Siebel 8.1.x Tools

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Business Components and Joins

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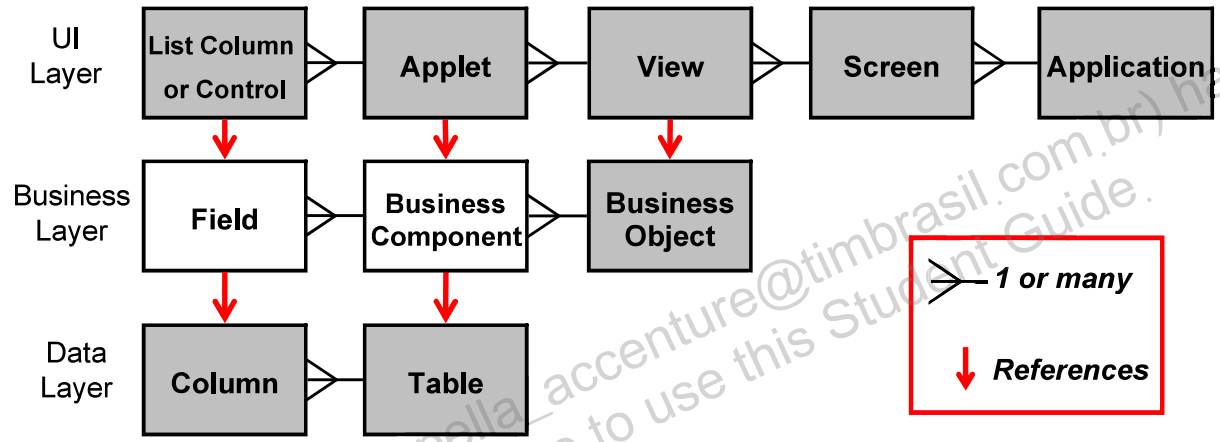
Objectives

After completing this lesson you should be able to:

- Describe the structure of business components and joins
- Map fields in business components to base, joined, and extension tables
- Create a join and join specification to bring in data from a joined table
- Create a business component using the Business Component wizard

Business Components

- Represent fundamental business entities in the user's world
- Store their data in one or more tables
- Are referenced by applets



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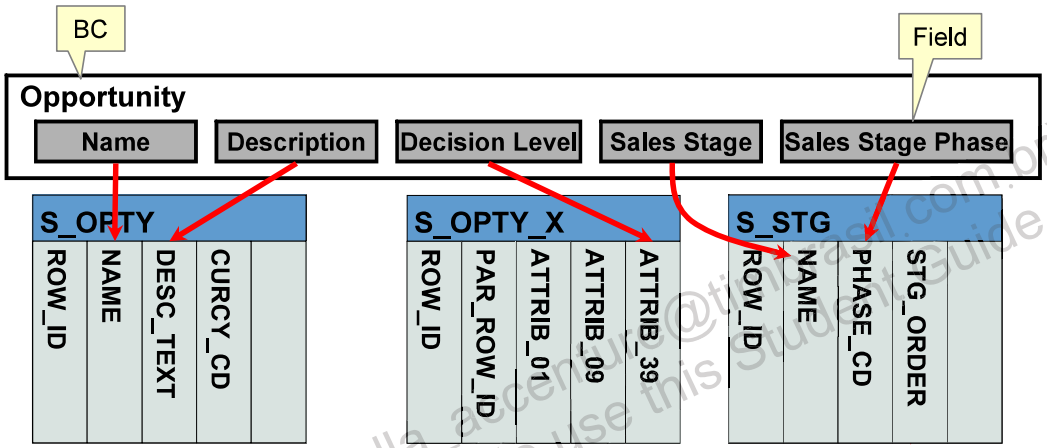
Business Components

Reference: "Configuring Business Components" in *Using Siebel Tools*

Business Component (BC)

- Is a logical grouping of data from one or more tables
- Consist of several types of fields including single-value fields (SVF)
  - A single-value field references a single column in a table



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Business Component (BC)

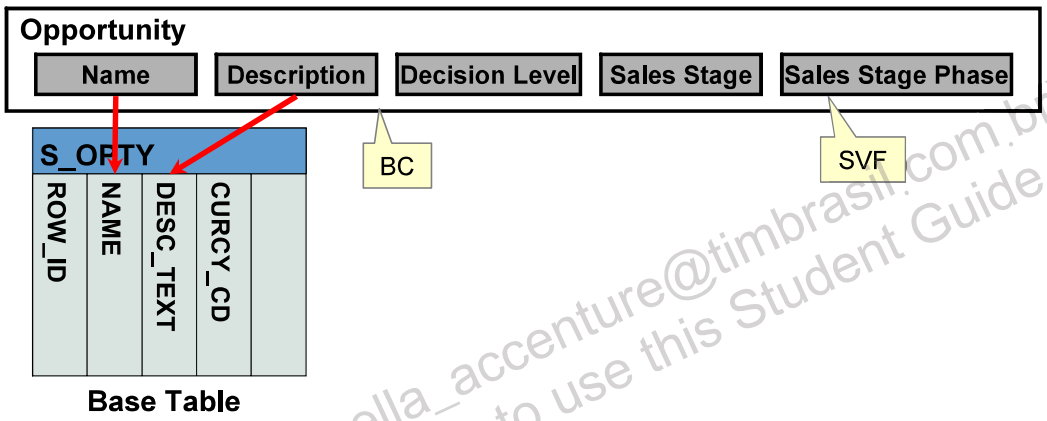
In addition to single value fields, business components may also include multi value fields and calculated fields. These types of fields will be discussed in subsequent lessons. All fields can be accessed using Field type.

Business Component Properties

- Table: Specifies the base table
- Class: Specifies the C++ class used at run time for the business component
  - Determines the behavior of the business component
  - Is set to CSSBusComp or a specialized child class
    - Many business components use specialized classes that support extra processing specific to that business component

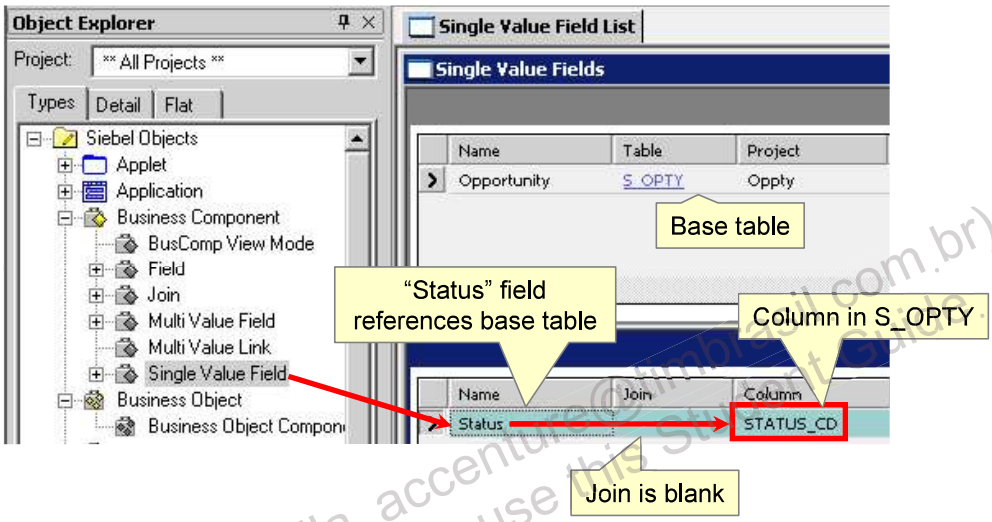
Base Table

- Contains the columns that store the main fields for the business component
  - These fields can be edited unless:
    - The field references a system column
    - The field is designated as read only in the business component



SVFs That Map to a Base Table

- Join property is blank
- Column property is a column in the base table

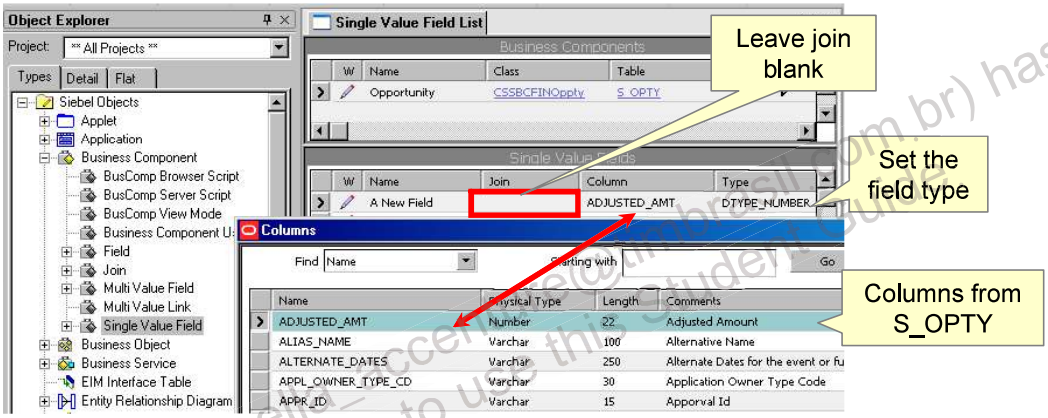


SVFs That Map to a Base Table

Single value field object definitions can also be examined and edited in the Field object type. The Field object type shows both single and multi value fields, and includes properties that apply to both object types. You will learn about multi value fields in a later lesson.

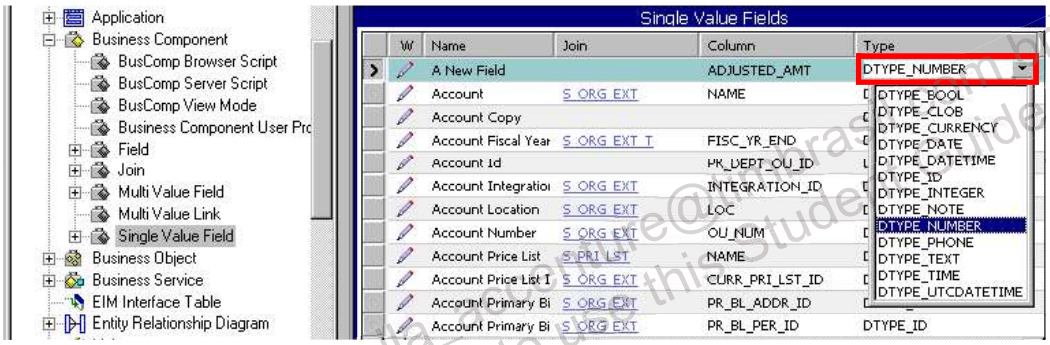
Mapping a Field to a Column in a Base Table

- Create a new Single Value Field definition
  - Leave the Join property blank
- Select the column to store the data
  - Column picklist shows columns from the base table
- Set the field type



Type Property for Fields

- Specifies the data type for the field
- Must correspond to the physical type of the column
- Consists of a set of Siebel-defined types
- Must be set by the configurator
  - Are defaulted automatically by Siebel Tools to DTYPE_TEXT when fields are created



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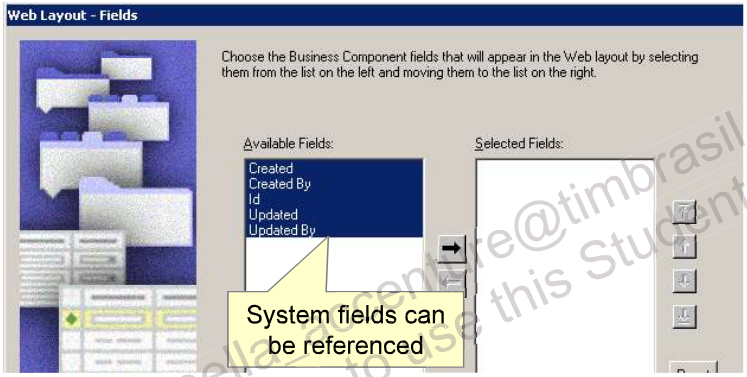
Default Single Value Fields

- Each business component has a small set of fields that map to system columns such as ROW_ID and CREATED
- These fields:
  - Do not appear explicitly as single value fields
  - Are available when configuring object definitions (such as applets) that map to the business component



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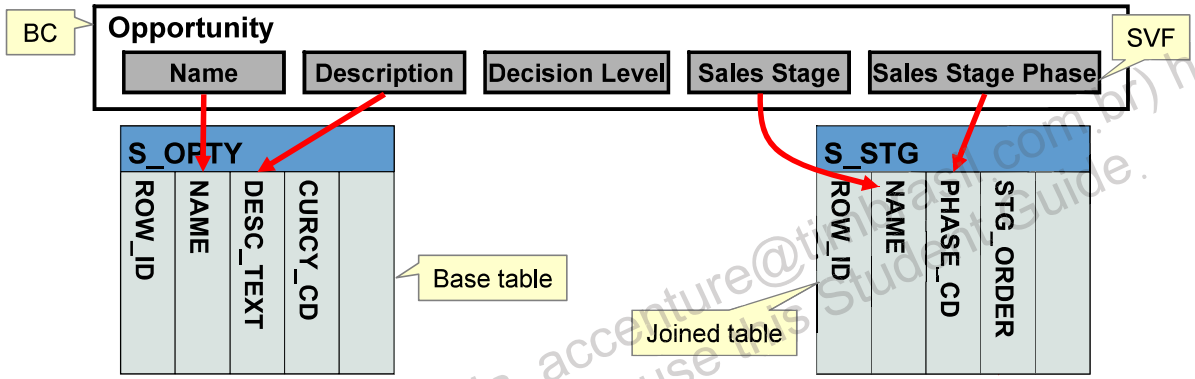
Joined Tables

- Business components can include data from additional related (*joined*) tables
  - For display in applets
  - For use in processing by the business component
- SVFs referencing columns in joined tables are read-only



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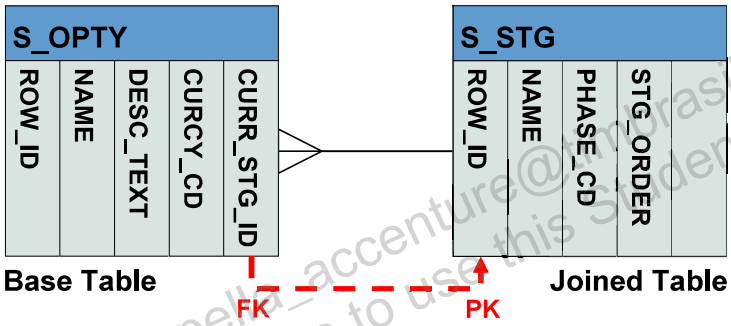
Joined Tables

Reference: "Configuring Joins" in *Configuring Siebel Business Applications*

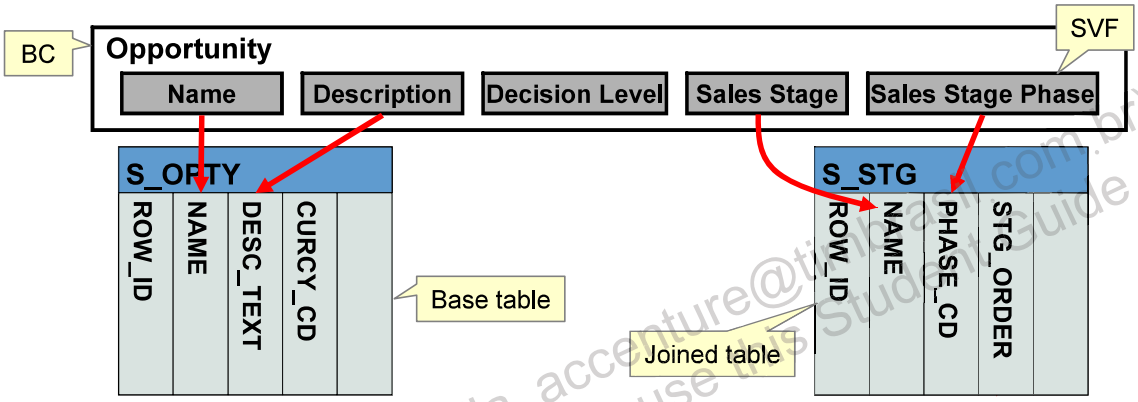
Joining Data from Related Tables

- Returns only one row from the other (joined-to) table
- Is a relationship (M:1 or 1:1) from the BC to the related (joined-to) table
- Requires a:
  - Foreign key (FK) column on the base table that points to a primary key (PK) column on the joined-to table
  - FK field on the BC to expose the FK column



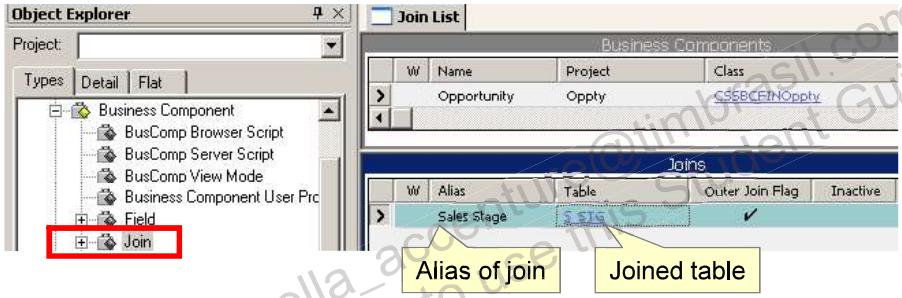
Explicit Join

- Specifies the relationship from the BC to the joined table
- Includes a join definition and a join specification
- Is used to map single-value fields to a joined table



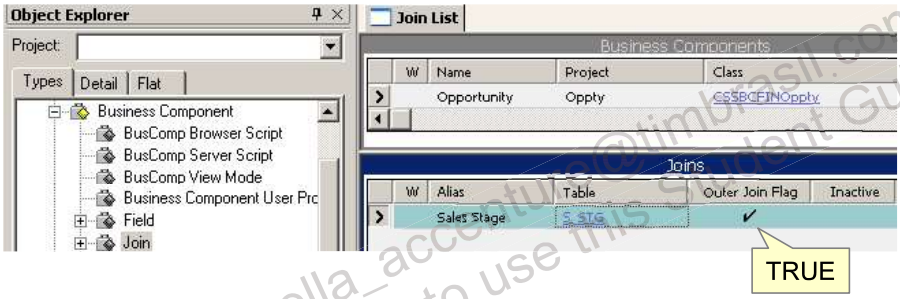
Join Definition

- Is a child object of the business component
- Specifies the joined table from which to retrieve data
  - A given table can be joined multiple times
- Uses the alias property to distinguish multiple joins to the same table
  - Defaults the alias property to the name of the joined table
  - Modify alias when there are multiple joins to the same table



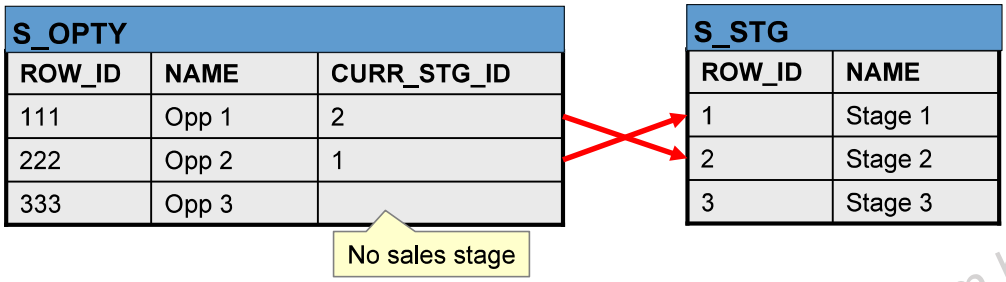
Outer Join Flag

- If the Outer Join flag is set to TRUE, the join returns all records from the base table, even when there is no related row in the joined table
- Outer joins affect performance
  - If there will always be a related row in the joined table, an inner-join should be used
  - Business logic determines if an outer join is required



