Der dtd-Code:

```
<?xml version="1.0" encoding="UTF-8"?>

<!ELEMENT concert-planning
(ticket*, customer*,
eventorganizer*,
salesrepresentative*, webshop*,
artist*, venue*, artist*,
concert*)>

<!-- type = Single Concert,
daypass, festival ticket,... -->

<!ELEMENT ticket EMPTY>
<!ATTLIST ticket
type                    (single |
daypass | festival | seasonal)
"single"
price                   CDATA
#REQUIRED
ticket_id          ID
#REQUIRED>


<!ELEMENT webshop (ticket_ref*)>
<!ATTLIST webshop
url                ID
#REQUIRED>


<!ELEMENT salesrepresentative
(ticket_ref*)>
```

```
<!ATTLIST salesrepresentative
name                    CDATA
#REQUIRED
email                        CDATA
#REQUIRED
phone                        CDATA
#REQUIRED
employee_id        ID
#REQUIRED>


<!ELEMENT customer (ticket_ref*)>
<!ATTLIST customer
name                    CDATA
#REQUIRED
email                        CDATA
#REQUIRED
phone                        CDATA
#REQUIRED
customer_id        ID
#REQUIRED>

<!ELEMENT eventorganizer
(concert_ref*)>
<!ATTLIST eventorganizer
name                    CDATA
#REQUIRED
email                        CDATA
#REQUIRED
phone                        CDATA
#REQUIRED
employee_id        ID
#REQUIRED>

<!ELEMENT artist (concert_ref*)>
<!ATTLIST artist
name                    CDATA
#REQUIRED
```

```
genre                        CDATA
#REQUIRED
description          CDATA
#IMPLIED
image                        CDATA
#IMPLIED
artist_id          ID
#REQUIRED>

<!ELEMENT venue (concert_ref*)>
<!ATTLIST venue
name                    CDATA
#REQUIRED
address                 CDATA
#REQUIRED
capacity                CDATA
#REQUIRED
description          CDATA
#IMPLIED
image                        CDATA
#IMPLIED
venue_id           ID
#REQUIRED>


<!ELEMENT concert (ticket_ref*)>
<!ATTLIST concert
title                        CDATA
#REQUIRED
date                    CDATA
#REQUIRED
time                    CDATA
#REQUIRED
duration                CDATA
#REQUIRED
description          CDATA
#IMPLIED
image                        CDATA
#IMPLIED
```

```
concert_id                ID
#REQUIRED>

<!ELEMENT concert_ref EMPTY>
<!ATTLIST concert_ref
concert_id                IDREF
#REQUIRED>

<!ELEMENT ticket_ref EMPTY>
<!ATTLIST ticket_ref
ticket_id                 IDREF
#REQUIRED
concert_id                IDREF
#REQUIRED>
```

Der xml-Code:

```xml
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE concert-planning SYSTEM "concert-planning.dtd">

<concert-planning>

    <ticket type = "single" price = "50.0" ticket_id = "t-001"/>
    <ticket type = "single" price = "50.0" ticket_id = "t-002"/>
    <ticket type = "single" price = "50.0" ticket_id = "t-003"/>
    <ticket type = "single" price = "50.0" ticket_id = "t-004"/>
    <ticket type = "single" price = "50.0" ticket_id = "t-005"/>
    <ticket type = "single" price = "50.0" ticket_id = "t-006"/>
    <ticket type = "single" price = "50.0" ticket_id = "t-007"/>
    <ticket type = "single" price = "50.0" ticket_id = "t-008"/>

    <ticket type = "single" price = "30.0" ticket_id = "t-009"/>
    <ticket type = "single" price = "30.0" ticket_id = "t-010"/>
    <ticket type = "single" price = "30.0" ticket_id = "t-011"/>
    <ticket type = "single" price = "30.0" ticket_id = "t-012"/>
    <ticket type = "single" price = "30.0" ticket_id = "t-013"/>

    <ticket type = "single" price = "40.0" ticket_id = "t-014"/>
    <ticket type = "single" price = "40.0" ticket_id = "t-015"/>
    <ticket type = "single" price = "40.0" ticket_id = "t-016"/>
    <ticket type = "single" price = "40.0" ticket_id = "t-017"/>
