

# Database Table



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# ABAP Dictionary

```
graph TD; A[ABAP Dictionary] --> B[Database Objects]; A --> C[User-Defined Types]; A --> D[Tools]; B --> E[Database Table]; B --> F[View]; C --> G[Data Element]; C --> H[Structure]; C --> I[Table Type]; D --> J[Lock Object]; D --> K[Search Help];
```

## Database Objects

## User-Defined Types

## Tools

Database Table

View

Data Element

Structure

Table Type

Lock Object

Search Help

## Customer

Customer ID	First Name	...
ZCUSTOMERID	ZFIRSTNAME	...



## Book

Book ID	Title
CHAR 10	CHAR 100



## Order

Order ID	Customer ID	...
ZORDERID	ZCUSTOMERID	...



### ABAP Dictionary

Database-independent Definition



Database Utility

## Customer

Customer ID	First Name	...
nvarchar(10)	nvarchar(30)	...

## Book

Book ID	Title	...
nvarchar(10)	nvarchar(100)	...

## Order

Order ID	Customer ID	...
nvarchar(10)	nvarchar(10)	...

### Physical Database

Database-dependent Definition

# Attributes of Database Tables

Delivery Class

Maintenance Flag

Table Fields

Entry Helps/Checks

Currency/Quantity  
Fields

Enhancement  
Category

Technical Settings

Indexes

Foreign Keys

# Development Workflow: Creating Database Tables

ZAUTHOR
Author

ZORDER
Order



ZBOOK
Book

ZPUBLISHER
Publisher

ZCUSTOMER
Customer

ZORDERITEM
Order Item

ZADDRESS
Address

ZSTREET
Street

ZCITY
City

ZSTATE
State

ZCOUNTRY
Country

# Development Workflow: Set Value Tables

ZCUSTOMERID
Customer ID



ZORDERID
Order ID

ZAUTHORID
Author ID

ZPUBLISHERID
Publisher ID

ZBOOKID
Book ID

ZADDRESSID
Address ID

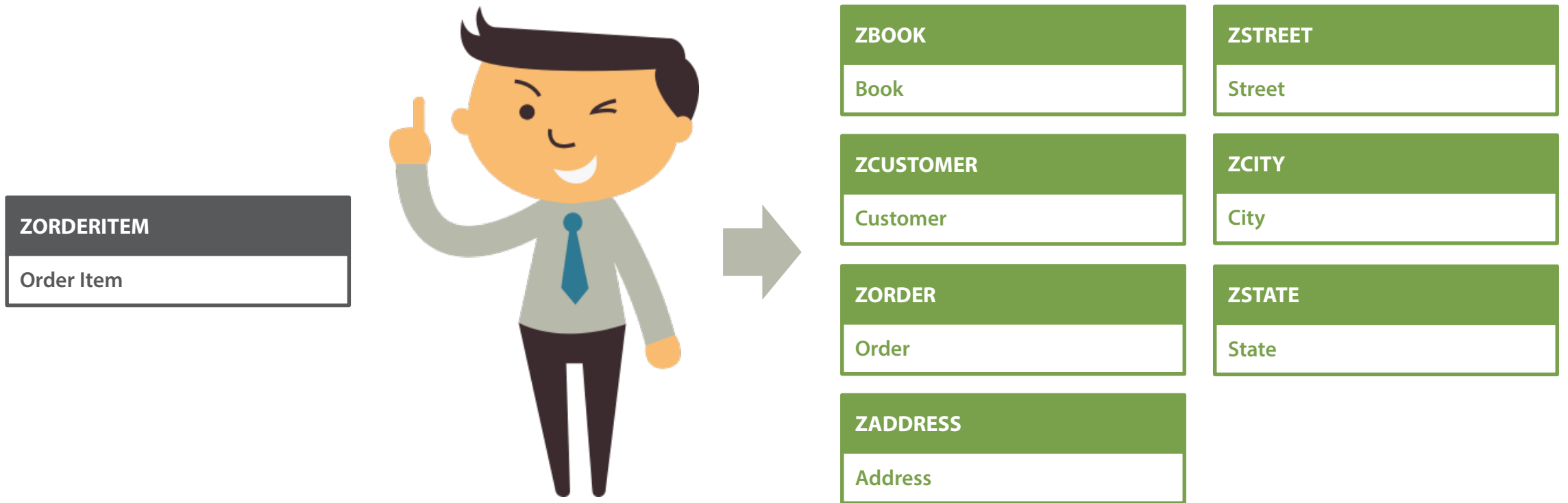
ZSTREETID
Street ID

ZCITYID
City ID

ZSTATEID
State ID

ZCOUNTRYID
Country ID

# Development Workflow: Set Foreign Key Relationships





Delivery Class	A
Table View Maintenance	Display/Maintenance
Data Class	Allowed
Size Category	APPL0
	0

Field	Data Element
<u><b>MANDT</b></u>	<u><b>MANDT</b></u>
<u><b>AUTHORID</b></u>	<u><b>ZAUTORID</b></u>
FIRSTNAME	ZFIRSTNAME
LASTNAME	ZLASTNAME
WORKEMAIL	ZWORKEMAIL
WEBSITE	ZWEBSITE



# ZBOOK

## Book

Delivery Class                      A  
Table View Maintenance        Display/Maintenance  
Data Class                         Allowed  
   APPL0  
Size Category                      0

Field	Data Element
<u>MANDT</u>	<u>MANDT</u>
<u>BOOKID</u>	<u>ZBOOKID</u>
BOOKTITLE	ZBOOKTITLE
AUTHORID	ZAUTHORID
PUBLISHERID	ZPUBLISHERID
PUBLDATE	ZPUBLDATE
UNITPRICE	ZUNITPRICE

# ZPUBLISHER

## Publisher

Delivery Class                      A  
Table View Maintenance        Display/Maintenance  
Data Class                         Allowed  
   APPL0  
Size Category                      0

Field	Data Element
<u>MANDT</u>	<u>MANDT</u>
<u>PUBLISHERID</u>	<u>ZPUBLISHERID</u>
PUBNAME	ZPUBNAME
WORKEMAIL	ZWORKEMAIL
WEBSITE	ZWEBSITE

# How to Set Value Table ?


Order				
Order ID	Cust. ID	Order Date	Order Stat	Total P
0000000035				

Domain	ZCUSTOMERID	Active
Short Description	Customer ID	

Properties

Definition

Value Range



The illustration shows a person in a grey suit and blue tie standing over a spreadsheet. The spreadsheet has columns for 'Order ID', 'Cust. ID', 'Order Stat', and 'Total P'. A search dialog box is open, showing a list of 'Cust. ID' values: C000000001, C000000002, C000000003, C000000004, and C000000005. The person is pointing at the search results.