Outer Join Example

- Opportunities that do not have a stage assigned will display or not display based on the Outer Join Flag setting



S_OPTY

ROW_ID	NAME	CURR_STG_ID
111	Opp 1	2
222	Opp 2	1
333	Opp 3	

No sales stage

S_STG

ROW_ID	NAME
1	Stage 1
2	Stage 2
3	Stage 3

Results with Outer Join TRUE

Opportunity	Stage
Opp 1	Stage 2
Opp 2	Stage 1
Opp 3	

Results with Outer Join FALSE

Opportunity	Stage
Opp 1	Stage 2
Opp 2	Stage 1

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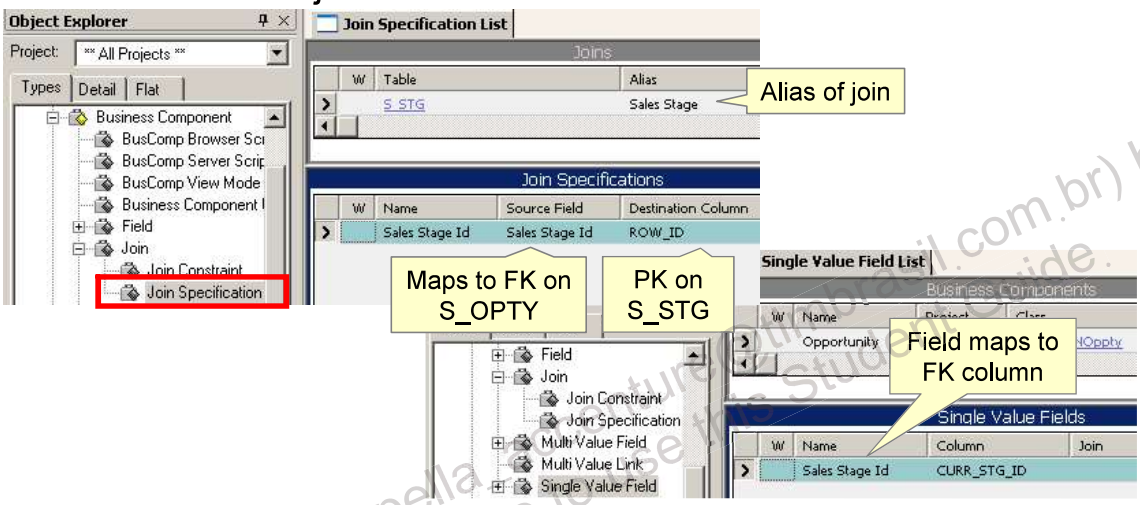
Join Specification

- Specifies how to retrieve the related row from the joined table
  - Based on the foreign and primary keys used to relate the base and joined tables



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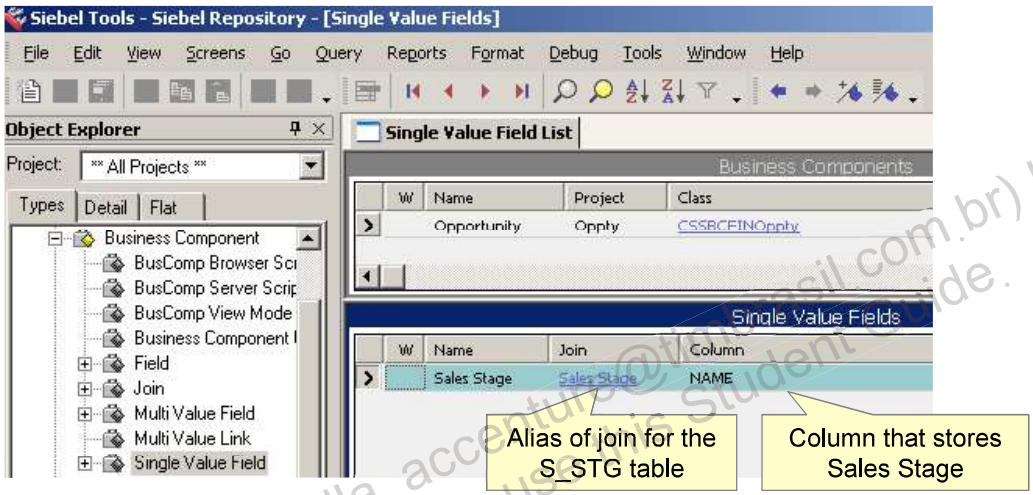
Fields That Map to a Joined Table

- Join property specifies the join object definition being referenced
- Column property maps to a column in the joined table



Mapping a Field to a Column in a Joined Table

1. Determine if a join definition already exists
2. Create the required join if it does not exist
3. Create the single-value field

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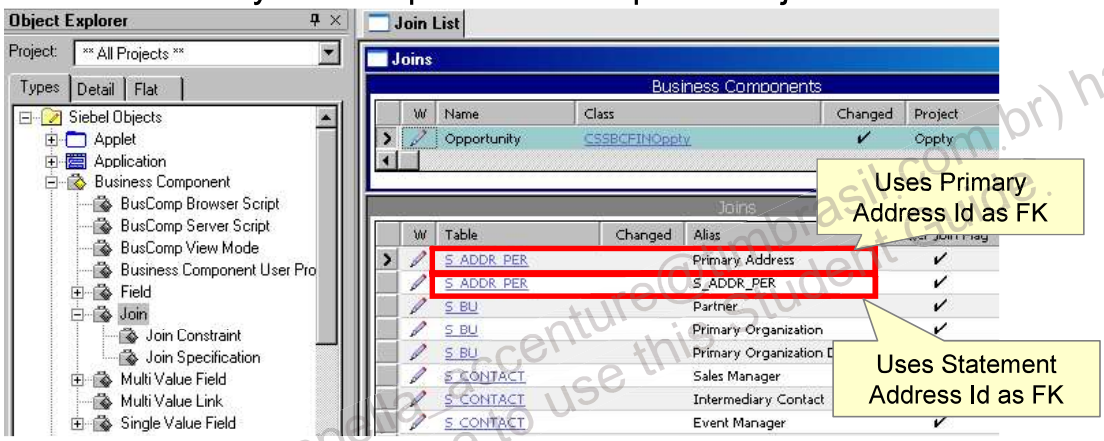
1. Determine if a Join Definition Already Exists

- Examine the join definitions for the business component
- Identify the joins that reference the desired table
- Verify that the join specification uses the desired relationship
  - There may be multiple relationships to the joined table

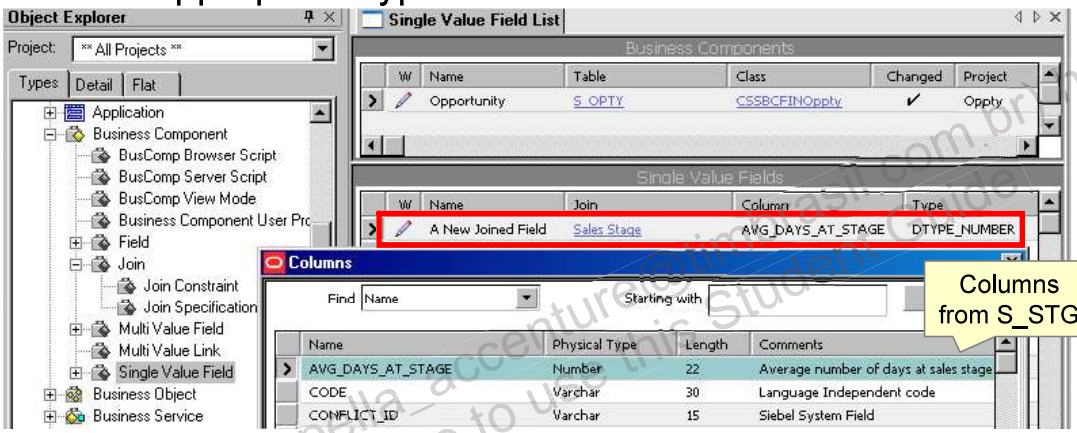


2. Create a Join

- If the required join does not exist:
  - Verify the relationship is 1:1 or M:1
  - Verify there is a foreign key column for the relationship in the base table
  - Create a field in the business component to reference the foreign key column
  - Create the Join object definition
    - Set the Outer Join flag to TRUE if there will not always be a related record in the joined table
  - Create the Join Specification object definition

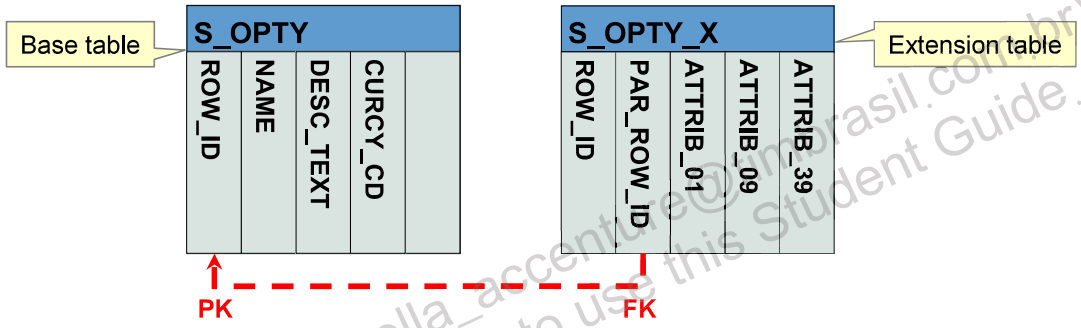
3. Create the Single Value Field

- Set the Join property
  - Select the alias for the desired join
- Then select the column in the joined table to be displayed
  - The column picklist shows the fields from the joined table
- Set the appropriate type



1:1 Extension Table

- Is a special table that has a 1:1 relationship with a base table
  - A FK column (PAR_ROW_ID) on the extension table is used to establish the relationship with the base table
- Base table and extension table columns can be considered to be one logical table

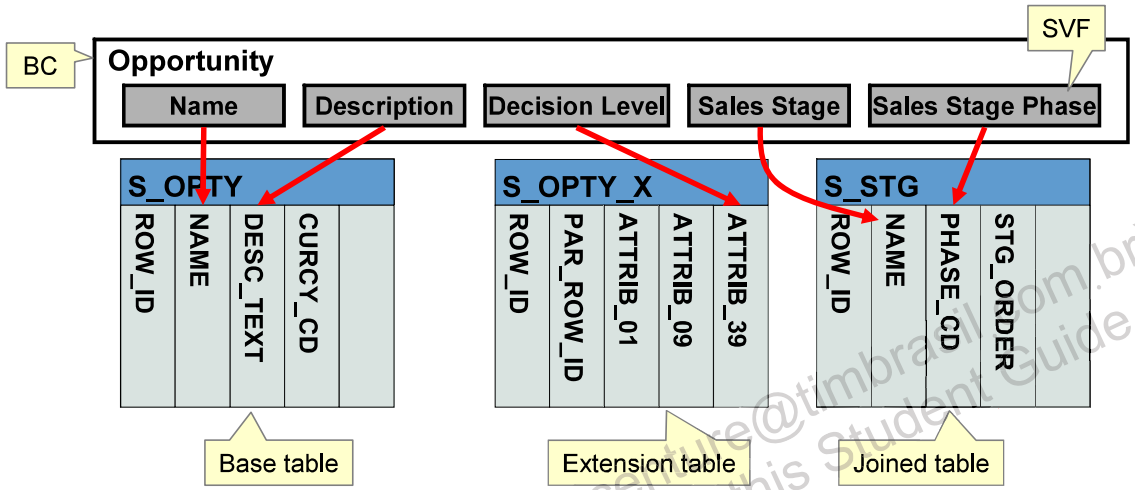


1:1 Extension Table

Reference: "Configuring Tables and Columns" in *Configuring Siebel Business Applications*

1:1 Extension Table

- Provides additional physical columns to store information for a business component



1:1 Extension Table

Many commonly-used base tables have standard 1:1 extension tables (such as the S_OPTY_X table illustrated above) with a large number of generic columns. In addition several tables for the Siebel industry applications have additional 1:1 extension tables to store fields specific to a Siebel industry applications. For instance the Siebel Hospitality application uses the S_OPTY_TNTX opportunity extension table.

Implicit Joins

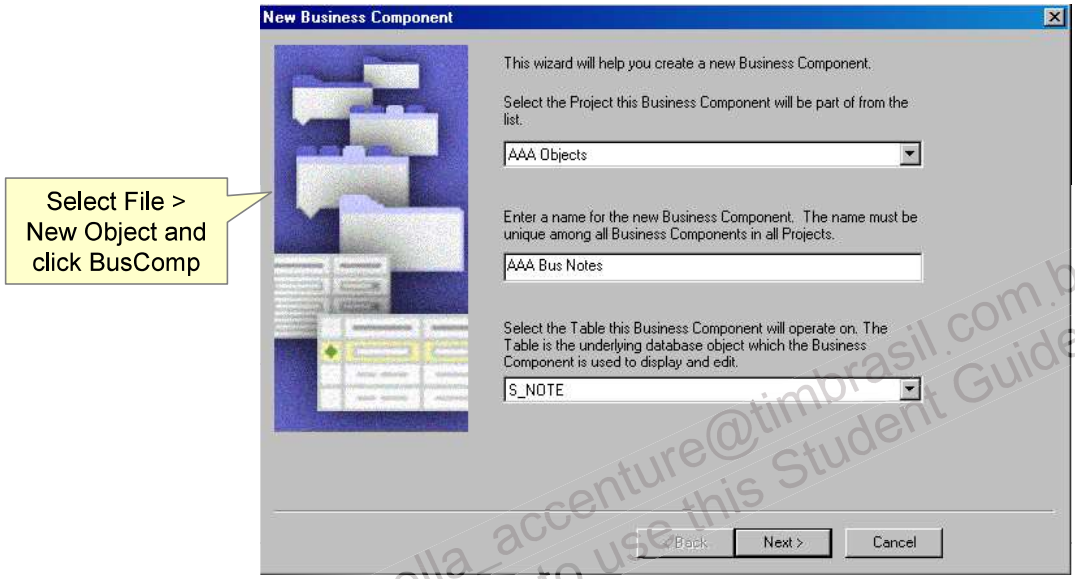
- Base tables are automatically able to join to their 1:1 extension tables.
  - Referred to as an implicit join
- Are created automatically for 1:1 extension tables
  - Name of an implicit join is always the name of the _X table
  - Are available to all business components using the base table
- Do not appear as Join object definitions
- Do appear in the picklist for the Join property in an SVF
- Are read/write
  - Allow joined fields in extension tables to be edited
- Always involve an outer join

SVFs That Map to an Extension Table

- Join property specifies the extension table being referenced
- Column property references a column in the extension table
- Field is editable in the UI

Creating a New Business Component

- Use the business component wizard to create a new business component



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Creating a New Business Component

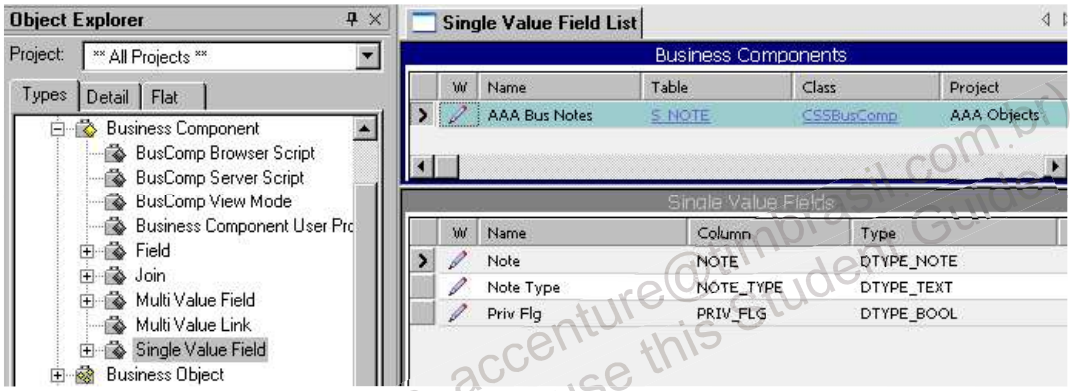
It is good practice to append a project-specific prefix (such as AAA) to all object definitions that you create. This allows you to easily distinguish your newly created object definitions from those delivered in the Siebel repository.

Business Component Wizard Inputs

- Project to contain the new business component
- Name of the business component
- Base table
- One or more fields and the corresponding columns in the base table to which each maps

Business Component Wizard

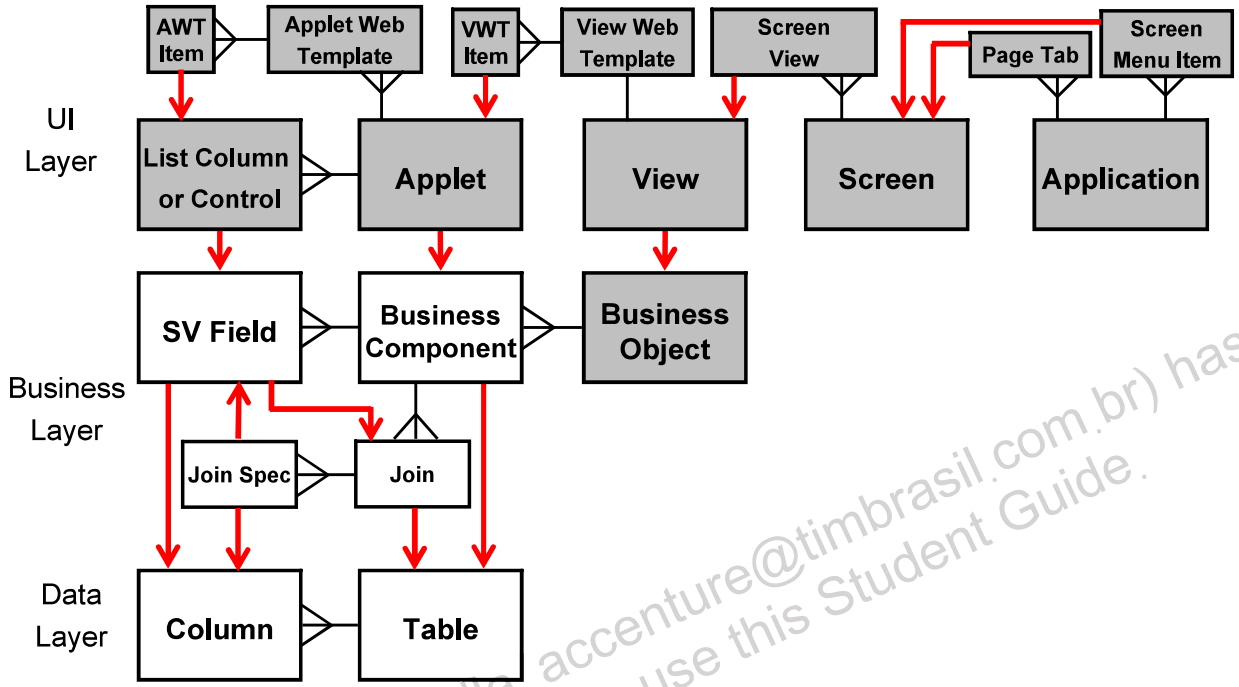
- Creates the following:
  - A business component based on the CSSBusComp class
  - Fields with types corresponding to the related table column type
    - Default values are used for all other properties