    <ticket type = "single" price = "40.0" ticket_id = "t-018"/>
    <ticket type = "single" price = "40.0" ticket_id = "t-019"/>
    <ticket type = "single" price = "40.0" ticket_id = "t-020"/>


    <customer name = "Lukas" email = "lukas@gmx.at" phone = "0664 5151651" customer_id = "c-001">
        <ticket_ref ticket_id = "t-001" concert_id = "co-001"/>
        <ticket_ref ticket_id = "t-009" concert_id = "co-002"/>
        <ticket_ref ticket_id = "t-010" concert_id = "co-002"/>
        <ticket_ref ticket_id = "t-014" concert_id = "co-003"/>
    </customer>

    <customer name = "Claudia" email = "claudia@gmx.at" phone = "0664 2131654" customer_id = "c-002">
        <ticket_ref ticket_id = "t-002" concert_id = "co-001"/>
        <ticket_ref ticket_id = "t-003" concert_id = "co-001"/>
        <ticket_ref ticket_id = "t-004" concert_id = "co-001"/>
        <ticket_ref ticket_id = "t-015" concert_id = "co-003"/>
        <ticket_ref ticket_id = "t-016" concert_id = "co-003"/>
        <ticket_ref ticket_id = "t-017" concert_id = "co-003"/>
    </customer>

    <customer name = "Barbara" email = "barbara@gmx.at" phone = "0650 541654" customer_id = "c-003">
        <ticket_ref ticket_id = "t-005" concert_id = "co-001"/>
        <ticket_ref ticket_id = "t-006" concert_id = "co-001"/>
    </customer>

    <customer name = "Ernst" email = "ernst@gmx.at" phone = "0650 5151333" customer_id = "c-004">
        <ticket_ref ticket_id = "t-018" concert_id = "co-003"/>
        <ticket_ref ticket_id = "t-019" concert_id = "co-003"/>
        <ticket_ref ticket_id = "t-020" concert_id = "co-003"/>
    </customer>

    <customer name = "Siegfried" email = "siegfried@gmx.at" phone = "0664 3211178" customer_id = "c-005">
        <ticket_ref ticket_id = "t-007" concert_id = "co-001"/>
        <ticket_ref ticket_id = "t-008" concert_id = "co-001"/>
        <ticket_ref ticket_id = "t-011" concert_id = "co-002"/>
        <ticket_ref ticket_id = "t-012" concert_id = "co-002"/>
```

```xml
            <ticket_ref ticket_id =
"t-013" concert_id = "co-002"/>
      </customer>

      <eventorganizer name =
"Petra" email = "petra@concerts-
for-you.com" phone = "0664 0213465-
2" employee_id = "e-002">
            <concert_ref concert_id
= "c-001"/>
      </eventorganizer>

      <eventorganizer name =
"Christian" email =
"chrisitan@concerts-for-you.com"
phone = "0664 0213465-3"
employee_id = "e-003">
            <concert_ref concert_id
= "c-002"/>
            <concert_ref concert_id
= "c-003"/>

      </eventorganizer>

      <salesrepresentative name =
"Hans" email = "hans@concerts-for-
you.com" phone = "0664 0213465-1"
employee_id = "e-001">
            <ticket_ref ticket_id =
"t-001" concert_id = "co-001"/>
            <ticket_ref ticket_id =
"t-002" concert_id = "co-001"/>
            <ticket_ref ticket_id =
"t-003" concert_id = "co-001"/>
            <ticket_ref ticket_id =
"t-004" concert_id = "co-001"/>
            <ticket_ref ticket_id =
"t-005" concert_id = "co-001"/>
            <ticket_ref ticket_id =
"t-006" concert_id = "co-001"/>

      </salesrepresentative>

      <webshop url = "www.concerts-
for-you.com">
            <ticket_ref ticket_id =
"t-007" concert_id = "co-001"/>
            <ticket_ref ticket_id =
"t-008" concert_id = "co-001"/>
            <ticket_ref ticket_id =
"t-009" concert_id = "co-002"/>
            <ticket_ref ticket_id =
"t-010" concert_id = "co-002"/>
            <ticket_ref ticket_id =
"t-011" concert_id = "co-002"/>
            <ticket_ref ticket_id =
"t-012" concert_id = "co-002"/>
            <ticket_ref ticket_id =
"t-013" concert_id = "co-002"/>