Value Table

Domain	ZCUSTOMERID	Inactive(Revised)
Short Description	Customer ID	

[illegible]

Intervals				
	Lower limit	UpperLimit	Short Descript.	Fixed Val

Value Table	<u>ZCUSTOMER</u>
-------------	------------------

# ZCUSTOMERID

Customer ID

## Value Table

**ZCUSTOMER**

# ZORDERID

Order ID

Value Table

ZORDER

# ZAUTHORID

Author ID

Value Table

ZAUTHOR

# ZPUBLISHERID

Publisher ID

Value Table

ZPUBLISHER

# ZBOOKID

Book ID

Value Table

ZBOOK

# ZCITYID

City ID

Value Table

ZCITY

# ZSTATEID

State ID

Value Table

ZSTATE

# ZCOUNTRYID

Country ID

Value Table

ZCOUNTRY

# ZADDRESSID

Address ID

Value Table

ZADDRESS

# ZSTREETID

Street ID

Value Table

ZSTREET

# How to Set Foreign Key Relationships ?

Change Foreign Key ZORDER-CUSTOMERID

Short text: Foreign Key for ZCUSTOMER

Check table: ZCUSTOMER Generate proposal

Foreign Key Fields					
Check table	ChkTabFld	For.key ta...	Foreign Key Field	Generic	Constant
ZCUSTOMER	MANDT	ZORDER	MANDT	<input type="checkbox"/>	
ZCUSTOMER	CUSTOMERID	ZORDER	CUSTOMERID	<input type="checkbox"/>	

Screen check

☒ Check required      Error message      MsgNo       AArea

Semantic attributes

Foreign key field type

- ☐ Not Specified
- ☐ Non-key-fields/candidates
- ☒ Key fields/candidates
- ☐ Key fields of a text table

Cardinality: 1 : CN

Copy Undo Redo Delete Cancel

Table Edit Goto Utilities Extras System Help

Dictionary: Change Table

Change Foreign Key ZORDERITEM-ORDERID

Transp. Table ZORDER  
Short Description Order

Attributes Delivery an

Field Key

MANDT	<input checked="" type="checkbox"/>
ORDERID	<input checked="" type="checkbox"/>
BOOKID	<input checked="" type="checkbox"/>
QUANTITY	<input type="checkbox"/>
UNITPRICE	<input type="checkbox"/>

Short text Foreign Key for ZORDER

Check table ZORDER

Generate p

Foreign Key Fields

Check table	ChkTabFld	For.key ta...	Foreign Key Field	Generic	Constant
ZORDER	MANDT	ZORDERITEM	MANDT	<input type="checkbox"/>	
ZORDER	ORDERID	ZORDERITEM	ORDERID	<input type="checkbox"/>	

Screen check

☒ Check required Error message MsgNo AArea

Semantic attributes

Foreign key field type

☐ Not Specified  
☐ Non-key-fields/candidates  
☒ Key fields/candidates  
☐ Key fields of a text table

Cardinality 1 : N

SAP

# ZORDERITEM

## Order Item

Check Table	ZORDER
Check Required	X
Foreign Key Field Type	Key Fields/Candidates
Cardinality	1:N
Check Table	ZBOOK
Check Required	X
Foreign Key Field Type	Key Fields/Candidates
Cardinality	1:CN

# ZBOOK

Book

Check Table	ZAUTHOR
Check Required	X
Foreign Key Field Type	Key Fields/Candidates
Cardinality	1:N

Check Table	ZPUBLISHER
Check Required	X
Foreign Key Field Type	Key Fields/Candidates
Cardinality	1:N

# ZCUSTOMER

Customer

Check Table	ZADDRESS
Check Required	X
Foreign Key Field Type	Key Fields/Candidates
Cardinality	1:N

Check Table	ZADDRESS
Check Required	X
Foreign Key Field Type	Key Fields/Candidates
Cardinality	1:N

# ZORDER

Order

Check Table	ZCUSTOMER
Check Required	X
Foreign Key Field Type	Key Fields/Candidates
Cardinality	1:CN

# ZBOOK

Book

Check Table	ZAUTHOR
Check Required	X
Foreign Key Field Type	Key Fields/Candidates
Cardinality	1:N

Check Table	ZPUBLISHER
Check Required	X
Foreign Key Field Type	Key Fields/Candidates
Cardinality	1:N

# ZCUSTOMER

Customer

Check Table	ZADDRESS
Check Required	X
Foreign Key Field Type	Key Fields/Candidates
Cardinality	1:N

Check Table	ZADDRESS
Check Required	X
Foreign Key Field Type	Key Fields/Candidates
Cardinality	1:N

# ZORDER

Order

Check Table	ZCUSTOMER
-------------	-----------

Next

Database Objects:

Database Table





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# Database Table

Database Objects: Database Table

# ABAP Dictionary

```
graph TD; A[ABAP Dictionary] --> B[Database Objects]; A --> C[User-Defined Types]; A --> D[Tools]; B --> E[Database Table]; B --> F[View]; C --> G[Data Element]; C --> H[Structure]; C --> I[Table Type]; D --> J[Lock Object]; D --> K[Search Help];
```

## Database Objects

## User-Defined Types

## Tools

Database Table

View

Data Element

Structure

Table Type

Lock Object

Search Help

## Customer

Customer ID	First Name	...

## Book

Book ID	Title	...

## Order

Order ID	Customer ID	...

Transparent Table

Pooled Table

Clustered Table

## Customer

Customer ID	First Name	...
ZCUSTOMERID	ZFIRSTNAME	...



## Book

Book ID	Title
CHAR 10	CHAR 100



## Order

Order ID	Customer ID	...
ZORDERID	ZCUSTOMERID	...



### ABAP Dictionary

Database-independent Definition



Database Utility

## Customer

Customer ID	First Name	...
nvarchar(10)	nvarchar(30)	...

## Book

Book ID	Title	...
nvarchar(10)	nvarchar(100)	...

## Order

Order ID	Customer ID	...
nvarchar(10)	nvarchar(10)	...

### Physical Database

Database-dependent Definition

# Attributes of Database Tables

Delivery Class

Maintenance Flag

Table Fields

Entry Helps/Checks

Currency/Quantity  
Fields

Enhancement  
Category

Technical Settings

Indexes

Foreign Keys

# Attributes of Database Tables

Delivery Class

Maintenance Flag

Table Fields

Entry Helps/Checks

Currency/Quantity  
Fields

Enhancement  
Category

Technical Settings

Indexes

Foreign Keys

# Attributes of Database Tables

Delivery Class

Maintenance Flag

Table Fields

Entry Helps/Checks

Currency/Quantity  
Fields

Enhancement  
Category

Technical Settings

Indexes

Foreign Keys

Master Data or  
Transaction Data

**A**

Application Table

**C**

Customer table

Customizing Data

# Attributes of Database Tables

Delivery Class

Maintenance Flag

Table Fields

Entry Helps/Checks

Currency/Quantity  
Fields

Enhancement  
Category

Technical Settings

Indexes

Foreign Keys



# Attributes of Database Tables

Delivery Class

Maintenance Flag

Table Fields

Entry Helps/Checks

Currency/Quantity  
Fields

Enhancement  
Category

Technical Settings

Indexes

Foreign Keys

not allowed

allowed  
to limited extent

allowed

# Attributes of Database Tables

Delivery Class

Maintenance Flag

Table Fields

Entry Helps/Checks

Currency/Quantity  
Fields

Enhancement  
Category

Technical Settings

Indexes

Foreign Keys

# Attributes of Database Tables

Delivery Class

Maintenance Flag

Table Fields

Entry Helps/Checks

Currency/Quantity  
Fields

Enhancement  
Category

Technical Settings

Indexes

Foreign Keys

# Attributes of Database Tables

Delivery Class

Maintenance Flag

Table Fields

Entry Helps/Checks

Currency/Quantity  
Fields

Enhancement  
Category

Technical Settings

Indexes

Customer Rating



Customer Rating (1) 5 Entries found	
Customer Rating	Short text
1	Poor
2	Fair
3	Good
4	Very Good
5	Excellent