Configuring a New Business Component

- Create additional fields that map to the base table or 1:1 extension tables (if any)
- Create joins as required to other tables and map new fields
  - Remember a foreign key to the other table must exist in the base table

Summary of Object Types



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Lesson Highlights

- A business component (BC) represents a fundamental business entity in the user's world
- A BC references a single base table
  - Fields can map directly to columns in a base table
- A BC can include data from joined tables
  - A join definition specifies the related table
  - A join specification specifies how to get the data from the joined table
  - Fields can map to columns in a joined table by referencing an explicit join
- A BC can include data from an extension table
  - Fields can map to columns in an extension table by referencing an implicit join

Practice 10 Overview: Business Components and Joins

This practice covers the following topics:

- Examining Single Value Field Mappings
- Creating a Join

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Party Business Components

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Objectives

After completing this lesson you should be able to:

- Describe the role of S_PARTY and its extension tables in storing party business component data
- Create joins and join specifications to bring in party data
- Map fields to S_PARTY extension tables

Party Data

- Refers to data for enterprise applications that describe:
  - The company itself and the way in which it is organized
  - Employees and other users of the company's application(s)
  - Customers, partners, and other enterprises associated with the company
  - Contacts and other people outside the company
- Can refer to both individual people and groups

Party Business Components

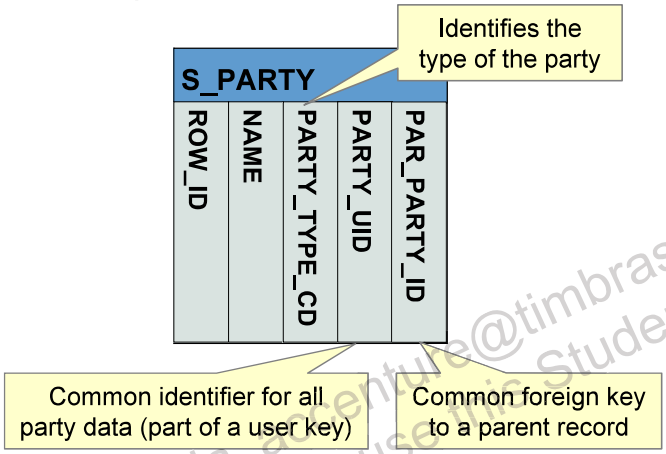
- Are business components in the Siebel Data Model used to represent party data
  - Examples:
    - Account
    - Position
    - Contact
    - Organization
    - And so forth
- Differ from regular Siebel business components:
  - Use a special table S_PARTY as their base table
  - Store their main data in a small set of S_PARTY extension tables

Party Business Components

Reference: "Configuring Business Components" in *Configuring Siebel Business Applications*

S_PARTY

- Is the base table for all party business components
- Consists of a small number of data columns
  - Store party data that is common to all instances of party business components



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S_PARTY

Reference: "Configuring Tables and Columns" in *Configuring Siebel Business Applications*

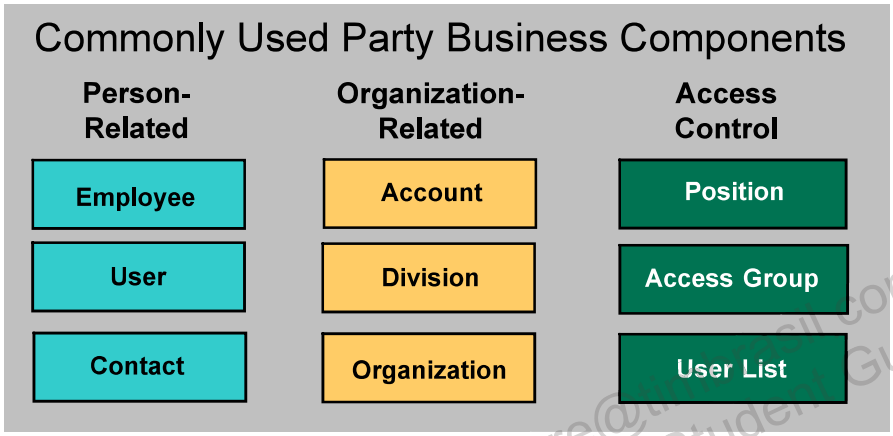
The Siebel party model supports the following party types: AccessGroup, Household, Organization, Person, Position, and UserList.

Benefits of the Party Data Model

- Allows all instances of party business components to be treated similarly in certain respects
  - For example they all have a common primary key and user keys
- Provides a way to relate instances of different party business components
  - For example an access group of positions and accounts can be created

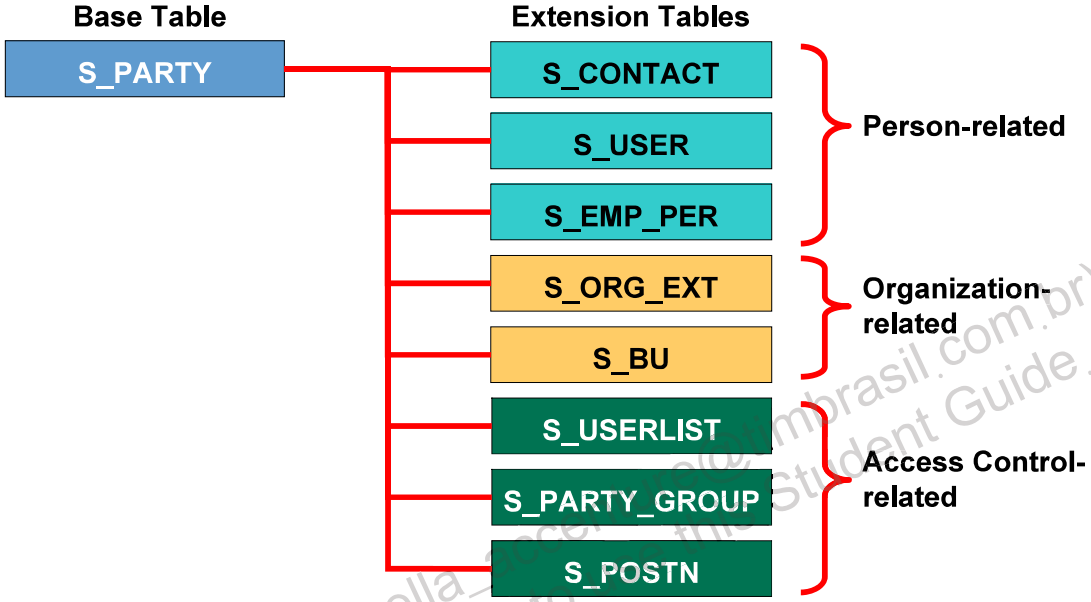
Commonly Used Party Business Components

- Represent a variety of entities that can be arranged into groups related to persons, organizations, or access control



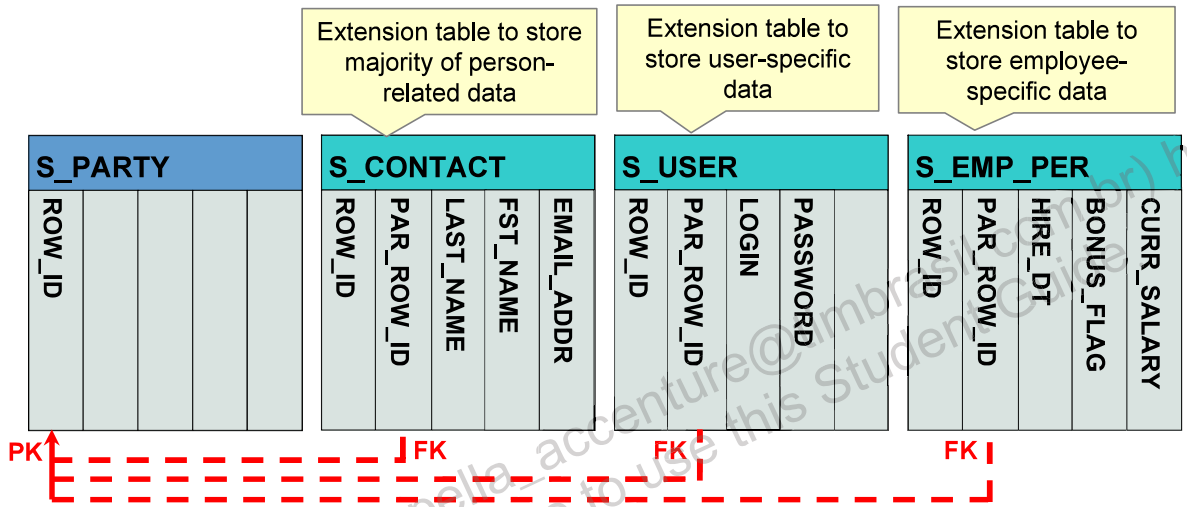
S_PARTY and Its Extension Tables

- Eight prominent S_PARTY extension tables store the data



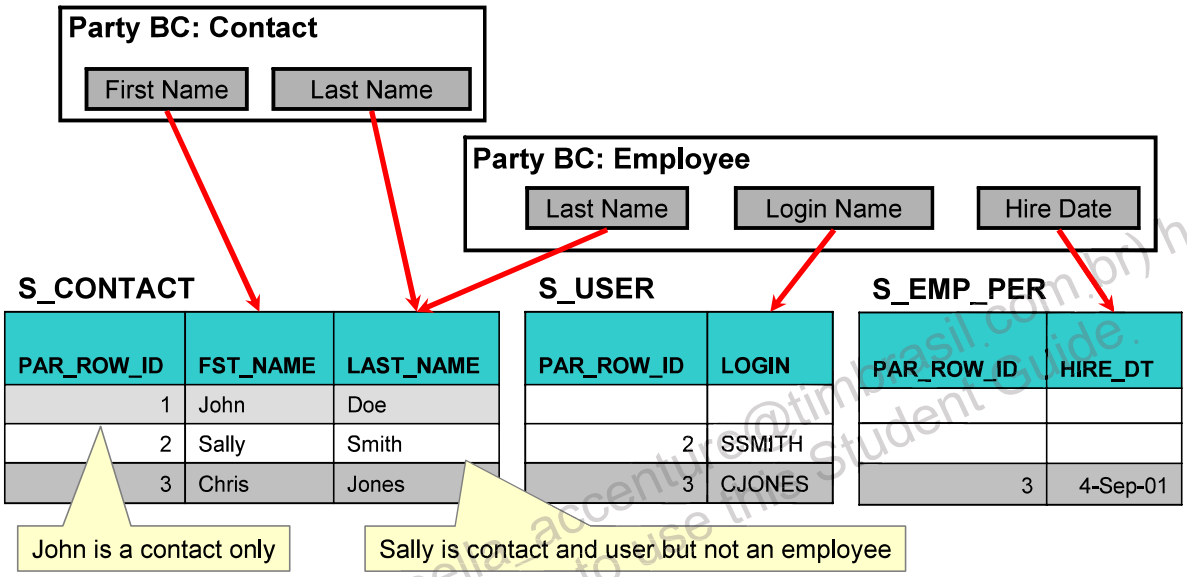
Person-Related Party Business Components

- Store their main data in S_CONTACT
- May store additional data in S_USER and S_EMP_PER
  - All tables are extension tables of S_PARTY



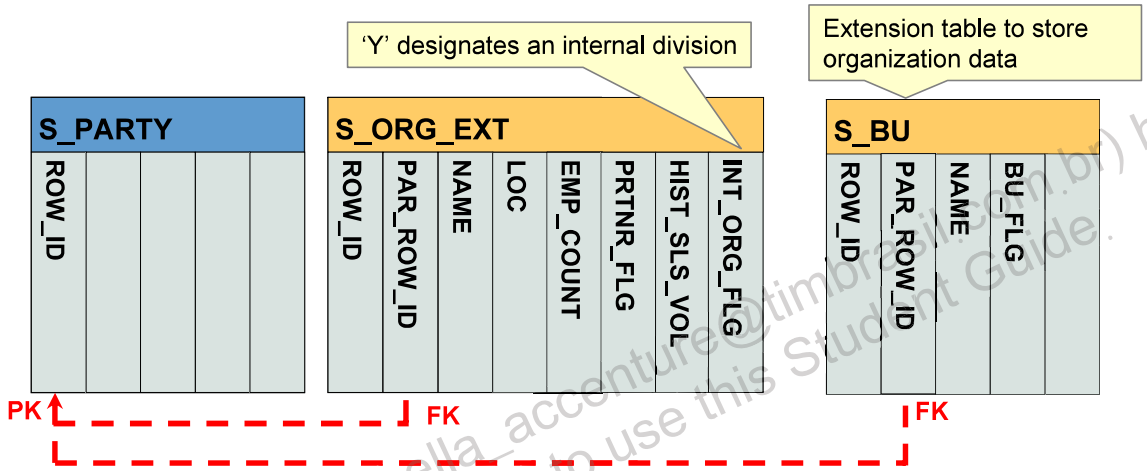
Person-Related Party Business Components

- Multiple person-related business components use these tables.



Organization-Related Party Business Components

- Store their main data in S_ORG_EXT
- Organization business components store additional data in S_BU
  - S_BU supports indexing on Organization Name



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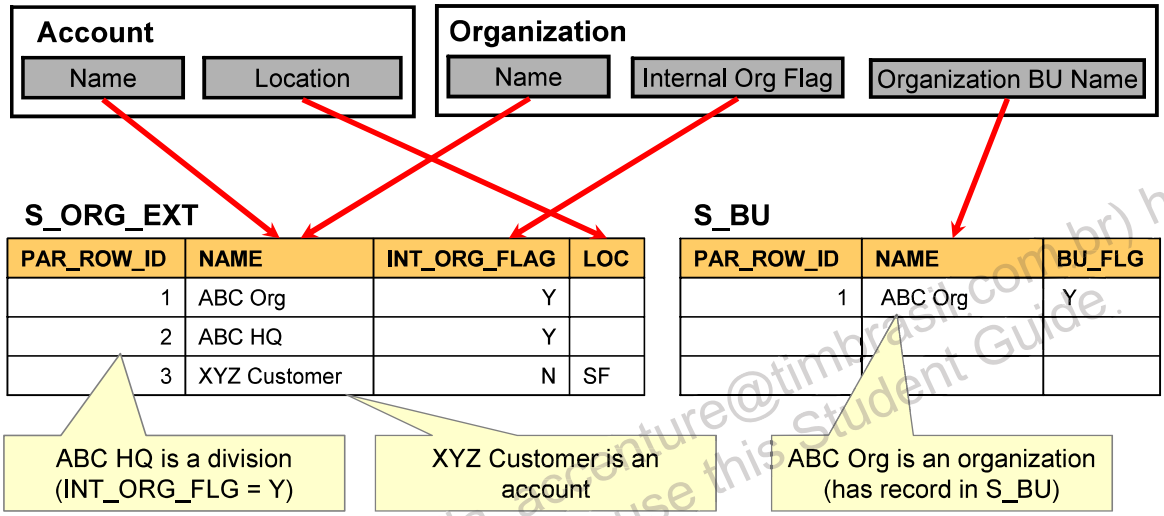
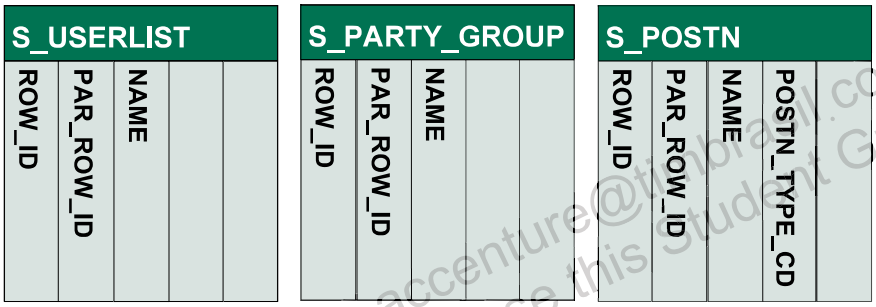
Organization-Related Party Business Components

- Multiple organization-related business components use these tables.



Party Business Components for Access Control

- Represent groupings of party instances
  - User List
  - Access Group
  - Position



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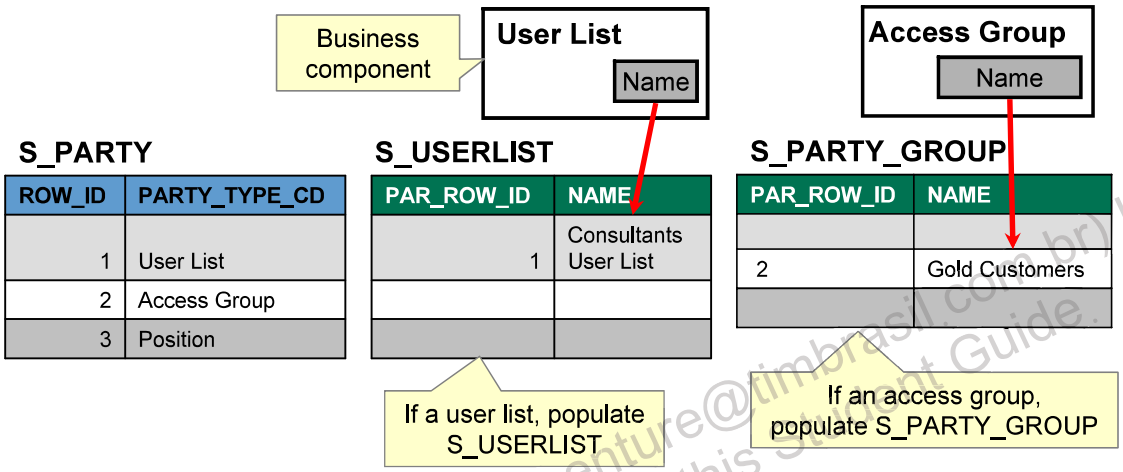
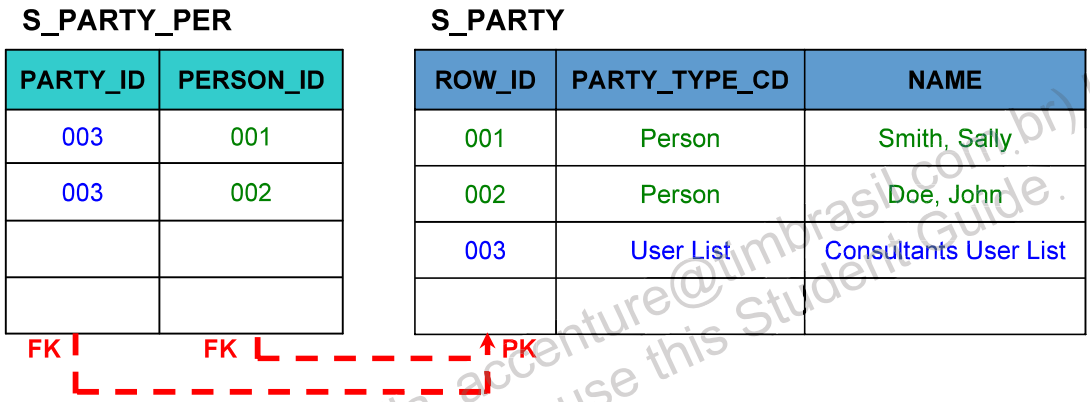
Groupings for Access Control

- Access Group and User List represent groupings of party records



S_PARTY_PER

- Is an intersection table that relates two instances of parties
- Is used to implement relationships between
  - User lists and users
  - Access groups and members.



