class,
                                                                "project");
        criteria.add(criteriaBuilder.equal(project.get("name"), p));
    }
    if (city != null) {
        ParameterExpression<String> p = criteriaBuilder.parameter(String.class, "city");
        criteria.add(criteriaBuilder.equal(employee.get("address").get("city"), p));
    }
    if (criteria.size() == 0) {
        throw new RuntimeException("RuntimeException in findEmployees: no criteria.");
    } else if (criteria.size() == 1) {
        query.where(criteria.get(0));
    } else {
        query.where(criteriaBuilder.and(criteria.toArray(new Predicate[0])));
    }
    final TypedQuery<Employee> typedQuery = em.createQuery(query);

    if (name != null) {
        typedQuery.setParameter("name", name);
    }
    if (department != null) {
        typedQuery.setParameter("dept", department);
    }
    if (project != null) {
        typedQuery.setParameter("project", projectName);
    }
    if (city != null) {
        typedQuery.setParameter("city", city);
    }
    return typedQuery.getResultList();
}
```