# Attributes of Database Tables

Delivery Class

Maintenance Flag

Table Fields

Entry Helps/Checks

Currency/Quantity  
Fields

Enhancement  
Category

Technical Settings

Indexes

Foreign Keys

# Attributes of Database Tables

Delivery Class

Maintenance Flag

Table Fields

Entry Helps/Checks

Currency/Quantity  
Fields

Enhancement  
Category

Technical Settings

Indexes

Foreign Keys

# Attributes of Database Tables

Delivery Class

Maintenance Flag

Table Fields

Entry Helps/Checks

Currency/Quantity  
Fields

Enhancement  
Category

Technical Settings

Indexes

Foreign Keys

# Attributes of Database Tables

Delivery Class

Maintenance Flag

Table Fields

Entry Helps/Checks

Currency/Quantity  
Fields

Enhancement  
Category

Technical Settings

Indexes

Foreign Keys



# Attributes of Database Tables

Delivery Class

Currency/Quantity  
Fields

Foreign Keys

## Logical storage parameters

Data class  Master data, transparent tables  
Size category  Data records expected: 0 to 8.500

## Buffering

- ☒ Buffering not allowed  
☐ Buffering allowed but switched off  
☐ Buffering switched on

## Buffering type

- ☐ Single records buff.  
☐ Generic Area Buffered  
☐ Fully Buffered

No. of key fields

- ☐ Log data changes  
☐ Write access only with JAVA

Entry Helps/Checks

Indexes

Master

Transaction

Organizational and  
Customizing

# Attributes of Database Tables

Delivery Class

Currency/Quantity  
Fields

Foreign Keys

Logical storage parameters

Data class	APPL0	Master data, transparent tables
Size category	0	Data records expected: 0 to 8.500

Buffering

☒ Buffering not allowed  
☐ Buffering allowed but switched off  
☐ Buffering switched on

Buffering type

<input type="checkbox"/> Single records buff.	No. of key fields <input type="text" value="0"/>
<input type="checkbox"/> Generic Area Buffered	
<input type="checkbox"/> Fully Buffered	

☐ Log data changes  
☐ Write access only with JAVA

Entry Helps/Checks

Indexes

INIT

+5MB

+5MB

+5MB

# Attributes of Database Tables

Delivery Class

Currency/Quantity  
Fields

Foreign Keys

Logical storage parameters

Data class	APPL0	Master data, transparent tables
Size category	0	Data records expected: 0 to 8.500

Buffering

☒ Buffering not allowed  
☐ Buffering allowed but switched off  
☐ Buffering switched on

Buffering type

<input type="checkbox"/> Single records buff.	No. of key fields <input type="text" value="0"/>
<input type="checkbox"/> Generic Area Buffered	
<input type="checkbox"/> Fully Buffered	

☐ Log data changes  
☐ Write access only with JAVA

Entry Helps/Checks

Indexes

Single

Generic

Full

# Attributes of Database Tables

Delivery Class

Currency/Quantity  
Fields

Foreign Keys

Logical storage parameters	
Data class	APPL0 Master data, transparent tables
Size category	0 Data records expected: 0 to 8.500

Buffering	
<input checked="" type="radio"/> Buffering not allowed	
<input type="radio"/> Buffering allowed but switched off	
<input type="radio"/> Buffering switched on	

Buffering type	
<input type="checkbox"/> Single records buff.	No. of key fields 0
<input type="checkbox"/> Generic Area Buffered	
<input type="checkbox"/> Fully Buffered	

☐ Log data changes

☐ Write access only with JAVA

Entry Helps/Checks

Indexes

# Attributes of Database Tables

Delivery Class

Currency/Quantity  
Fields

Foreign Keys

Logical storage parameters	
Data class	APPL0 Master data, transparent tables
Size category	0 Data records expected: 0 to 8.500

Buffering	
<input checked="" type="radio"/> Buffering not allowed	
<input type="radio"/> Buffering allowed but switched off	
<input type="radio"/> Buffering switched on	

Buffering type	
<input type="checkbox"/> Single records buff.	No. of key fields 0
<input type="checkbox"/> Generic Area Buffered	
<input type="checkbox"/> Fully Buffered	

<input type="checkbox"/> Log data changes
<input type="checkbox"/> Write access only with JAVA

Entry Helps/Checks

Indexes

# Attributes of Database Tables

Delivery Class

Maintenance Flag

Table Fields

Entry Helps/Checks

Currency/Quantity  
Fields

Enhancement  
Category

Technical Settings

Indexes

Foreign Keys

# Attributes of Database Tables

Delivery Class

Maintenance Flag

Table Fields

Entry Helps/Checks

Currency/Quantity  
Fields

Enhancement  
Category

Technical Settings

Indexes

Foreign Keys

Primary

Secondary

# Attributes of Database Tables

Delivery Class	<b>Customer</b>			Tab	<b>Secondary Index</b>		try Helps/Checks
Currency/Quantity Fields	<b>Customer ID</b>	<b>...</b>	<b>State</b>	Techni	<b>State</b>	<b>Pointer</b>	Indexes
	C000000001	...	OH		AL	4	
	C000000002	...	UT		CA	3	
Foreign Keys	C000000003	...	CA		CA	6	
	C000000004	...	AL		MA	5	
	C000000005	...	MA		OH	1	
	C000000006	...	CA		UT	2	

```
SELECT * FROM Customer WHERE State = ,CA'
```



# Attributes of Database Tables

Delivery Class

Maintenance Flag

Table Fields

Entry Helps/Checks

Currency/Quantity  
Fields

Enhancement  
Category

Technical Settings

Indexes

Foreign Keys

# Attributes of Database Tables

Delivery Class

Maintenance Flag

Table Fields

Entry Helps/Checks

Currency/Quantity  
Fields

Enhancement  
Category

Tec

Next

**Development Workflow:  
Database Tables**

Foreign Keys



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# Database Table

Development Workflow: Database Table

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# List of Potential Database Tables