Role of Joins in Party Data

- Implicit joins are used to map fields in party business components to the party extension tables
- Explicit joins are used to bring data in a party extension table into:
  - A non-party business component
  - Another instance of a party business component

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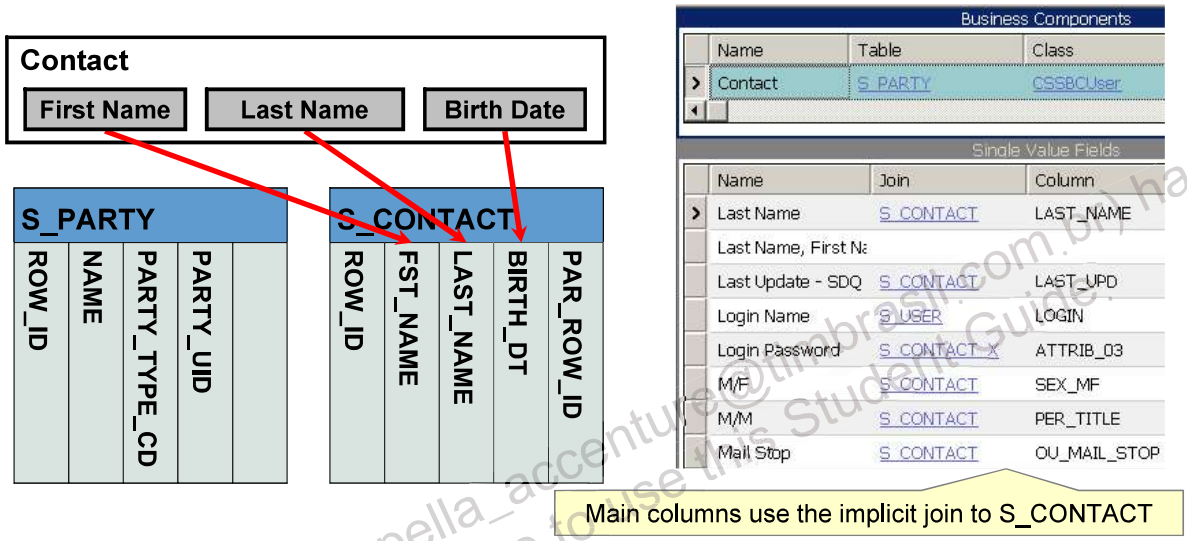
Role of Joins in Party Data

Reference: "Configuring Joins" in *Using Siebel Tools*

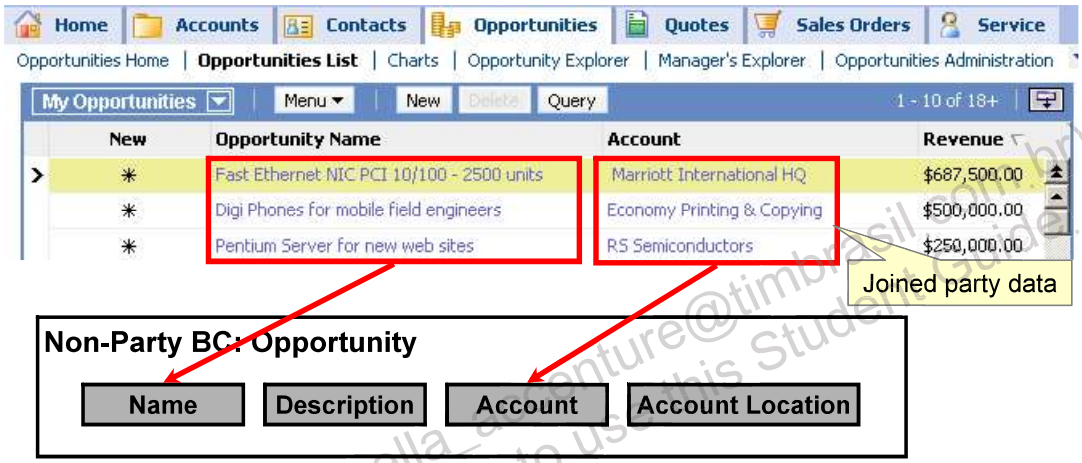
Mapping Fields in Party Business Components

- Main fields are mapped using the implicit join for the extension table
  - Name of join is the name of the table



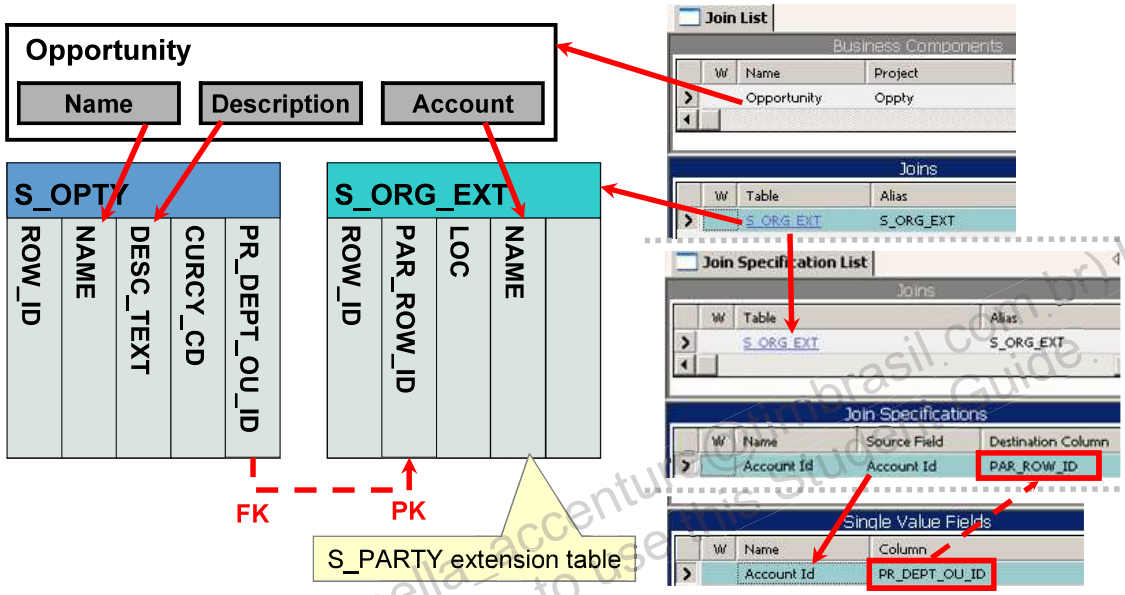
Joining Party Data Into a Business Component

- Data in a party table can be joined into a non-party business component.
  - Example: Bringing account data into the Opportunity business component for display in an Opportunity applet



Explicit Join Definition

- References the extension table that contains data of interest



Explicit Join Definition

PAR_ROW_ID

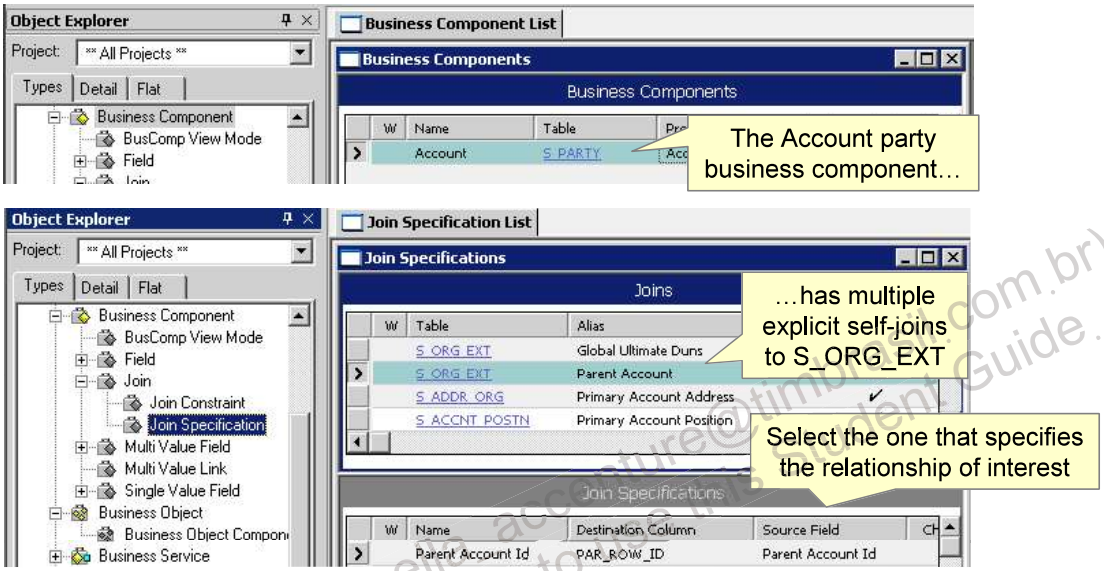
- Join specifications usually reference the primary key column (ROW_ID) of the destination (joined) table. However for joined tables for party business components the destination column is set to PAR_ROW_ID.
- Later in the course you will learn that the foreign key column PR_DEPT_OU_ID is populated with the primary key of the associated account and that value will be ROW_ID of the S_PARTY table. The column in any extension table that is guaranteed to contain the value of the ROW_ID of the base table is PAR_ROW_ID. Hence the join specification must use PAR_ROW_ID as the destination column.

Joining Party Data into a Party Business Component

- Uses an explicit join to the party table, and not the implicit one
  - Example: Bringing parent account data into the Account business component for display in an Account applet

Explicit Join Definition

- Select or create an explicit join to the desired S_PARTY extension table.



Explicit Join Definition

When you are joining party data into a party business component, you must be careful not to select the implicit join to the table of interest. Remember that the source business component also uses the party extension table. The implicit join returns the data associated with the source business component instance, and not the related business component instance

Mapping a Field to a Column in a Party Table

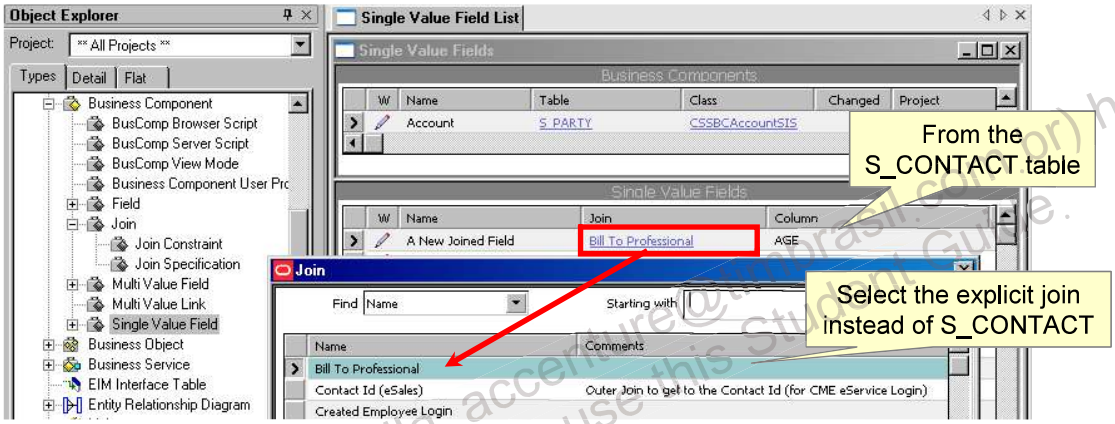
- Determine if a join definition already exists
- Create the required join if it does not exist
- Create the single-value field

Creating a Join to a Party Table

- Verify that the relationship is 1:1 or M:1
- Identify the foreign key column for the desired relationship to the joined table
- Create, if necessary, a single value field in the business component to reference the foreign key column
- Create the join
  - *Assign an appropriate alias property*
- Create the join specification
  - Use the foreign key field for the source
  - *Use PAR_ROW_ID for the destination column*

Create the Single-Value Field

- Select the appropriate explicit join
  - *Do not use the implicit join to the table*
- Select the desired column in the joined table
- Set the appropriate type



Key Considerations for Party Joins

- When mapping fields in party business components
  - Use the implicit join for the extension table
- When bringing party data into a non-party business component
  - Create the join specification based on PAR_ROW_ID
- When bringing party data into a party business component
  - Use the appropriate explicit join

Lesson Highlights

- Party BCs are used to represent a wide range of party data
  - All party BCs use S_PARTY as the base table but store their data in S_PARTY extension tables
- Person-related party BCs store data in S_CONTACT
- Organization-related party BCs store data in S_ORG_EXT
- Implicit joins are used to map fields in party business components to the party extension tables
- Explicit joins are used to bring data in a party extension table into other business components
  - Join specification must reference PAR_ROW_ID in the party extension table

Practice 11 Overview: Party Business Components

This practice covers the following topics:

- Examining Fields in Party Business Components
- Creating a Join to a Party Business Component Table

12

Business Components and Fields

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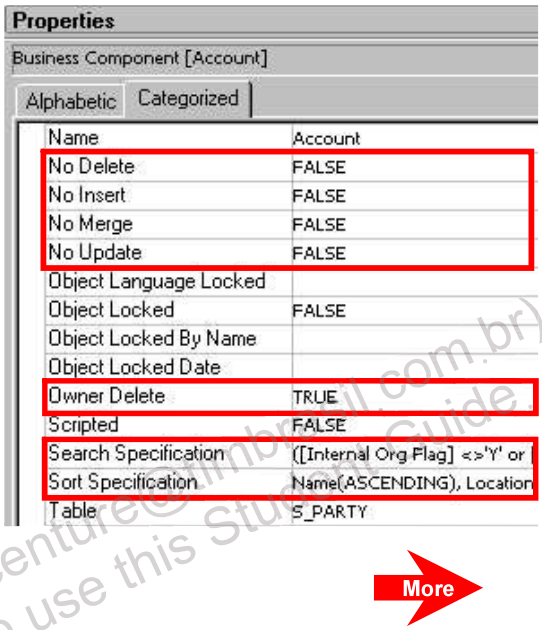
Objectives

After completing this module you should be able to:

- Edit business component properties to capture business logic
- Edit field properties to capture business logic

Business Component Properties

- Determine the behavior of business components
  - Implement business logic
- Include:
  - Properties for editing
    - No Delete
    - No Insert
    - No Merge
    - No Update
  - Owner Delete
  - Search Specification
  - Sort Specification



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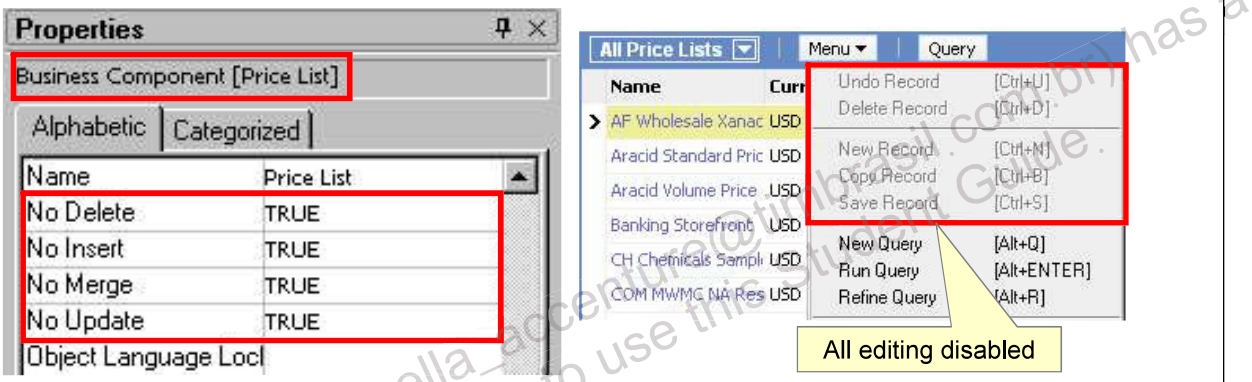
Business Component Properties

Reference: "Configuring Business Components" in *Configuring Siebel Business Applications*

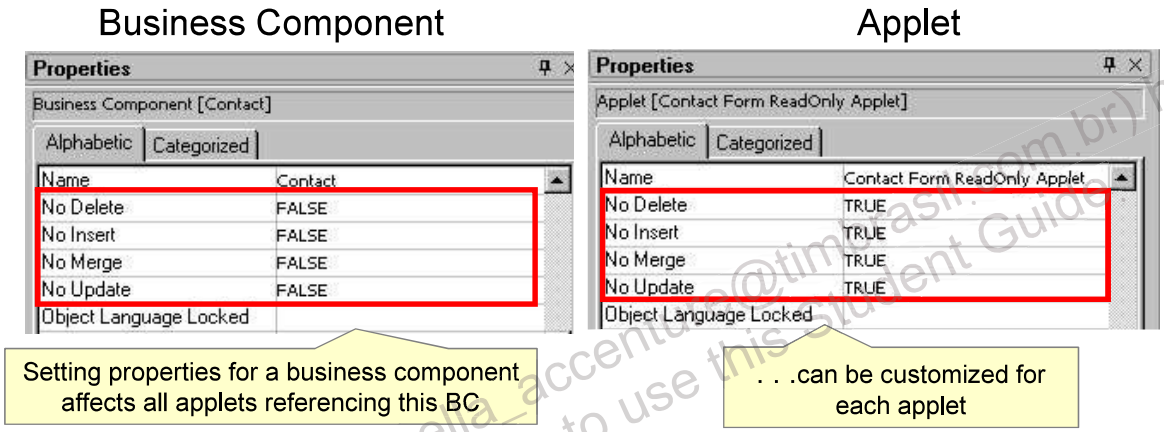
Business Component Editing Properties

- Set editing properties in the business component to prevent deleting, inserting, merging, and updating records
  - Example: To maintain record continuity, users cannot delete or change price lists once they have been created
- Applies to all interactions with a business component including applets, workflows, and so forth



Applet Editing Properties

- These editing properties also appear on applets
- Set the business component editing properties to FALSE
  - Allows some applets to be read only (set applet editing properties = TRUE) and others to allow editing (set applet editing properties = FALSE)

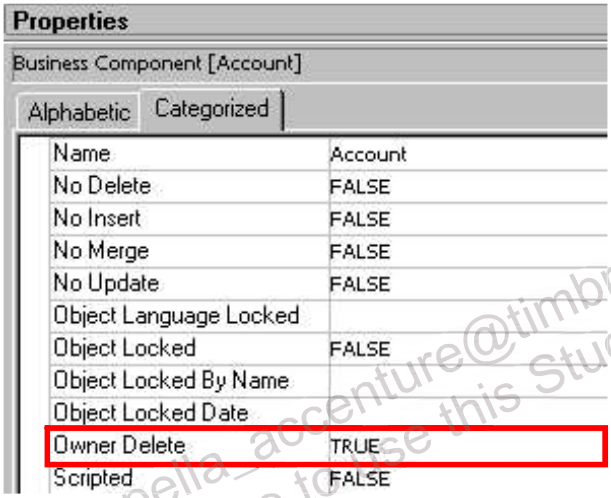


Applet Editing Properties

The editing properties on business components are ignored in a set of special views in which the (view) admin mode flag is set to TRUE. These views are typically reserved for administrators and allow them to create, edit, and delete instances of business components that regular users can only read.