            <ticket_ref ticket_id =
"t-014" concert_id = "co-003"/>
            <ticket_ref ticket_id =
"t-015" concert_id = "co-003"/>
            <ticket_ref ticket_id =
"t-016" concert_id = "co-003"/>
            <ticket_ref ticket_id =
"t-017" concert_id = "co-003"/>
            <ticket_ref ticket_id =
"t-018" concert_id = "co-003"/>
            <ticket_ref ticket_id =
"t-019" concert_id = "co-003"/>
            <ticket_ref ticket_id =
"t-020" concert_id = "co-003"/>
      </webshop>

      <artist name = "Adam L" genre
= "Pop, Pop-Rock" description =
"American Singer and Songwriter"
artist_id = "a-001">
            <concert_ref
concert_id = "co-002"/>
      </artist>
      <artist name = "EAV" genre =
"Austropop, Pop-Rock" description =
"Der Name der österreichischen Band
EAV bedeutet Erste allgemeine
Verunsicherung und ..." artist_id =
"a-002">
            <concert_ref concert_id
= "co-003"/>
      </artist>
      <artist name = "Herbert
Grönemeyer" genre = "German Pop,
Rock" description = "Deutscher
Musiker, Musikproduzent, Sänger,
Komponist, Texter und
Schauspieler..." artist_id = "a-
003">
            <concert_ref concert_id
= "co-001"/>
      </artist>

      <venue name = "Eventcenter
Hohenems" address ="Markus-
Sittiukus-Str. 12, 6845 Hohenems"
capacity = "2500" venue_id = "v-
001">
            <concert_ref concert_id
= "co-001"/>
            <concert_ref concert_id
= "co-003"/>
      </venue>

      <venue name = "Conrad Sohm"
address = "Boden 1, 6850 Hohenems"
capacity = "500" venue_id = "v-
002">
            <concert_ref concert_id
= "co-002"/>
      </venue>
```

```xml
        <concert title = "Herbert
Grönemeyer 2023" date =
"20.05.2023" time = "20:00"
duration = "2 Stunden" description
= "Herbert Grönemeyer Tour 2023"
concert_id = "co-001">
                <ticket_ref ticket_id =
"t-001" concert_id = "co-001"/>
                <ticket_ref ticket_id =
"t-002" concert_id = "co-001"/>
                <ticket_ref ticket_id =
"t-003" concert_id = "co-001"/>
                <ticket_ref ticket_id =
"t-004" concert_id = "co-001"/>
                <ticket_ref ticket_id =
"t-005" concert_id = "co-001"/>
                <ticket_ref ticket_id =
"t-006" concert_id = "co-001"/>
                <ticket_ref ticket_id =
"t-007" concert_id = "co-001"/>
                <ticket_ref ticket_id =
"t-008" concert_id = "co-001"/>
        </concert>

        <concert title = "Adam L"
date = "15.07.2023" time = "21:00"
duration = "1.5 Stunden"
description = "Adam L Album Release
Concert 2023" concert_id = "co-
002">
                <ticket_ref ticket_id =
"t-009" concert_id = "co-002"/>
                <ticket_ref ticket_id =
"t-010" concert_id = "co-002"/>
                <ticket_ref ticket_id =
"t-011" concert_id = "co-002"/>
                <ticket_ref ticket_id =
"t-012" concert_id = "co-002"/>
                <ticket_ref ticket_id =
"t-013" concert_id = "co-002"/>
        </concert>

        <concert title = "EAV" date =
"20.8.2023" time = "20:00" duration
= "2.5 Stunden" description = "EAV
Best Of Abschiedstour" concert_id =
"co-003">
                <ticket_ref ticket_id =
"t-014" concert_id = "co-003"/>
                <ticket_ref ticket_id =
"t-015" concert_id = "co-003"/>
                <ticket_ref ticket_id =
"t-016" concert_id = "co-003"/>
                <ticket_ref ticket_id =
"t-017" concert_id = "co-003"/>
                <ticket_ref ticket_id =
"t-018" concert_id = "co-003"/>
                <ticket_ref ticket_id =
"t-019" concert_id = "co-003"/>
                <ticket_ref ticket_id =
"t-020" concert_id = "co-003"/>
        </concert>

</concert-planning>
```