**ZAUTHOR**

Author

**ZORDER**

Order

**ZBOOK**

Book

**ZPUBLISHER**

Publisher

**ZCUSTOMER**

Customer

**ZORDERITEM**

Order Item

**ZADDRESS**

Address

**ZSTREET**

Street

**ZCITY**

City

**ZSTATE**

State

**ZCOUNTRY**

Country

# Development Workflow: Creating Database Tables

ZAUTHOR
Author

ZORDER
Order



ZBOOK
Book

ZPUBLISHER
Publisher

ZCUSTOMER
Customer

ZORDERITEM
Order Item

ZADDRESS
Address

ZSTREET
Street

ZCITY
City

ZSTATE
State

ZCOUNTRY
Country

# Development Workflow: Set Value Tables

ZCUSTOMERID
Customer ID



ZORDERID
Order ID

ZAUTHORID
Author ID

ZPUBLISHERID
Publisher ID

ZBOOKID
Book ID

ZADDRESSID
Address ID

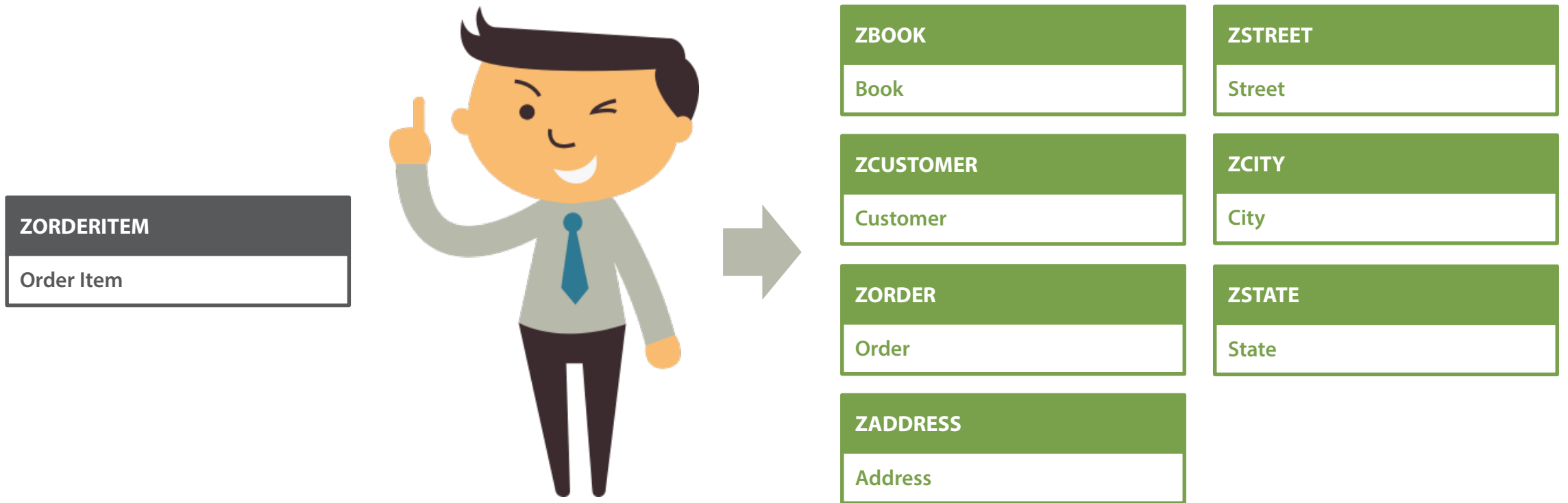
ZSTREETID
Street ID

ZCITYID
City ID

ZSTATEID
State ID

ZCOUNTRYID
Country ID

# Development Workflow: Set Foreign Key Relationships



# Development Workflow: Set Foreign Key Relationships

ZORDERITEM
Order Item



ZBOOK	ZSTREET
Book	
ZCUST	ZSTATE
Cust	
ZORDER	ZSTATE
Order	
ZADDRESS	
Address	

Next  
**Group Exercise:**  
**Creating Database Tables**





# Group Exercises: Creating Database Tables



Attendee



Instructor



Delivery Class  
Table View Maintenance  
Data Class  
Size Category

**A**  
**Display/Maintenance**  
**Allowed**  
**APPL0**  
**0**

Field	Data Element
<u><b>MANDT</b></u>	<u><b>MANDT</b></u>
<u><b>AUTHORID</b></u>	<u><b>ZAUTORID</b></u>
FIRSTNAME	ZFIRSTNAME
LASTNAME	ZLASTNAME
WORKEMAIL	ZWORKEMAIL
WEBSITE	ZWEBSITE



Delivery Class  
Table View Maintenance  
Data Class  
Size Category

**A**  
**Display/Maintenance**  
**Allowed**  
**APPL1**  
**2**

Field	Data Element
<u><b>MANDT</b></u>	<u><b>MANDT</b></u>
<u><b>ORDERID</b></u>	<u><b>ZORDERID</b></u>
CUSTOMERID	ZCUSTOMERID
ORDDATE	ZORDDATE
OSTATUS	ZOSTATUS
TOTALPRICE	ZTOTALPRICE

# Individual Exercises: Creating Database Tables



# ZBOOK

## Book

Delivery Class                      A  
Table View Maintenance        Display/Maintenance  
Data Class                         Allowed  
   APPL0  
Size Category                      0

Field	Data Element
<u>MANDT</u>	<u>MANDT</u>
<u>BOOKID</u>	<u>ZBOOKID</u>
BOOKTITLE	ZBOOKTITLE
AUTHORID	ZAUTHORID
PUBLISHERID	ZPUBLISHERID
PUBLDATE	ZPUBLDATE
UNITPRICE	ZUNITPRICE

# ZPUBLISHER

## Publisher

Delivery Class                      A  
Table View Maintenance        Display/Maintenance  
Data Class                         Allowed  
   APPL0  
Size Category                      0

Field	Data Element
<u>MANDT</u>	<u>MANDT</u>
<u>PUBLISHERID</u>	<u>ZPUBLISHERID</u>
PUBNAME	ZPUBNAME
WORKEMAIL	ZWORKEMAIL
WEBSITE	ZWEBSITE

# ZCUSTOMER

## Customer

Delivery Class                      A  
Table View Maintenance        Display/Maintenance  
Data Class                         Allowed  
   APPL0  
Size Category                      0

Field	Data Element
<u>MANDT</u>	<u>MANDT</u>
<u>CUSTOMERID</u>	<u>ZCUSTOMERID</u>
FIRSTNAME	ZFIRSTNAME
LASTNAME	ZLASTNAME
PERSEMAIL	ZPERSEMAIL
MOBPHONE	ZMOBPHONE
SADDRID	ZSADDRID
BADDRID	ZBADDRID

# ZORDERITEM

## Order Item

Delivery Class                      A  
Table View Maintenance        Display/Maintenance  
Data Class                         Allowed  
   APPL1  
Size Category                      2