Owner Delete Property

- Set the Owner Delete property to TRUE to enable only the owner of a record to delete the record
  - For team-based business components the owner of the record is the primary on the team



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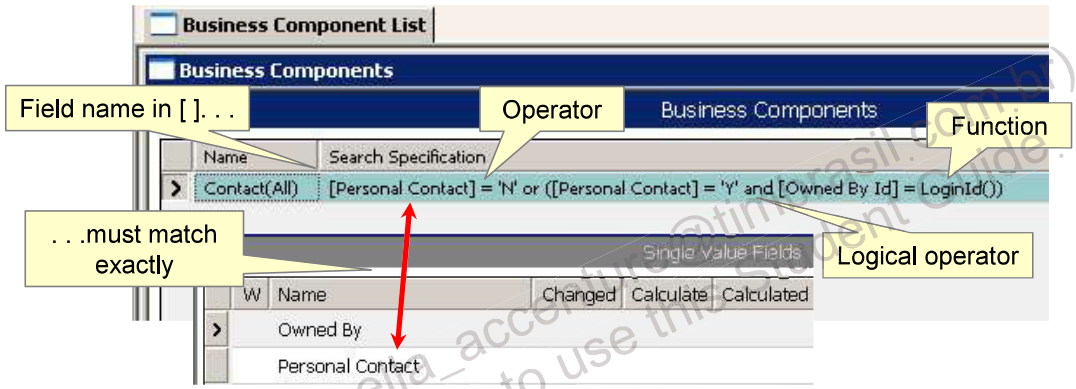
Search Specification Property

- Specifies a subset of records to be retrieved by the business component
  - Consists of field names, constants, functions, logical operators, and comparison operators
  - Typically used when there are multiple business components based on the same table



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Search Specification Property

The search specification illustrated in the slide retrieves contacts for which:

- the Personal Contact flag is “N” OR
- the Personal Contact flag is “Y” and the owner of the contact is the user logged in to application

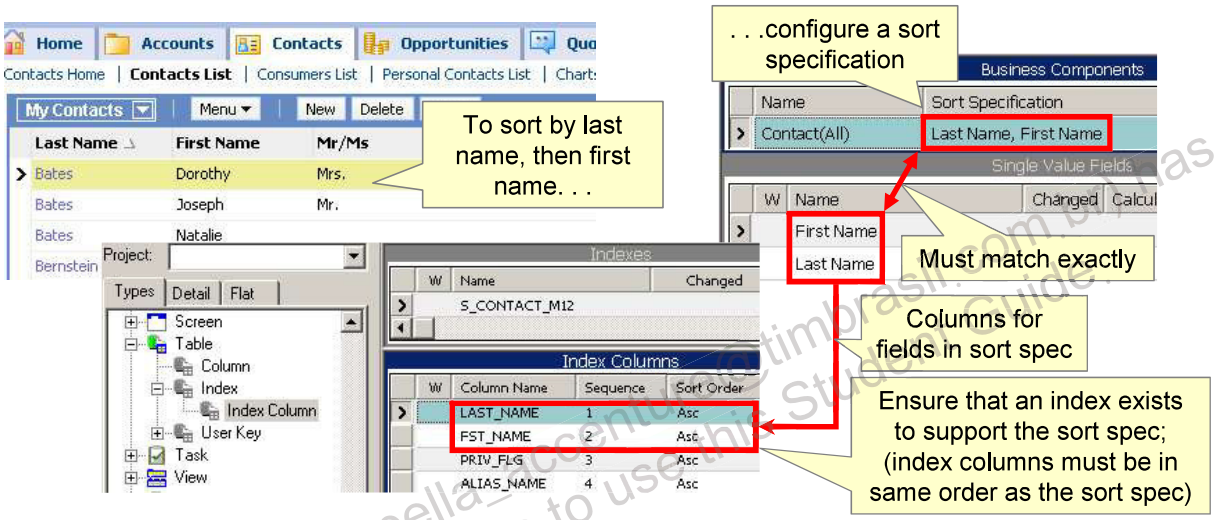
This retrieves all the regular (non personal) contacts as well as the personal contacts associated with the user.

Search Specification Considerations

- Search specifications appear on applets as well
  - A search specification on the applet is combined (using an AND) with a search specification on the BC to generate the WHERE clause in the resulting SQL statement
    - Predefined queries will also contribute to the WHERE clause
- Beware of mutually exclusive search specifications

Sort Specification Property

- Determines the sort order of the retrieved records
  - Use (DESC) or (DESCENDING) to sort field in reverse order
  - Cannot be set at the applet level



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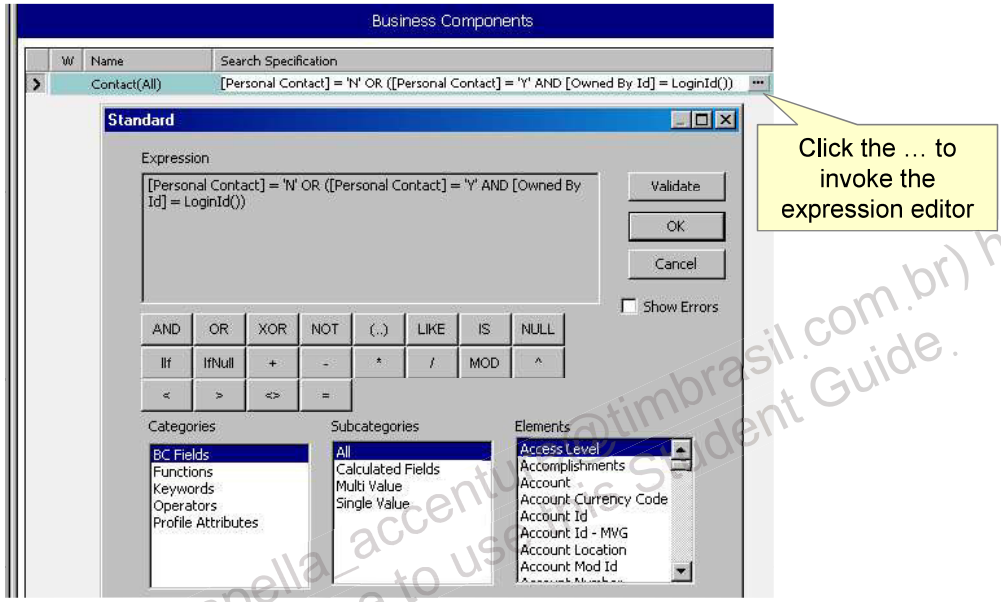
Sort Specification Property

A sort specification should have a corresponding index to allow the records to be retrieved and sorted efficiently, as indexes permit the records to be retrieved in sorted order. If there is no corresponding index, retrieval of the records will take much longer as records have to be sorted on-the-fly as they are being retrieved.

Users can select the sort order for records displayed in a list applet by clicking on column headings for sort-enabled columns.

Expression Builder

- Use the expression builder to examine and edit search and sort specifications



Business Component Field Properties

- Fields can be configured to implement desired business logic using the following field properties:
  - Required
  - Read Only
  - Force Case
  - Validation
  - Validation Message
  - Predefault
  - Post Default
  - Calculated Value

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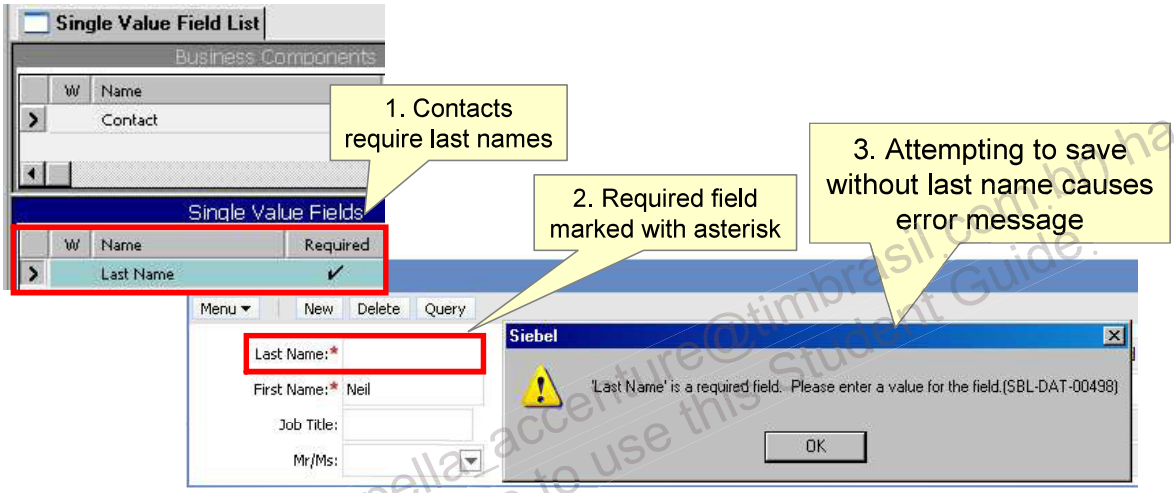
Required and Read Only Properties

- Setting Required to TRUE prevents the user from leaving the field blank
- Setting Read Only to TRUE prevents the user from editing the value



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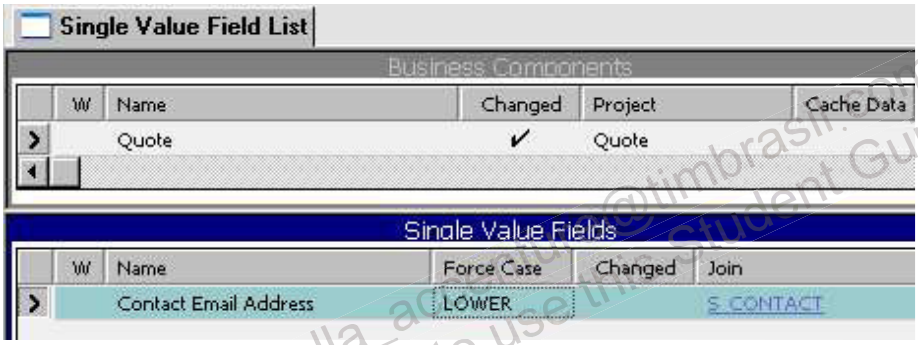
Force Case Property

- Specifies a case for a field value
- Valid values:
  - UPPER
  - LOWER
  - FIRSTUPPER



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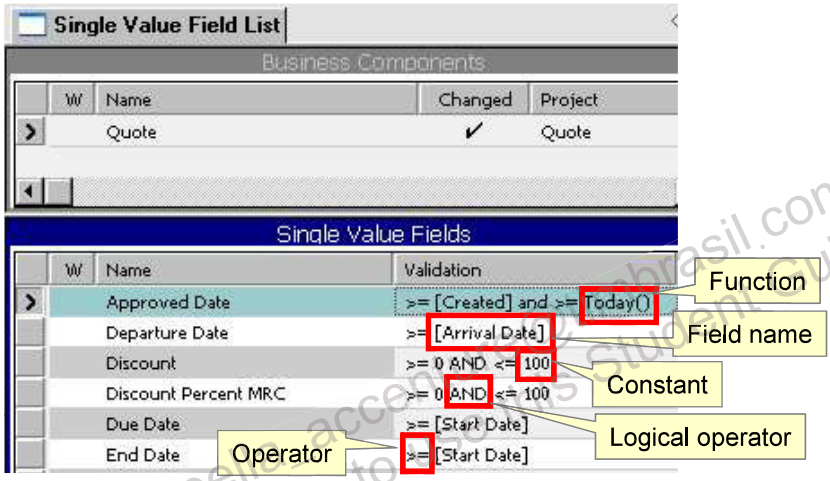
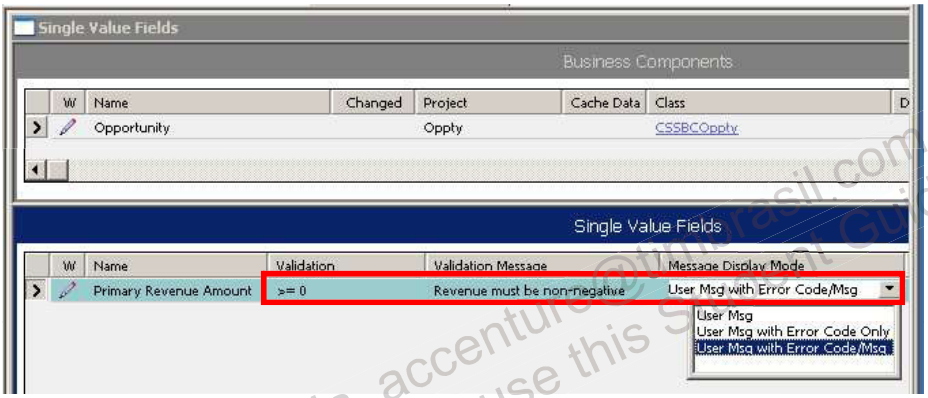
Validation Property

- Checks a validation rule when a record is saved to ensure that the field data is valid
- Can refer only to business component fields in the same record



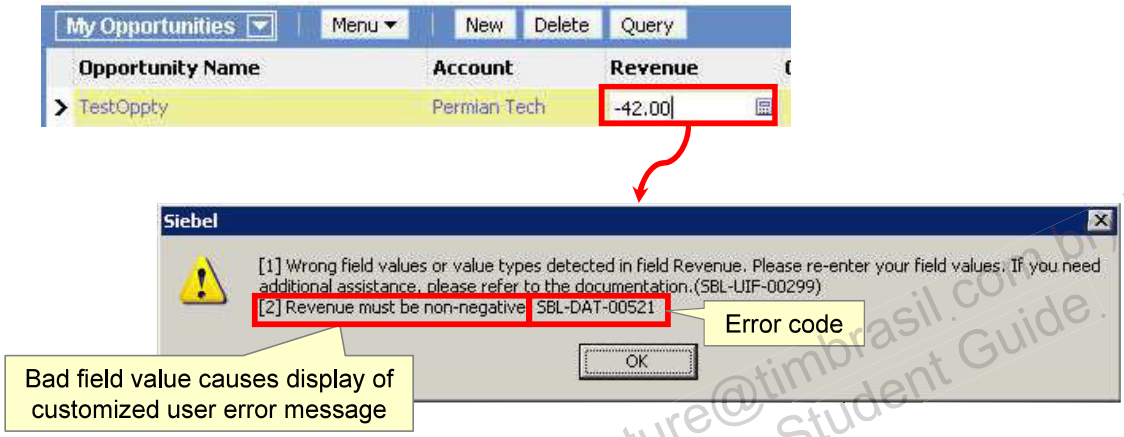
Validation Message

- Specifies a custom message to be displayed when a business component (BC) field's Validation property is violated
  - Specify Message Display Mode to select information displayed



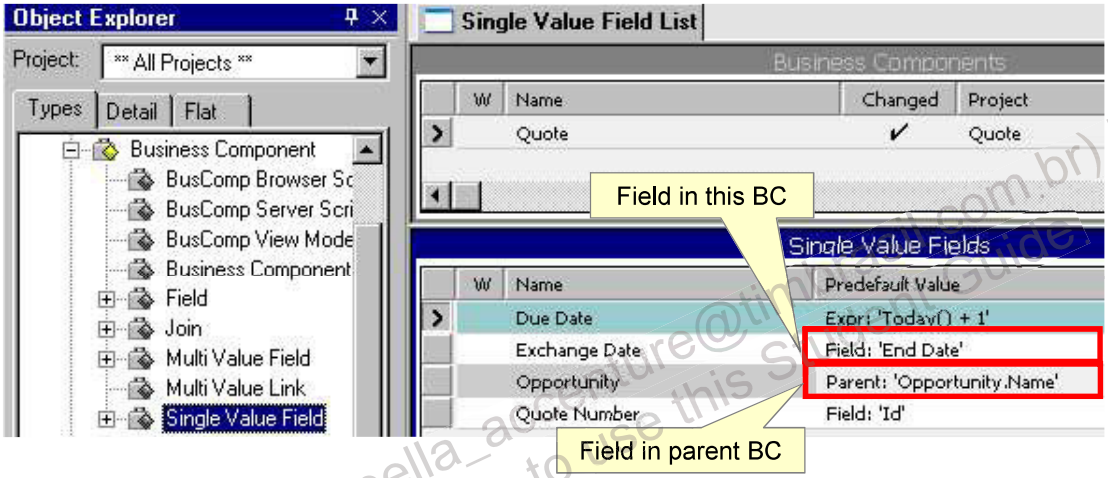
Displaying A Validation Message

- Custom message is displayed when an invalid field is entered



Predefault Value Property

- Automatically assigns a value to a field for a new record before the record is displayed to the user for editing
  - Expression can refer to other fields in the business component or to fields in its parent business component



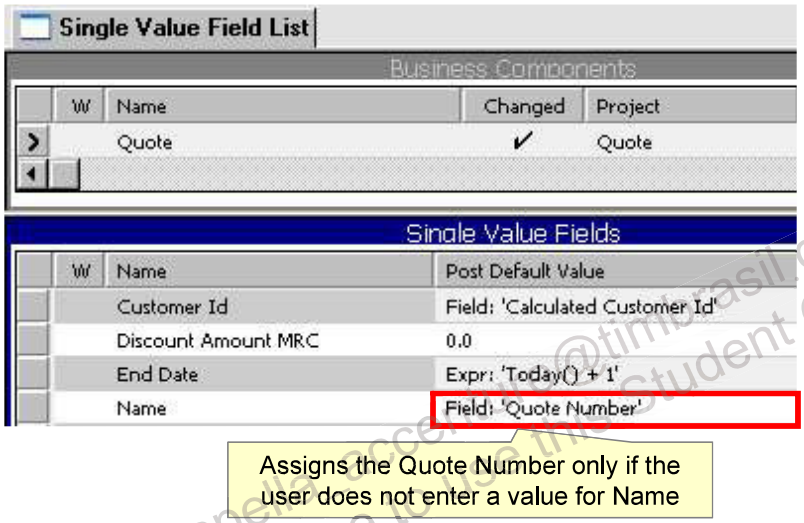
Predefault Value Property

The Parent: 'BusComp:Field' Function

- The Parent: "BusComp:Field" function returns the value of the Field from the parent BusComp business component. In the example on the slide, the Opportunity field in the Quote business component is assigned the value from the Name field in the Opportunity parent business component. If the Quote business component is not currently in the context of an Opportunity business object then no value will be assigned.
- You can have multiple 'BusComp.Field' parameters separated by commas; the list is checked from first to last until a value is found. You can also terminate a chain of Parent calls with a System call—for example: Parent: 'Opportunity.Currency Code', 'Account.Currency Code', System: Currency

Post Default Value Property

- Assigns a value to a field, if not entered by the user, before the record is inserted into the database
  - Expression uses the same syntax as predefault value



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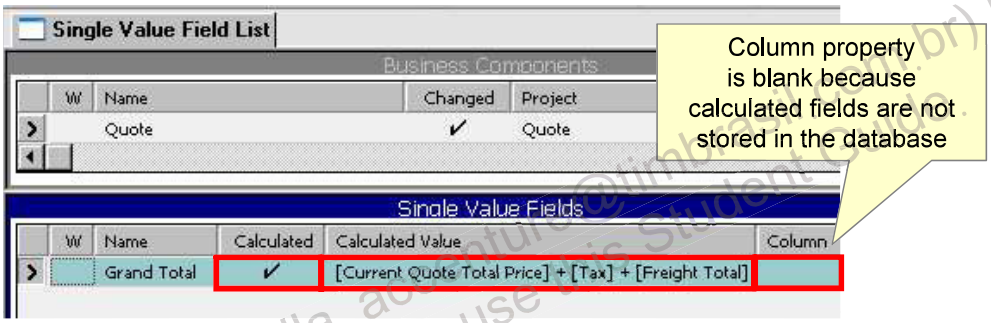
Calculated Field

- Derives its value from the values in other fields in the business component
- Is not stored in the database and column property is blank
- Is configured by setting the Calculated property to TRUE (checked) and entering an expression in the Calculated Value property



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Calculated Field

Since the value of calculated fields are not stored in the database, the values of such fields are calculated whenever they are retrieved. Application performance might be affected if the calculations are complex.

Calculated Value Property

Is an expression built from:

- Field names in the same business component
- Field names from the parent business component
  - Current BC must be the child in a detail view
- Standard functions
- String, numeric, and logical operators

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Calculated Value Property

Expressions for Calculated Values

- A description of the functions that can be included in calculation expressions can be found in Siebel Developer's Reference > Operators, Expressions, and Conditions > Functions in Calculation Expressions in the Siebel Tools Online Help.

IIF Function

- The IIF(tesval,exp1,exp2) function evaluates testval. If testval is TRUE it returns the value of exp1, otherwise it returns the value of exp2.

Restrictions on Calculated Fields

- Calculated fields are read-only
- Application does not validate values of calculated fields
- Sorting on calculated fields is not supported
- Querying on calculated fields is supported
  - Performance depends upon whether functions in the query expression can be incorporated into the SQL statement

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Restrictions on Calculate Fields

When a query is performed on a calculated field, the action taken by the Siebel application (and thus the resulting performance) depends on which functions are used within the calculation. Functions that can be incorporated directly into the SQL statement are incorporated. Functions that cannot be directly incorporated, such as If() and Lookup(), result in testing each record in the business component to determine which records to display to the user, at a considerable performance cost.

Lesson Highlights

- Business component properties can be configured to specify the behavior of the business component such as:
  - Editing (insert, delete, update, and merge)
  - Searching and sorting
- Field properties can be configured to specify:
  - Required and read only
  - Pre and post default values
  - Calculated values
  - Validation

Practice 12 Overview: Business Components and Fields

This practice covers the following topics:

- Configuring field properties

13

Business Objects and Links

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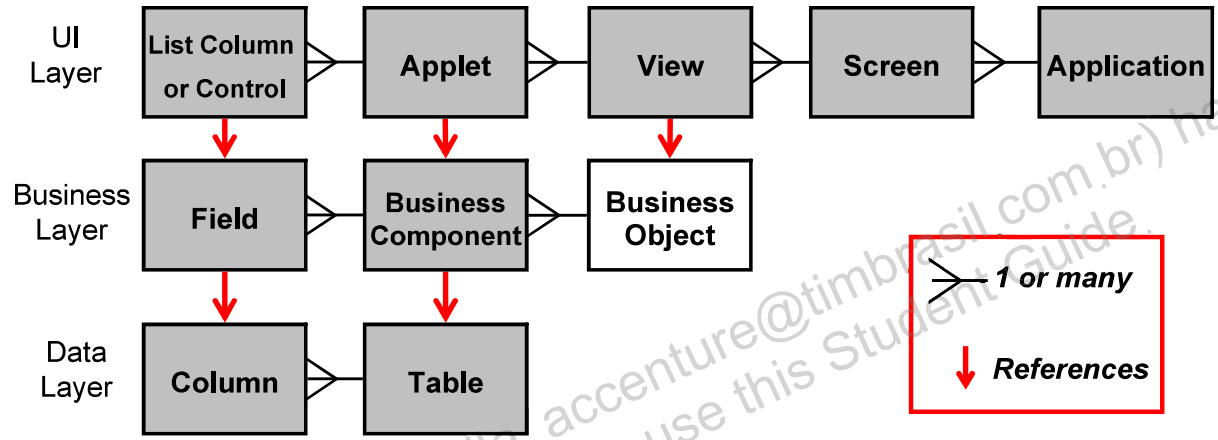
Objectives

After completing this module you should be able to:

- Describe the role of business objects and links
- Create links and business objects

Business Objects (BOs)

- Provide a way to organize business components (BCs) into major areas according to your business logic requirements
- Provide the foundation for views

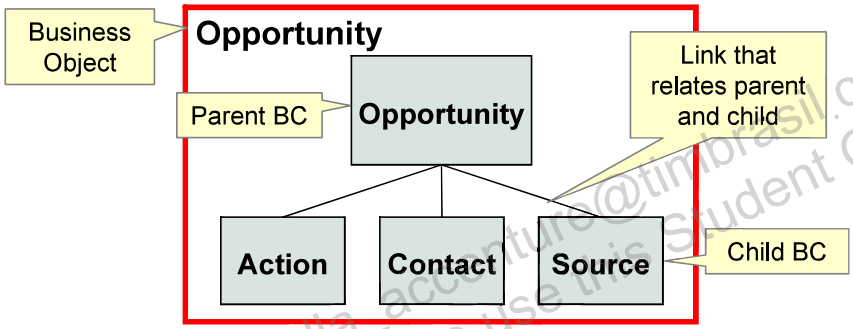


Business Objects (BOs)

Reference: "Configuring Business Objects" in *Configuring Siebel Business Applications*

Business Objects (BOs)

- Are a collection of related business components (BCs) that represent a major area of the business
- Include:
  - A parent business component
  - Multiple child business components
  - Links that relate the parent and child data



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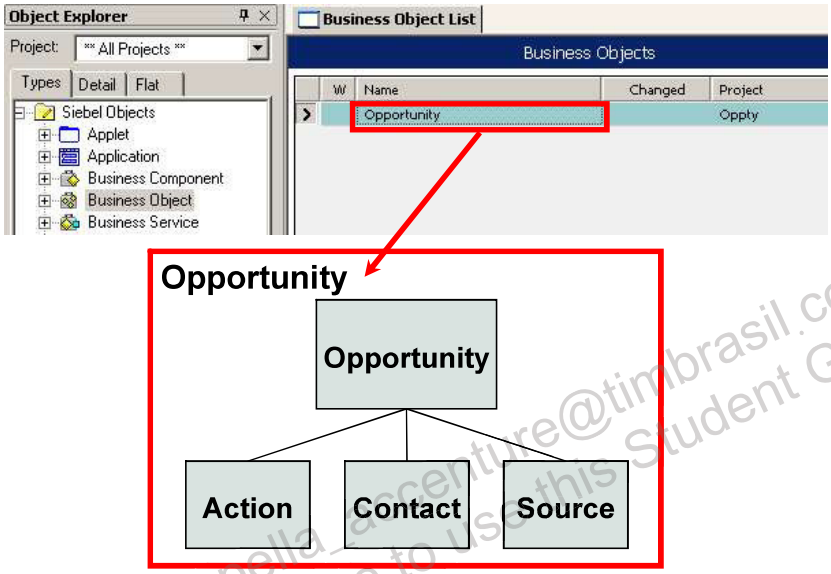
Business Object Definition

- Identifies the name of the business object
  - Is usually named for the parent business component



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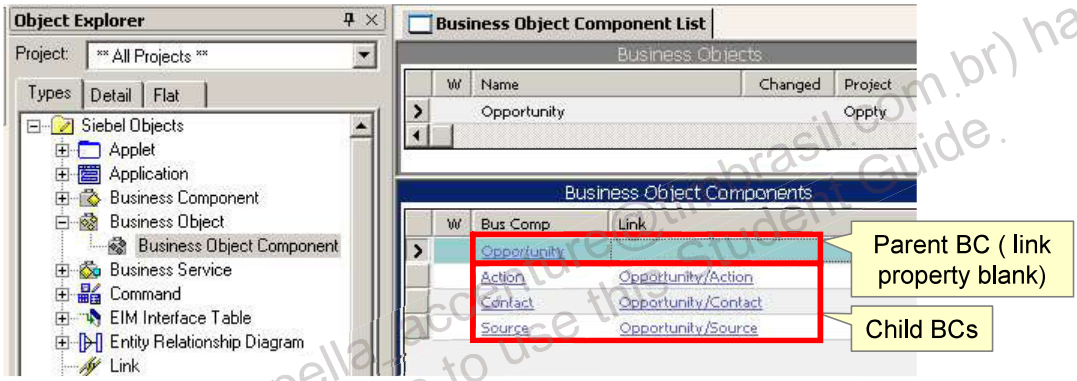
Business Object Definition

The primary business component property in the business object definition identifies the parent or master business component in a business object. It is an optional field and not required for all business objects. The parent business component can be determined by inspecting the business object components for the component with a blank link property.

The primary business component property does not need to be specified to support views. However the property must be specified and is required to support Siebel workflows that reference the business object.

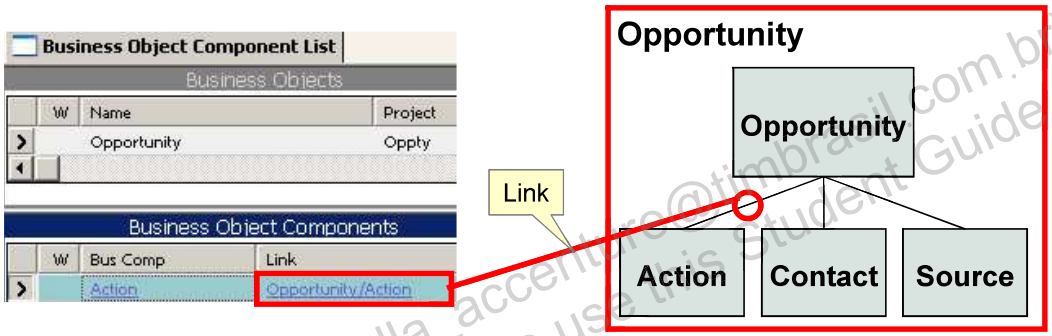
Business Object Component

- Is a child object type of business object
- Specifies a business component to include in the business object
  - BusComp property identifies the business component
  - Link property identifies the Link object definition that relates the parent and child business component to each other



Link Definition

- Identifies which records to retrieve from the child BC
  - Identifies the foreign keys to populate when new child records are created
- Is used with both 1:M and M:M relationships between parent and child data



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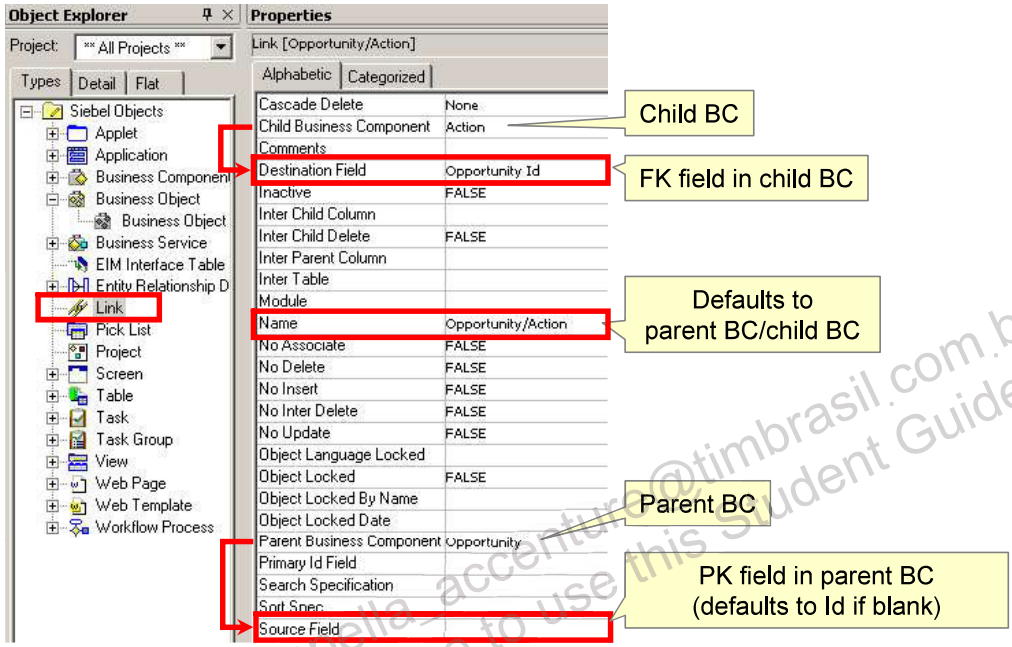
Link Definition

Reference: "Configuring Links" in *Using Siebel Tools*

1:M Link Definition

- Is used for 1:M relationship between parent and child BCs

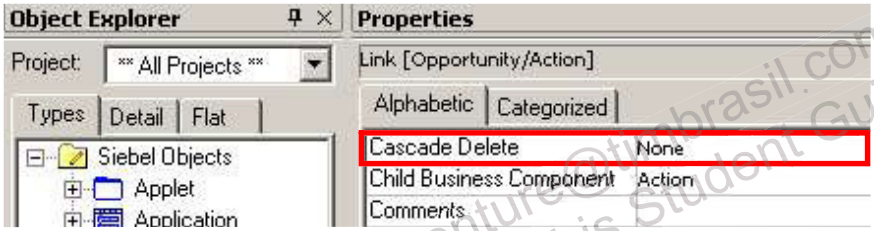


1:M Link Definition

Link object definitions are not child object types of business objects. Rather the Link object type is a top level object type. This allows link object definitions to be referenced by other object types. You will learn in a later lesson how multi value links reference links as well.

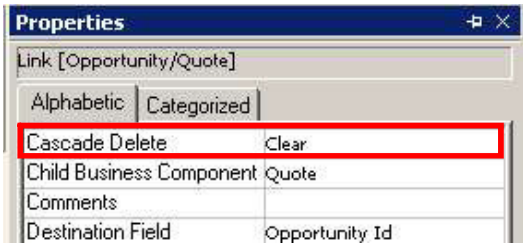
Cascade Delete Property

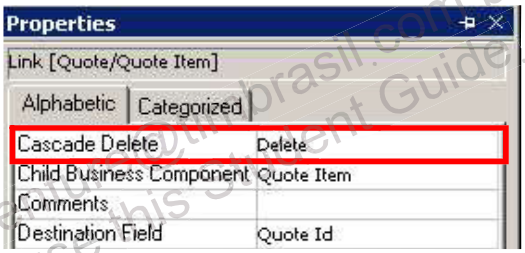
- Specifies whether child records of a 1:M relationship are deleted when the parent record is deleted.
  - None: Neither deletes nor clears the foreign key column
  - Clear: Does not delete, but clears the foreign key column
  - Delete: If a parent record is deleted, all child records are deleted



Cascade Delete Property

- Set the Cascade Delete property as determined by business requirements
  - Child quotes should not be deleted when a parent opportunity is deleted
  - Quote items should be deleted when the quote is deleted





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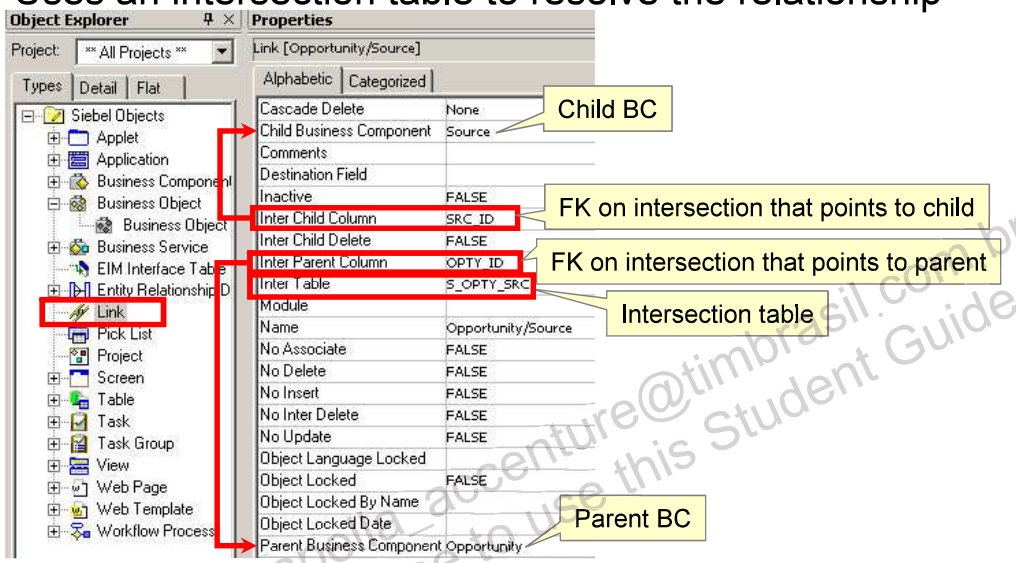
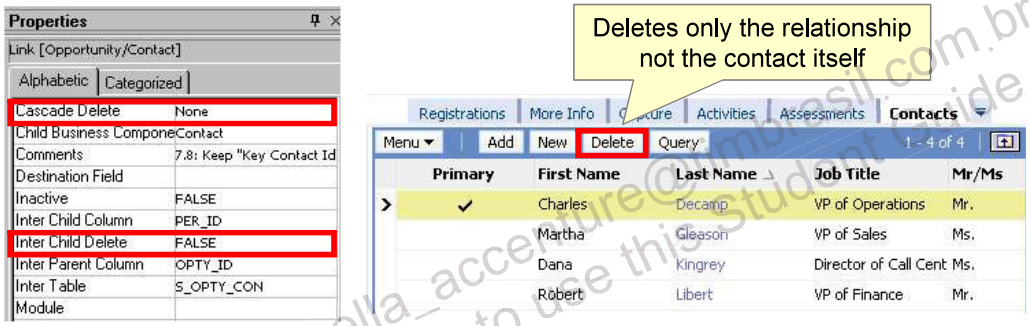
M:M Link Definition

- Is used for M:M relationship between parent and child business components
- Uses an intersection table to resolve the relationship



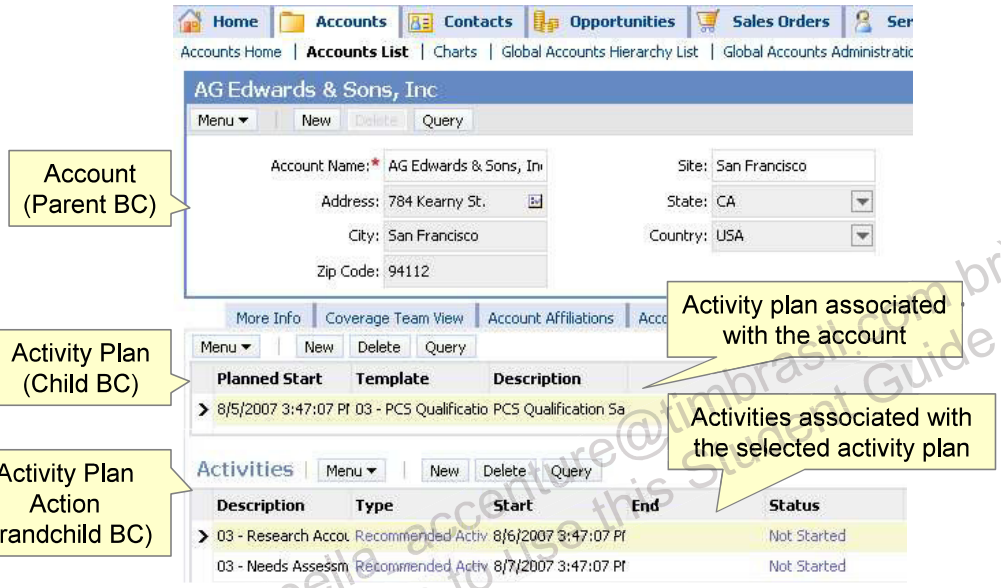
Child Deletion for M:M Links

- Always set Cascade Delete to None
- Set Inter Child Delete to:
  - TRUE to delete both the entry in the intersection table as well as the child record when deleting a child record in the list applet in a detail view
  - FALSE to delete only the entry in the intersection table and keep the child record