Field	Data Element
<u>MANDT</u>	<u>MANDT</u>
<u>ORDERID</u>	<u>ZORDERID</u>
<u>BOOKID</u>	<u>ZBOOKID</u>
QUANTITY	ZQUANTITY
UNITPRICE	ZUNITPRICE

# ZADDRESS

## Address

Delivery Class                      A  
Table View Maintenance        Display/Maintenance  
Data Class                        Allowed  
   APPL0  
Size Category                      0

Field	Data Element
<u>MANDT</u>	<u>MANDT</u>
<u>ADDRESSID</u>	<u>ZADDRESSID</u>
STREETID	ZSTREETID
HOUSENUM	Predefined Type: INT4 Description:        House Number

# ZSTREET

## Street

Delivery Class                      A  
Table View Maintenance        Display/Maintenance  
Data Class                        Allowed  
   APPL0  
Size Category                      0

Field	Data Element
<u>MANDT</u>	<u>MANDT</u>
<u>STREETID</u>	<u>ZSTREETID</u>
ZIPCODE	ZZIPCODE
CITYID	ZCITYID
STREETNAM	ZSTREETNAM

# ZCITY

## City

Delivery Class                      A  
Table View Maintenance        Display/Maintenance  
Data Class                         Allowed  
   APPL0  
Size Category                      0

Field	Data Element
<u>MANDT</u>	<u>MANDT</u>
<u>CITYID</u>	<u>ZCITYID</u>
STATEID	ZSTATEID
CITYNAME	ZCITYNAME

# ZSTATE

## State

Delivery Class                      A  
Table View Maintenance        Display/Maintenance  
Data Class                         Allowed  
   APPL0  
Size Category                      0

Field	Data Element
<u>MANDT</u>	<u>MANDT</u>
<u>STATEID</u>	<u>ZSTATEID</u>
COUNTRYID	ZCOUNTRYID
STATENAM	ZSTATENAM



# ZCOUNTRY

## Country

Delivery Class                      A  
Table View Maintenance        Display/Maintenance  
Data Class                         Allowed  
   APPL0  
Size Category                      0

Field	Data Element
<u>MANDT</u>	<u>MANDT</u>
<u>COUNTRYID</u>	<u>ZCOUNTRYID</u>
COUNTRYNAM	ZCOUNTRYNAM

# ZCOUNTRY

## Country

Delivery Class A  
Table View Maintenance Display/Maintenance  
Data Class Allowed  
APPL0  
Size Category 0

Field	Data Element
<u>MANDT</u>	<u>MANDT</u>
<u>COUNTRYID</u>	<u>ZCOUNTRYID</u>
COUNTRYNAM	ZCOUNTRYNAM