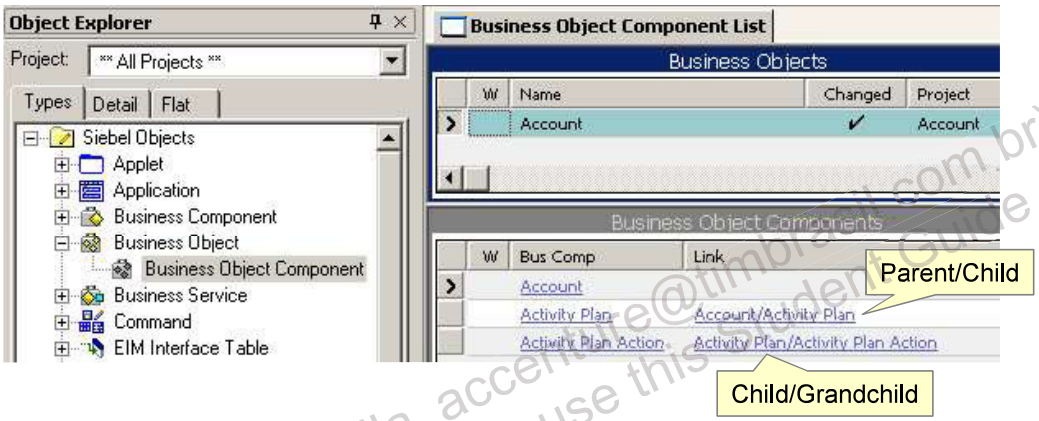
Grandchild Business Components

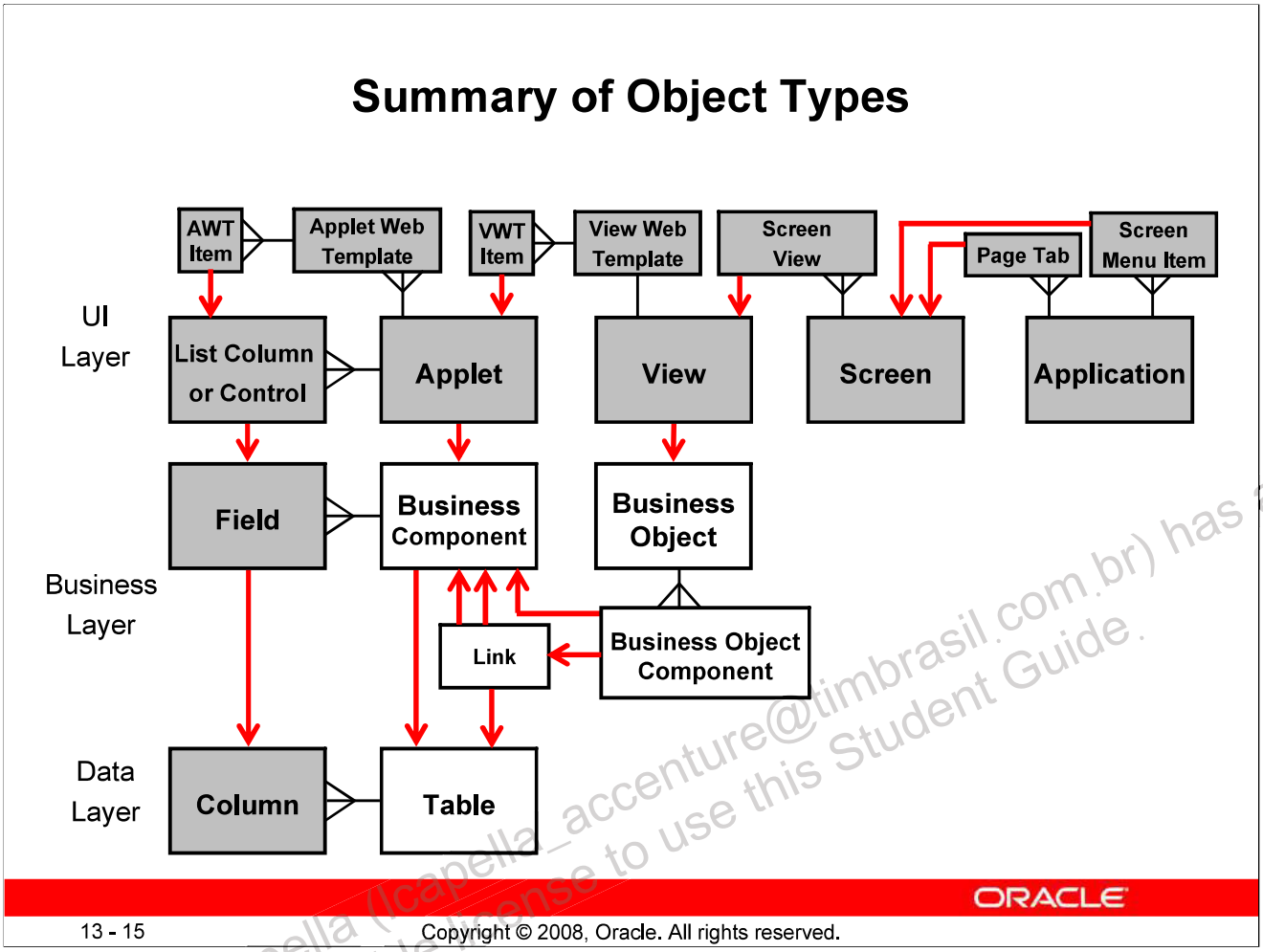
- Business objects may include grandchild business components used in parent-child-grandchild views



Links for Grandchild Data

- Specify how the child and grandchild business components are related
  - Are used to retrieve grandchild records on parent-child-grandchild views





Summary of Object Types

In addition to the references from links to the business components and tables, there are also references in links to single value fields and columns. These references are not shown on the diagram for clarity.

Lesson Highlights

- A business object represents a major area of the business
- A business object consists of business components and links that relate parent and child BCs
- Link definitions specify the foreign and primary keys that relate child and parent records
  - A 1:M link definition defines the FK on the child BC that points to the PK on the parent BC
  - A M:M link definition uses an intersection table to relate the parent and child BCs
- BOs may include grandchild BCs

Practice 13 Overview: Business Objects and Links

This practice covers the following topics:

- Examining Links
- Adding a New Business Object Component

14

Creating a New Business Component Using a Standard 1:M Extension Table

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Objectives

After completing this module you should be able to:

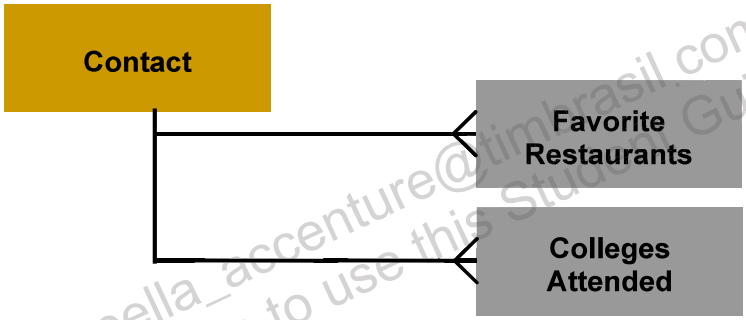
- Describe the structure of a 1:M business component
- Create a new business component (BC) using a 1:M extension table
- Add the business component to a business object

Business Challenge

- Siebel-provided business components capture most commonly-used business entities, but they do not cover every possibility
- Example: Sales organizations might record personal data about contacts, such as:
  - What colleges the contact attended
    - Name of college, years attended, major field of study, sports played, honors received, and so on
  - The contact's favorite restaurants
    - Name and location, price range, type of cuisine, and so on
- Capturing this kind of information requires:
  - Multiple fields to capture the details
  - A 1:M relationship to the parent contact business component

Solution: Create New Business Components

- To capture this information, create new business components as children of an existing business component
- Base these business components on 1:M extension tables supplied as part of the Siebel data model
  - For example, create college and restaurant child BCs of the Contact parent BC



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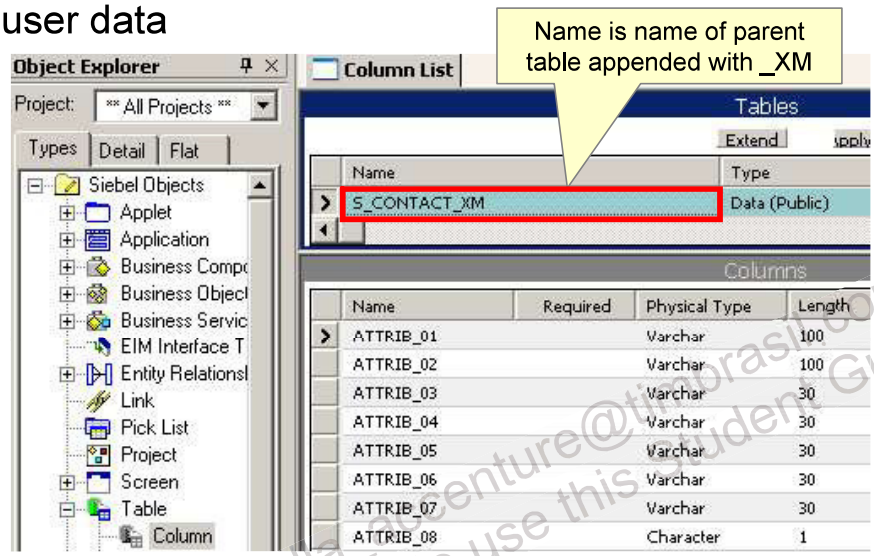
Review: 1:M Extension Table

- Exists in the repository for many tables
- Has ATTRIB* predefined columns to store different types of user data



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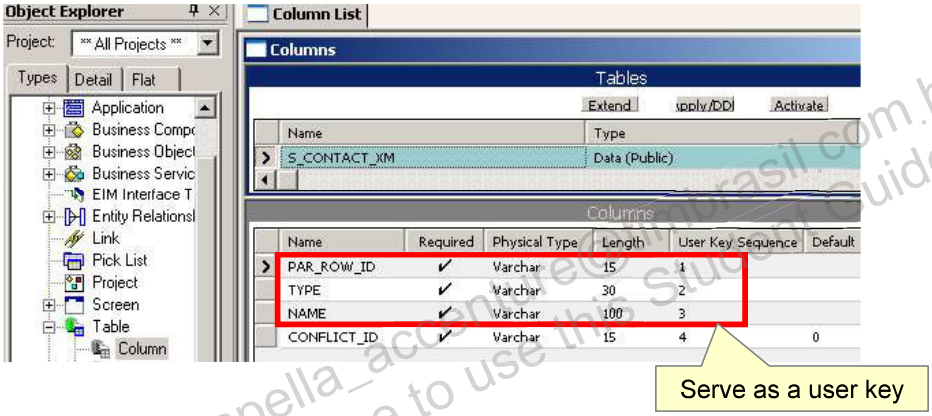
14 - 5

Review: 1:M Extension Table

Reference: "Configuring Tables and Columns" in *Configuring Siebel Business Applications*

Review: 1:M Extension Table

- Has NAME, TYPE, and PAR_ROW_ID column values
  - Together must be unique per row
- Table can store multiple different “types” of data
  - For example, Colleges and Restaurants
- TYPE column identifies the different types of data

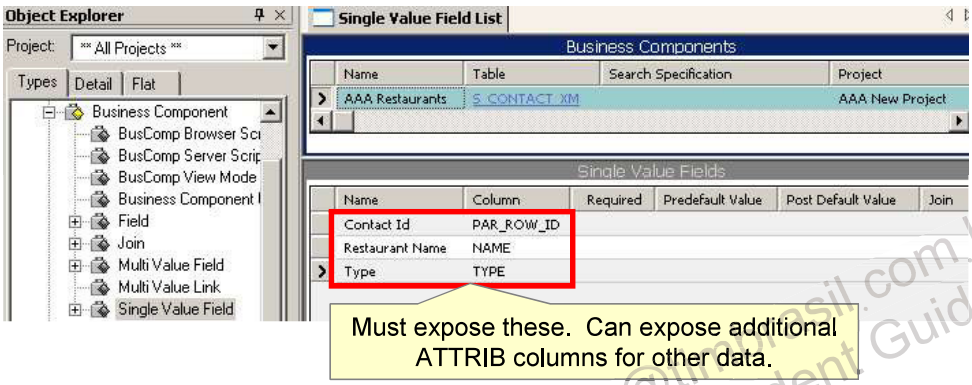


Create a New Business Component

- Create a new business component to represent the child entity
  - Use the Business Component wizard
- Specify the appropriate 1:M extension table as the base table
  - Example: S_CONTACT_XM
- Create fields that map to the following columns
  - NAME, TYPE, and PAR_ROW_ID
- Create additional fields that map to ATTRIB_ columns for additional data as required

New 1:M Business Component

- Examine the business component and verify that it has the required fields



Multiple Business Components

- An _XM table can store multiple user-defined child business components
- Each business component has a unique type value
  - Stored in the TYPE column of the _XM table
- Each business component retrieves only those rows with its type value
  - Search Specification and Predefault Value properties must be configured

Set Values for Type

- Set a Predefault Value to identify the type of data being stored
  - This tags each record entered
- Set the Search Specification to search for rows of that type
  - Only records that have this type will be part of the BC

Steps to Use the New BC

1. Create a link
2. Assign BC to a business object
3. Create a list applet
4. Assign the applet to a view
   - Create a new view if necessary and administer the new view

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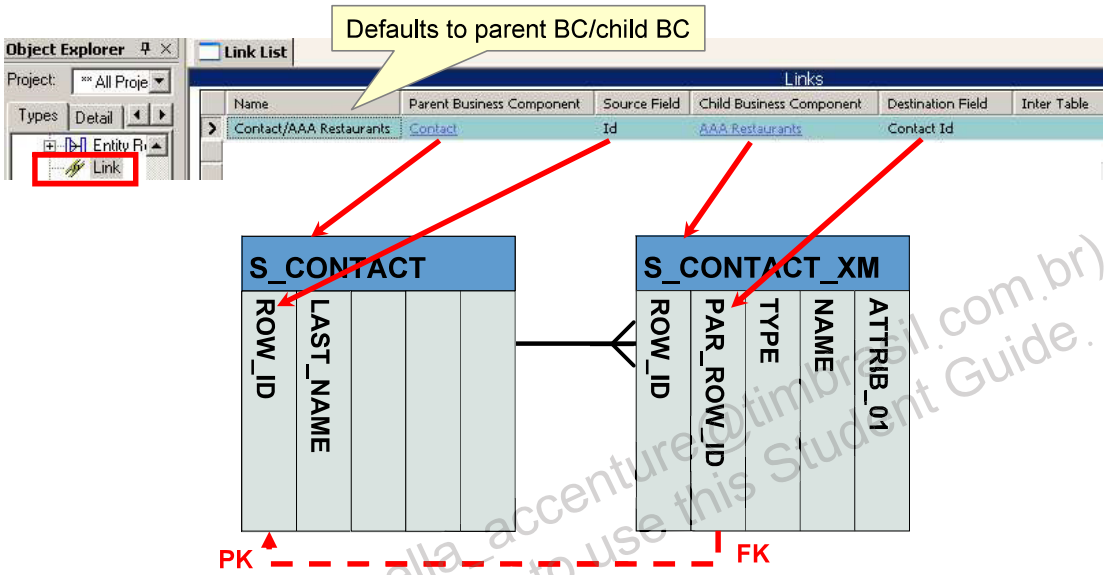
1. Create a Link

- Specify how to relate the child business component to the parent



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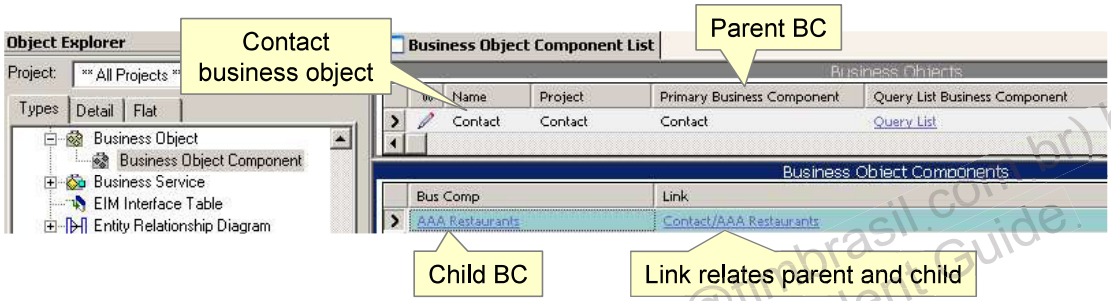
14 - 12

1. Create a Link

Reference: "Configuring Links" in *Configuring Siebel Business Applications*

2. Add BC to a Business Object

- Identify the business object that corresponds to the parent BC
- Add the child BC as a business object component
  - Set the Link property



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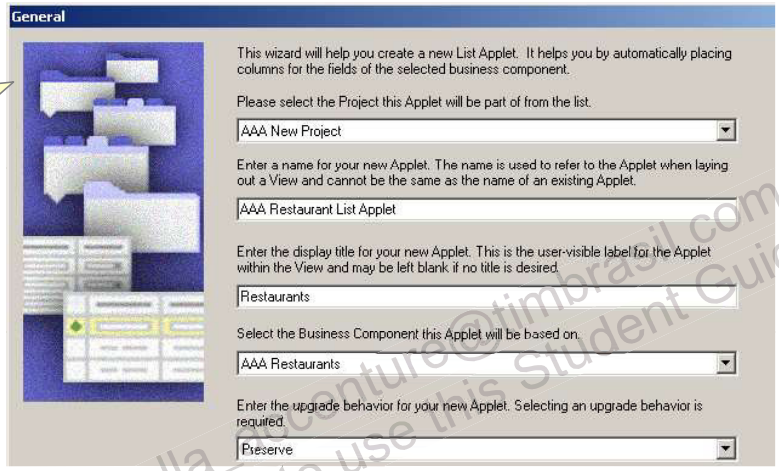
2. Add BC to a Business Object

Reference: "Configuring Business Objects" in *Configuring Siebel Business Applications*

3. Create a List Applet

- Use the List Applet wizard to create an applet to display the data from the business component
  - To prevent users from changing the value, do not display the Type field

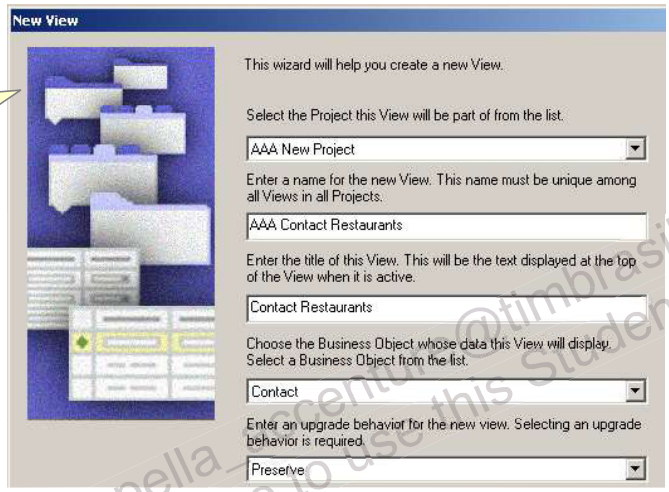
Select File > New Object > Applets and click List Applet



4. Assign the Applet to a View

- Use the View wizard to create a new view based on the business object for the new BC
- Add the view to a screen
- Administer the new view in the client

Select File > New Object and click View



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4. Assign the Applet to a View

Reference: "Configuring Screens and Views" in *Configuring Siebel Business Applications*

Lesson Highlights

- Create a new BC as a child of an existing BC to capture new information that requires a 1:M relationship
- When possible, use predefined _XM tables to store the data
- Create a new business component and expose the NAME, TYPE, and PAR_ROW_ID columns
  - Configure the search specification and predefault value for the business component to retrieve the desired records
- Create a link definition to define the relationship between the parent and child BC
- Add the new BC to a business object, then create applets and views to display data

Practice 14 Overview: Creating a New Business Component Using a Standard 1:M Extension Table