Next  
Value Table



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# Database Table

Value Table

# What Is Value Table ?

Order					
Order ID	Cust. ID	Order Date	Order Stat	Total P	
0000000035					



Order					
Order ID	Cust. ID	Order Date	Order Stat	Total P	
0000000035					

Customer ID (1) 100 Entries found

Restrictions

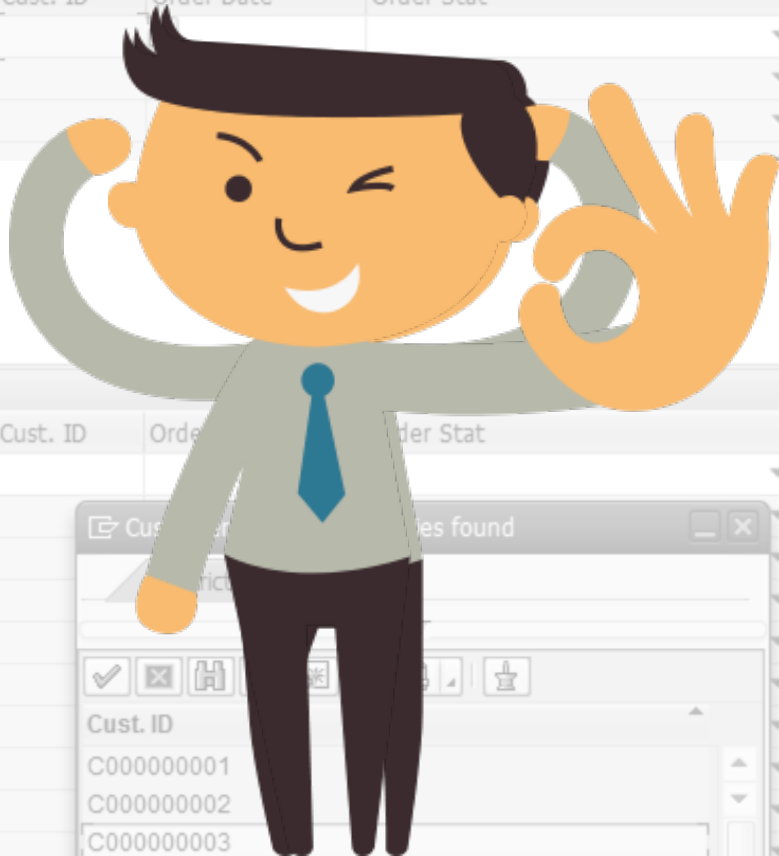
Cust. ID

- C000000001
- C000000002
- C000000003
- C000000004
- C000000005

# How to Set Value Table ?

Order

Order ID	Cust. ID	Order Date	Order Stat	Total P
0000000035				



Order

Order ID	Cust. ID	Order Date	Order Stat	Total P
0000000035				

Cust. ID

0000000001  
0000000002  
0000000003  
0000000004  
0000000005

Domain: ZCUSTOMERID Active

Short Description: Customer ID

Properties Definition Value Range



Value Table: ZCUSTOMER

# How to Set Value Table ?

Order					
Order ID	Cust. ID	Order Date	Order Stat	Total P	
0000000035					



Order					
Order ID	Cust. ID	Order Date	Order Stat	Total P	
0000000035					

Customer ID (1) 100 Entries found

Restrictions

Cust. ID

- C000000001
- C000000002
- C000000003
- C000000004
- C000000005

Domain: ZCUSTOMERID Active

Short Description: Customer ID

Properties Definition Value Pages

Next  
Group Exercise:  
Setting Value Tables

Value Table: ZCUSTOMER



# Group Exercises: Set Value Tables



Attendee



Instructor





# Individual Exercises: Set Value Tables



**ZORDERID**

Order ID

Value Table

ZORDER

**ZAUTHORID**

Author ID

Value Table

ZAUTHOR

**ZPUBLISHERID**

Publisher ID

Value Table

ZPUBLISHER

**ZBOOKID**

Book ID

Value Table

ZBOOK

**ZCITYID**

City ID

Value Table

ZCITY

**ZSTATEID**

State ID

Value Table

ZSTATE

**ZCOUNTRYID**

Country ID

Value Table

ZCOUNTRY

**ZADDRESSID**

Address ID

Value Table

ZADDRESS

**ZSTREETID**

Street ID

Value Table

ZSTREET

# ZORDERID

Order ID

Value Table

ZORDER

# ZAUTHORID

Author ID

Value Table

ZAUTHOR

# ZPUBLISHERID

Publisher ID

Value Table

ZPUBLISHER

# ZBOOKID

Book ID

Value Table

ZBOOK

# ZCITYID

City ID

Value Table

ZCITY

# ZSTATEID

Next

## Foreign Key Relationship

# ZCOUNTRYID

Country ID

Value Table

ZCOUNTRY

# ZADDRESSID

Address ID

Value Table

ZADDRESS

# ZSTREETID

Street ID

Value Table

ZSTREET



---

# Database Table

## Foreign Key Relationship

---

# How to Set Foreign Key Relationships ?

Change Foreign Key ZORDER-CUSTOMERID

Short text: Foreign Key for ZCUSTOMER

Check table: ZCUSTOMER Generate proposal

Foreign Key Fields					
Check table	ChkTabFld	For.key ta...	Foreign Key Field	Generic	Constant
ZCUSTOMER	MANDT	ZORDER	MANDT	<input type="checkbox"/>	
ZCUSTOMER	CUSTOMERID	ZORDER	CUSTOMERID	<input type="checkbox"/>	

Screen check

☒ Check required      Error message      MsgNo       AArea

Semantic attributes

Foreign key field type

- ☐ Not Specified
- ☐ Non-key-fields/candidates
- ☒ Key fields/candidates
- ☐ Key fields of a text table

Cardinality: 1 : CN

Copy Undo Redo Delete Cancel

# Screen Check

**New Entries: Overview of Added Entries**

Order					
Order ID	Cust. ID	Order Date	Order Stat	Total P	
0000000035	C000000101				



Navigation controls: back, forward, search, and list icons.

Position... Entry 1 of 1

! Entry C000000101 does not exist in ZCUSTOMER (check entry)

# Screen Check

*New Entries: Overview of Added Entries*

Order ID	Cust. ID	Order Date	Order State
0000000035	C000000101		

↓

**Data Browser: Table ZCUSTOMER: Selection Screen**

Selection Screen 01

CUSTOMERID C000000101 to

FIRSTNAME  
LASTNAME  
PERSEMAIL  
MOBPHONE  
SADDRID  
BADDRID

Width of Output List  
Maximum No. of Hits

Display Number of Entries

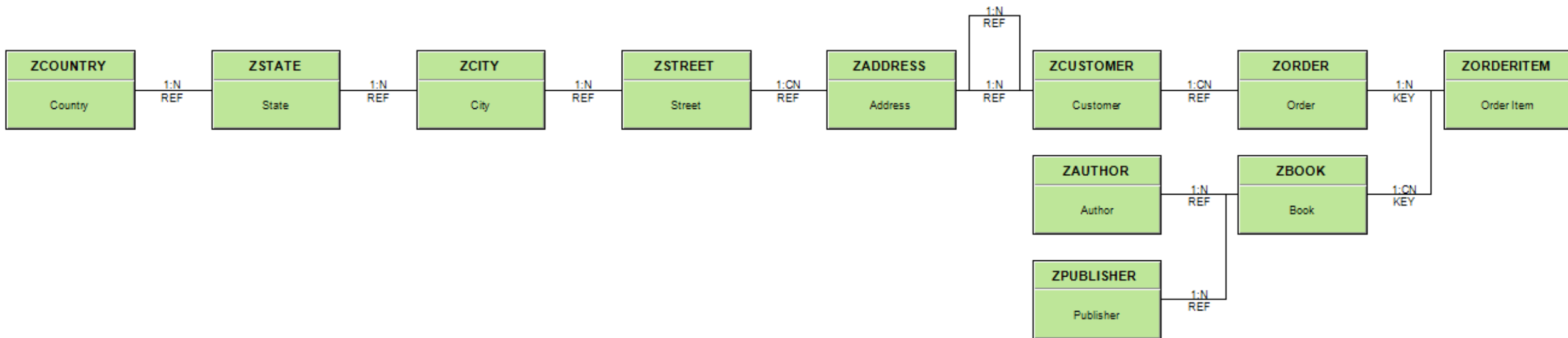
Number of entries that match the selection criteria:

0

Position... Entry 1 of 1

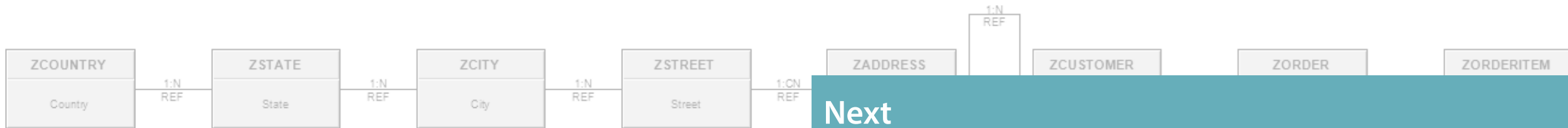
Entry C000000101 does not exist in ZCUSTOMER (check entry)

# Foreign Key Relationship Graph





# Foreign Key Relationship Graph



Next  
Group Exercise:  
Set Foreign Key Relationships



# Group Exercises: Set Foreign Key Relationships



Attendee



Instructor

Table Edit Goto Utilities Extras System Help

Dictionary: Change Table

Change Foreign Key ZORDERITEM-ORDERID

Transp. Table ZORDER  
Short Description Order

Attributes Delivery an

Field Key

MANDT	<input checked="" type="checkbox"/>
ORDERID	<input checked="" type="checkbox"/>
BOOKID	<input checked="" type="checkbox"/>
QUANTITY	<input type="checkbox"/>
UNITPRICE	<input type="checkbox"/>

Short text Foreign Key for ZORDER

Check table ZORDER

Generate p

Foreign Key Fields

Check table	ChkTabFld	For.key ta...	Foreign Key Field	Generic	Constant
ZORDER	MANDT	ZORDERITEM	MANDT	<input type="checkbox"/>	
ZORDER	ORDERID	ZORDERITEM	ORDERID	<input type="checkbox"/>	

Screen check

☒ Check required Error message MsgNo AArea

Semantic attributes

Foreign key field type

☐ Not Specified  
☐ Non-key-fields/candidates  
☒ Key fields/candidates  
☐ Key fields of a text table

Cardinality 1 : N

SAP

# ZORDERITEM

## Order Item

Check Table	ZORDER
Check Required	X
Foreign Key Field Type	Key Fields/Candidates
Cardinality	1:N
Check Table	ZBOOK
Check Required	X
Foreign Key Field Type	Key Fields/Candidates
Cardinality	1:CN

# Individual Exercises: Set Foreign Key Relationships



# ZBOOK

## Book

Check Table	ZAUTHOR
Check Required	X
Foreign Key Field Type	Non-Key Flds./Candidates
Cardinality	1:N

Check Table	ZPUBLISHER
Check Required	X
Foreign Key Field Type	Non-Key Flds./Candidates
Cardinality	1:N

# ZCUSTOMER

## Customer

Check Table	ZADDRESS
Check Required	X
Foreign Key Field Type	Non-Key Flds./Candidates
Cardinality	1:N

Check Table	ZADDRESS
Check Required	X
Foreign Key Field Type	Non-Key Flds./Candidates
Cardinality	1:N

# ZORDER

## Order

Check Table	ZCUSTOMER
Check Required	X
Foreign Key Field Type	Non-Key Flds./Candidates
Cardinality	1:CN

# ZADDRESS

Address

Check Table	ZSTREET
Check Required	X
Foreign Key Field Type	Non-Key Flds./Candidates
Cardinality	1:CN

# ZSTREET

Street

Check Table	ZCITY
Check Required	X
Foreign Key Field Type	Non-Key Flds./Candidates
Cardinality	1:N

# ZCITY

City

Check Table	ZSTATE
Check Required	X
Foreign Key Field Type	Non-Key Flds./Candidates
Cardinality	1:N

# ZSTATE

State

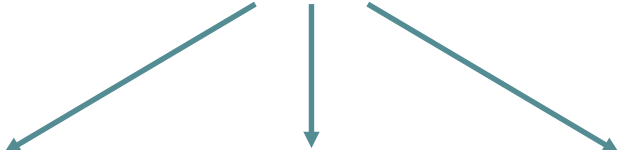
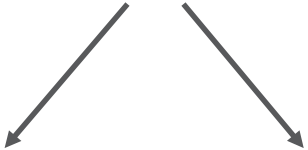
Check Table	ZCOUNTRY
Check Required	X
Foreign Key Field Type	Non-Key Flds./Candidates
Cardinality	1:N

ABAP Dictionary

Database Objects

User-Defined Types

Tools



Database Table

View

Data Element

Structure

Table Type

Lock Object

Search Help



## Customer

Customer ID	First Name	...
ZCUSTOMERID	ZFIRSTNAME	...



## Book

Book ID	Title
CHAR 10	CHAR 100



## Order

Order ID	Customer ID	...
ZORDERID	ZCUSTOMERID	...



### ABAP Dictionary

Database-independent Definition



Database Utility

## Customer

Customer ID	First Name	...
nvarchar(10)	nvarchar(30)	...

## Book

Book ID	Title	...
nvarchar(10)	nvarchar(100)	...

## Order

Order ID	Customer ID	...
nvarchar(10)	nvarchar(10)	...

### Physical Database

Database-dependent Definition

# Attributes of Database Tables

Delivery Class

Maintenance Flag

Table Fields

Entry Helps/Checks

Currency/Quantity  
Fields

Enhancement  
Category

Technical Settings

Indexes

Foreign Keys

# Development Workflow: Creating Database Tables

ZAUTHOR
Author

ZORDER
Order



ZBOOK
Book

ZPUBLISHER
Publisher

ZCUSTOMER
Customer

ZORDERITEM
Order Item

ZADDRESS
Address

ZSTREET
Street

ZCITY
City

ZSTATE
State

ZCOUNTRY
Country

# Development Workflow: Set Value Tables

ZCUSTOMERID
Customer ID



ZORDERID
Order ID

ZAUTHORID
Author ID

ZPUBLISHERID
Publisher ID

ZBOOKID
Book ID

ZADDRESSID
Address ID

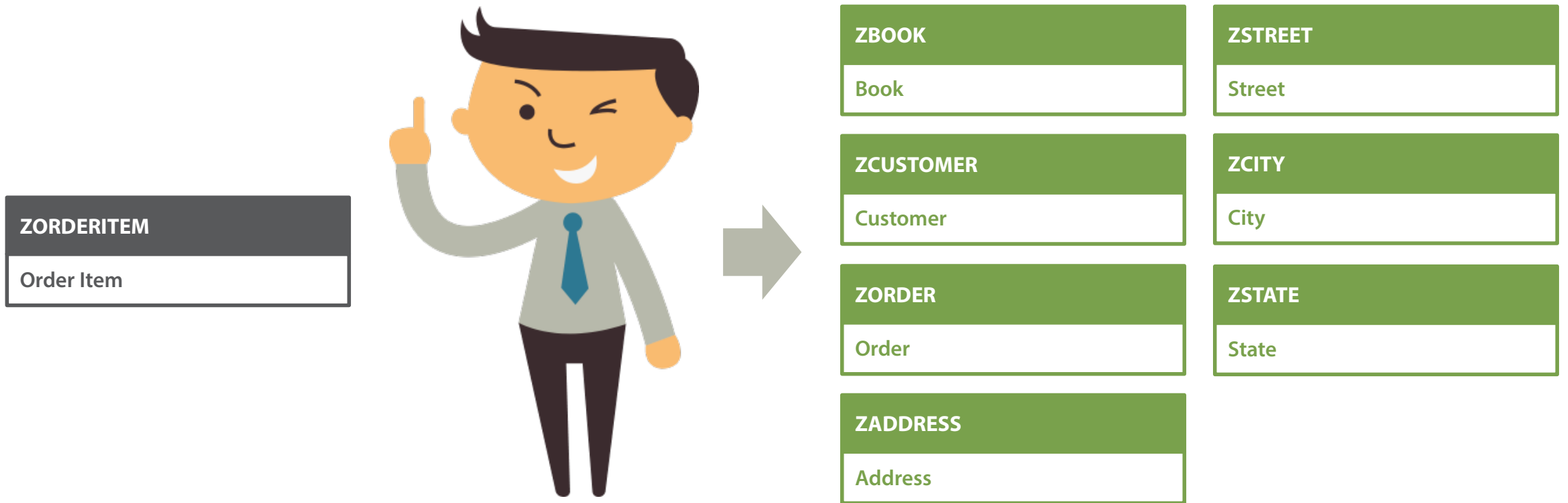
ZSTREETID
Street ID

ZCITYID
City ID

ZSTATEID
State ID

ZCOUNTRYID
Country ID

# Development Workflow: Set Foreign Key Relationships





Delivery Class  
Table View Maintenance  
Data Class  
Size Category

**A**  
**Display/Maintenance**  
**Allowed**  
**APPL0**  
**0**

Field	Data Element
<u><b>MANDT</b></u>	<u><b>MANDT</b></u>
<u><b>AUTHORID</b></u>	<u><b>ZAUTORID</b></u>
FIRSTNAME	ZFIRSTNAME
LASTNAME	ZLASTNAME
WORKEMAIL	ZWORKEMAIL
WEBSITE	ZWEBSITE

# ZBOOK

## Book

Delivery Class  
Table View Maintenance  
Data Class  
Size Category

A  
Display/Maintenance  
Allowed  
APPL0  
0

Field	Data Element
<u>MANDT</u>	<u>MANDT</u>
<u>BOOKID</u>	<u>ZBOOKID</u>
BOOKTITLE	ZBOOKTITLE
AUTHORID	ZAUTHORID
PUBLISHERID	ZPUBLISHERID
PUBLDATE	ZPUBLDATE
UNITPRICE	ZUNITPRICE

# ZPUBLISHER

## Publisher

Delivery Class  
Table View Maintenance  
Data Class  
Size Category

A  
Display/Maintenance  
Allowed  
APPL0  
0

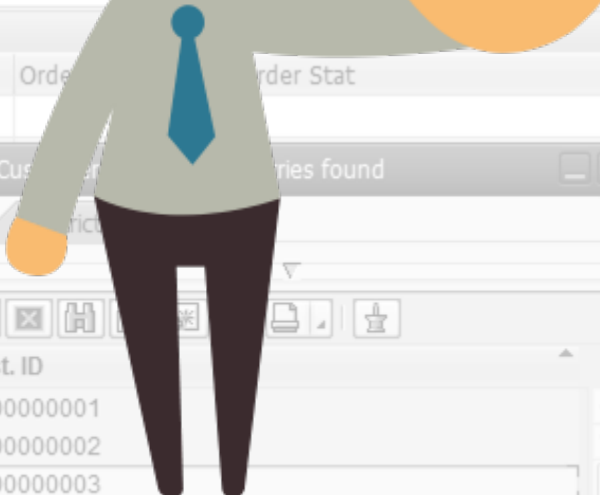
Field	Data Element
<u>MANDT</u>	<u>MANDT</u>
<u>PUBLISHERID</u>	<u>ZPUBLISHERID</u>
PUBNAME	ZPUBNAME
WORKEMAIL	ZWORKEMAIL
WEBSITE	ZWEBSITE

# How to Set Value Table ?

Order				
Order ID	Cust. ID	Order Date	Order Stat	Total P
0000000035				

Domain	ZCUSTOMERID	Active
Short Description	Customer ID	

Properties Definition Value Range



The illustration shows a person in a grey suit and blue tie standing over a spreadsheet. The spreadsheet has columns for 'Order ID', 'Cust. ID', 'Order Stat', and 'Total P'. A data entry window titled 'Cust. ID' is open, showing a list of customer IDs. The person's right arm is raised, holding a large orange circle, symbolizing a data point or a selection.

Order ID	Cust. ID	Order Stat	Total P
0000000035			

**Cust. ID**

- C000000001
- C000000002
- C000000003
- C000000004
- C000000005


Value Table



Domain	ZCUSTOMERID	Inactive(Revised)
Short Description	Customer ID	

Properties Definition Value Range

[illegible]

Intervals				
	Lower limit	UpperLimit	Short Descript.	Fixed Val

Value Table	<u>ZCUSTOMER</u>
-------------	------------------

# ZCUSTOMERID

Customer ID

## Value Table

**ZCUSTOMER**

# ZORDERID

Order ID

Value Table

ZORDER

# ZAUTHORID

Author ID

Value Table

ZAUTHOR

# ZPUBLISHERID

Publisher ID

Value Table

ZPUBLISHER

# ZBOOKID

Book ID

Value Table

ZBOOK

# ZCITYID

City ID

Value Table

ZCITY

# ZSTATEID

State ID

Value Table

ZSTATE

# ZCOUNTRYID

Country ID

Value Table

ZCOUNTRY

# ZADDRESSID

Address ID

Value Table

ZADDRESS

# ZSTREETID

Street ID

Value Table

ZSTREET

# How to Set Foreign Key Relationships ?

Change Foreign Key ZORDER-CUSTOMERID

Short text: Foreign Key for ZCUSTOMER

Check table: ZCUSTOMER Generate proposal

Foreign Key Fields					
Check table	ChkTabFld	For.key ta...	Foreign Key Field	Generic	Constant
ZCUSTOMER	MANDT	ZORDER	MANDT	<input type="checkbox"/>	
ZCUSTOMER	CUSTOMERID	ZORDER	CUSTOMERID	<input type="checkbox"/>	

Screen check

☒ Check required      Error message      MsgNo       AArea

Semantic attributes

Foreign key field type

- ☐ Not Specified
- ☐ Non-key-fields/candidates
- ☒ Key fields/candidates
- ☐ Key fields of a text table

Cardinality: 1 : CN

Copy Undo Redo Delete Cancel

Table Edit Goto Utilities Extras System Help

Dictionary: Change Table

Change Foreign Key ZORDERITEM-ORDERID

Transp. Table ZORDER  
Short Description Order

Attributes Delivery an

Field Key

MANDT	<input checked="" type="checkbox"/>
ORDERID	<input checked="" type="checkbox"/>
BOOKID	<input checked="" type="checkbox"/>
QUANTITY	<input type="checkbox"/>
UNITPRICE	<input type="checkbox"/>

Short text Foreign Key for ZORDER

Check table ZORDER

Generate p

Foreign Key Fields

Check table	ChkTabFld	For.key ta...	Foreign Key Field	Generic	Constant
ZORDER	MANDT	ZORDERITEM	MANDT	<input type="checkbox"/>	
ZORDER	ORDERID	ZORDERITEM	ORDERID	<input type="checkbox"/>	

Screen check

☒ Check required Error message MsgNo AArea

Semantic attributes

Foreign key field type

☐ Not Specified  
☐ Non-key-fields/candidates  
☒ Key fields/candidates  
☐ Key fields of a text table

Cardinality 1 : N

SAP

# ZORDERITEM

## Order Item

Check Table	ZORDER
Check Required	X
Foreign Key Field Type	Key Fields/Candidates
Cardinality	1:N
Check Table	ZBOOK
Check Required	X
Foreign Key Field Type	Key Fields/Candidates
Cardinality	1:CN

# ZBOOK

Book

Check Table	ZAUTHOR
Check Required	X
Foreign Key Field Type	Key Fields/Candidates
Cardinality	1:N

Check Table	ZPUBLISHER
Check Required	X
Foreign Key Field Type	Key Fields/Candidates
Cardinality	1:N

# ZCUSTOMER

Customer

Check Table	ZADDRESS
Check Required	X
Foreign Key Field Type	Key Fields/Candidates
Cardinality	1:N

Check Table	ZADDRESS
Check Required	X
Foreign Key Field Type	Key Fields/Candidates
Cardinality	1:N

# ZORDER

Order

Check Table	ZCUSTOMER
Check Required	X
Foreign Key Field Type	Key Fields/Candidates
Cardinality	1:CN

# Next Module Views



## ZCUSTOMER

Customer

Check Table	ZADDRESS
Check Required	X
Foreign Key Field Type	Key Fields/Candidates
Cardinality	1:N

Check Table	ZADDRESS
Check Required	X
Foreign Key Field Type	Key Fields/Candidates
Cardinality	1:N

## ZORDER

Order

Check Table	ZCUSTOMER
Check Required	X
Foreign Key Field Type	Key Fields/Candidates
Cardinality	1:CN