This practice covers the following topics:

- Creating a business component and link
- Displaying the business component in a detail view

15

Extending the Siebel Database

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Objectives

After completing this lesson you should be able to:

- Create extension columns in a table
- Create a custom table
  - Standalone table
  - 1:1 extension table
  - 1:M extension table
  - Intersection table
- Apply database extensions

Incorporating Additional Data

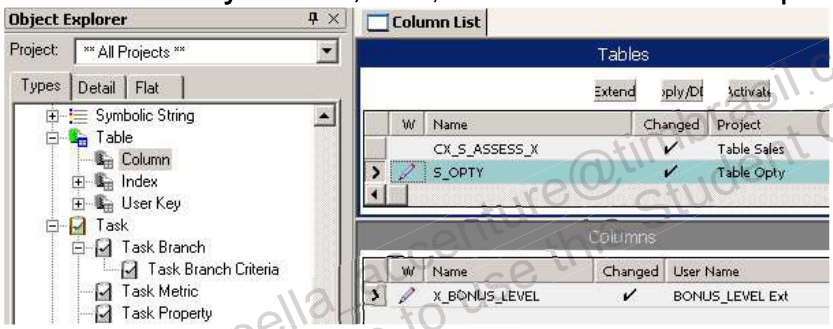
- Your business requirements may include:
  - Adding new fields to capture additional data
  - Creating new business components to capture additional business entities
- First examine the Siebel Data Model carefully to determine whether the desired fields and business components already exist
  - Consider using a 1:M extension table for a new business component that is a child of an existing business component

Adding New Fields

- When the data model does not support the desired new fields, extend the as-delivered Siebel database by creating extension columns on base tables
- Avoid mapping new fields to existing columns that appear to be unused
  - The columns may be in fact used or could be used in future releases
- Avoid mapping new fields to the standard 1:1 extension table
  - Some columns are already in use and others may be used in future releases
  - Such fields may encounter performance issues

Extending the Siebel Database

- Use Siebel Tools to extend the Siebel database by:
  - Creating extension columns on tables
  - Creating new tables
- Developers:
  - Create new object definitions for the database extension
  - Make the corresponding physical database changes
  - Do not directly create, use, or maintain SQL scripts



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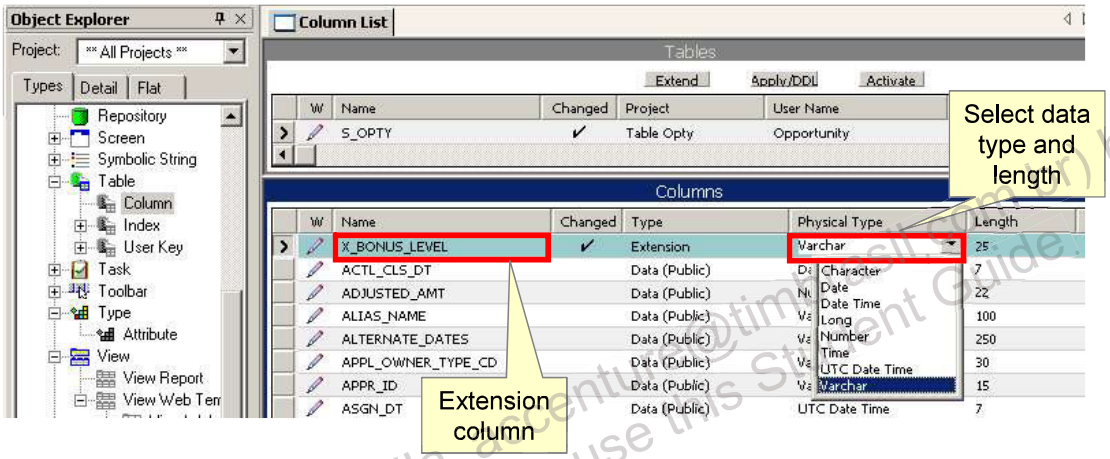
15 - 5

Extending the Siebel Database

Reference: "Configuring Tables and Columns" in *Configuring Siebel Business Applications*

Creating a Custom Extension Column

- Select the table to be extended
- Create a new column record with the desired properties
  - Name is automatically prefixed with X_



Creating a Stand-Alone Table

- Use the Table Wizard to create a new table

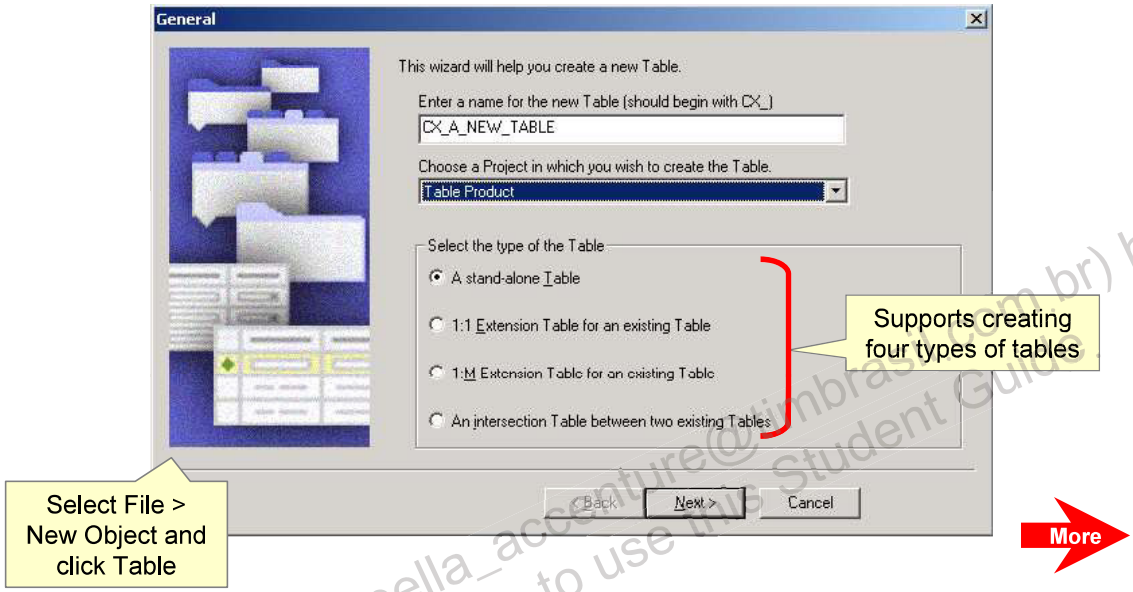


Table Wizard

- Creates a standalone table with:
  - Data (Public) as its type
  - The required system columns
  - One index P1 on ROW_ID

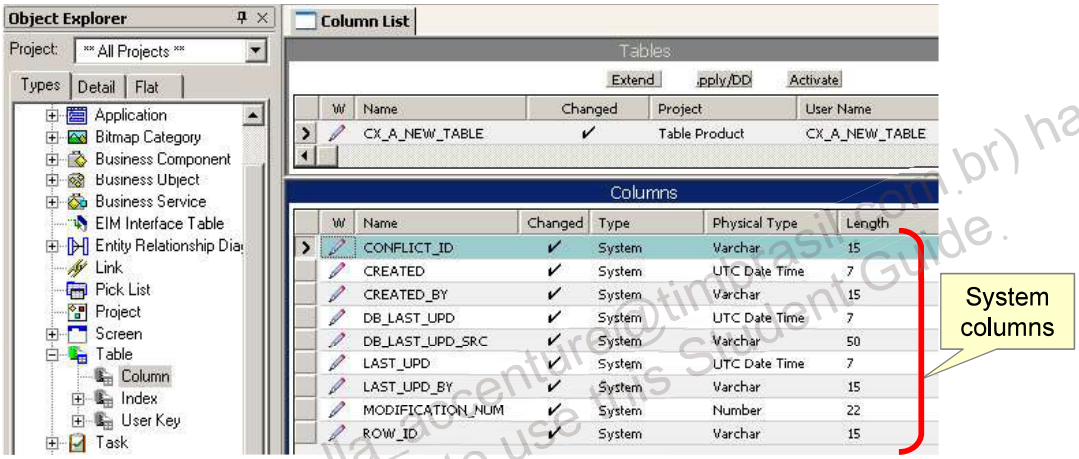
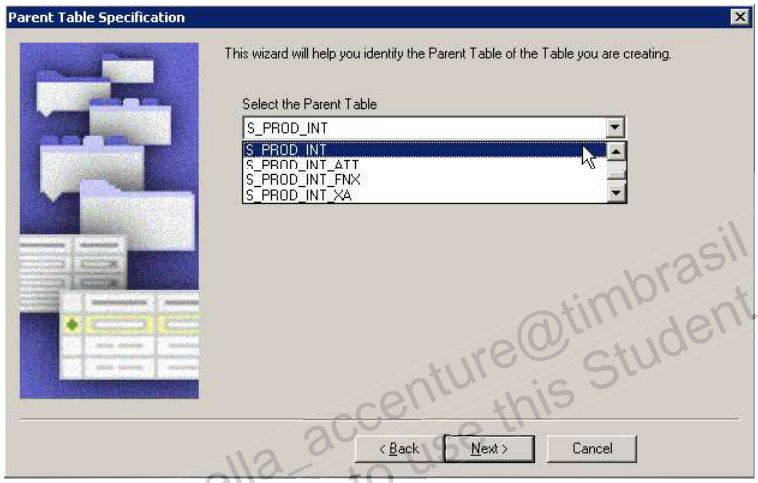


Table Wizard

See "Configuring Tables and Columns" in *Configuring Siebel Business Applications* for details about each of the system columns.

Creating a 1:1 Extension Table

- Select a base table as input to the Table Wizard
  - Choice restricted to the Data (Public) type
  - Multiple extension tables relate directly to the base table, and not to each other



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15 - 9

Creating a 1:1 Extension Table

In most cases a new field should be mapped to an extension column in a base table rather than an existing column in a 1:1 extension table. This avoids possible performance issues associated with the required join. As such it is unlikely that you would be creating new 1:1 extension tables.

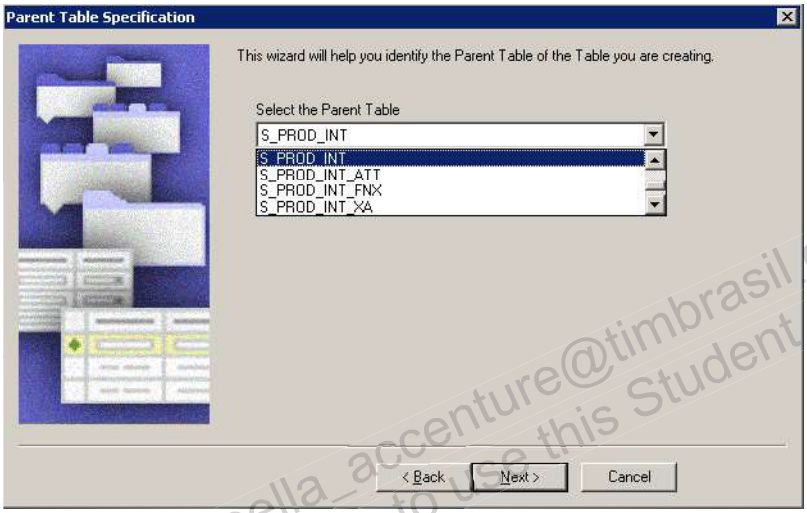
However the database system you are using may have limitations on the size of a row in a database table or the number of columns permitted in a table. If this is the case, you may need to consider creating a 1:1 extension table.

Creating a 1:1 Extension Table

- The Table Wizard creates an extension table with:
  - Required system columns
  - PAR_ROW_ID column as the foreign key column to the base table
  - Two indexes:
    - P1 index on ROW_ID
    - U1 index on PAR_ROW_ID and CONFLICT_ID

Creating a 1:M Extension Table

- Select a parent table as input to the Table Wizard
  - Create if the parent table does not have an existing 1:M table
  - Choice restricted to the Data (Public) type

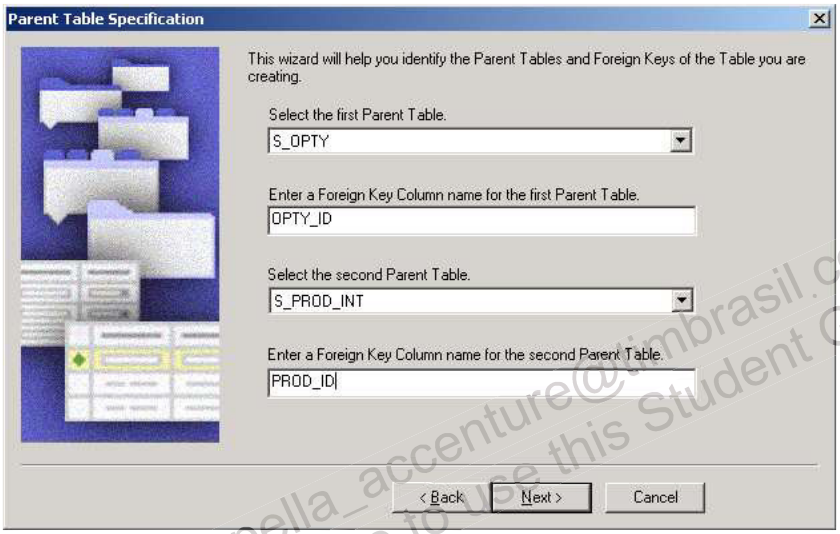


Creating a 1:M Extension Table

- Table wizard creates a 1:M extension table with:
  - Data (Public) as its type
  - The required system columns
  - A PAR_ROW_ID column as the foreign key column to the base table
  - TYPE and NAME columns
  - Three indexes:
    - P1 index on ROW_ID
    - U1 index on PAR_ROW_ID, TYPE, NAME, and CONFLICT_ID
    - M1 index on TYPE and NAME

Creating an Intersection Table

- Select both parent tables
  - Choices restricted to the Data (Public) type
- Specify the foreign key column name for each parent table

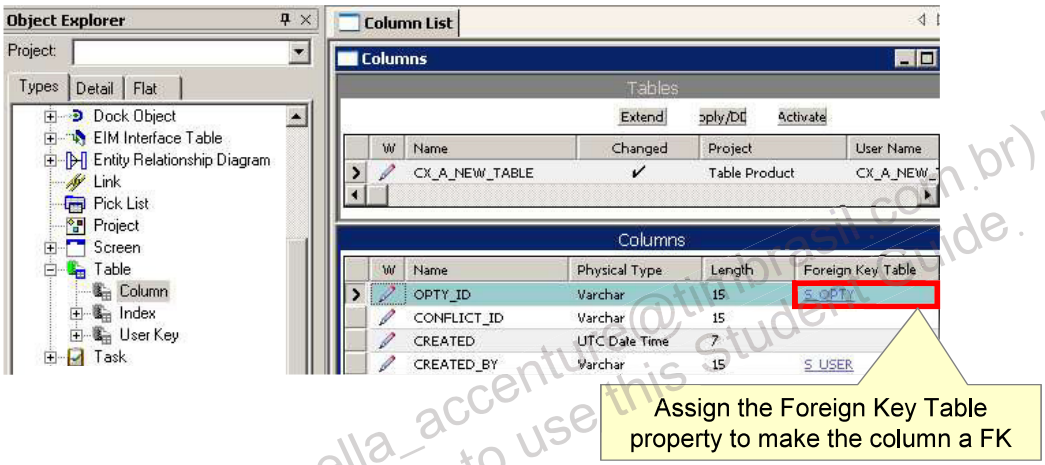


Creating an Intersection Table

- Table Wizard creates an intersection table with:
  - Data (Intersection) as its type
  - Required system columns
  - Two foreign key columns as specified
  - Three indexes:
    - P1 index on ROW_ID
    - U1 index on two foreign key columns, TYPE, and CONFLICT_ID
    - F1 index on foreign key to second parent table

Creating Foreign Keys

- Relationships can be created between tables
  - Create a foreign key column in one of the tables
  - Create join and link object definitions to make sure the foreign key columns are properly populated



Creating New Foreign Keys

In some cases, there may already be one or more foreign key columns that relate two tables. Each foreign key column formalizes a specific relationship. If you wish to create another relationship between the tables, it is recommended that you create a new foreign key column to formalize the new relationship. You should avoid repurposing one of the existing relationships (even if you are not planning to make use of it) because knowledge of the foreign keys is already captured in existing EIM mappings and dock objects.

Propagating Database Changes to Other Developers

- Test changes locally before applying them to the server database
  - Reduces the likelihood of undesired changes to the server schema
- Best practices for changing the schema:
  1. Apply Changes to the Local Database
  2. Propagate Changes to the Server Database
  3. Propagate Changes to Other Developers

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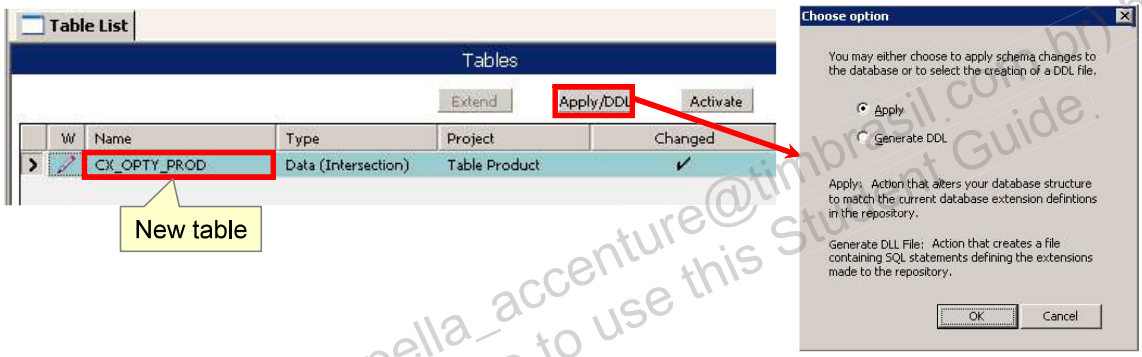
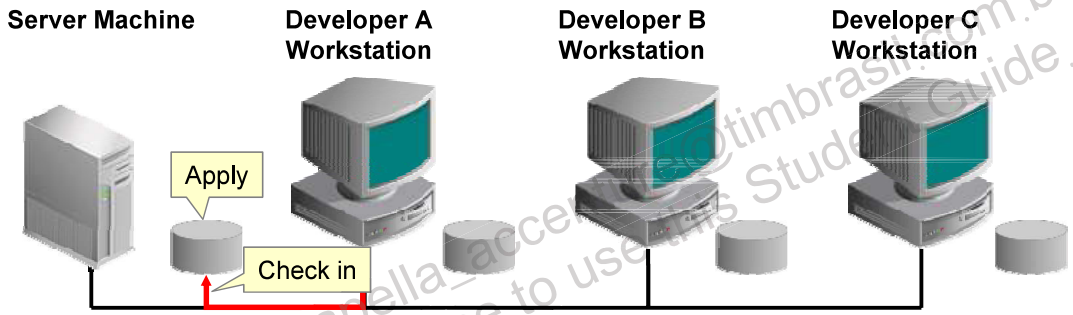
1. Apply Changes to the Local Database

- Click Apply/DDL to make the physical database changes
  - Choice to apply schema changes or generate DDL script
  - Changes are preserved across Siebel application upgrades
- Compile relevant objects and projects
- Test changes locally before checking in to the server
  - Query tables/columns using a database SQL utility



2. Propagate Changes to Server Database

- Check the project into the server
  - Copies the table and column object definitions
- Select the table and click Apply/DDL to make the physical database changes
- Click the Activate button to update the database schema version
- Compile and test against the server database



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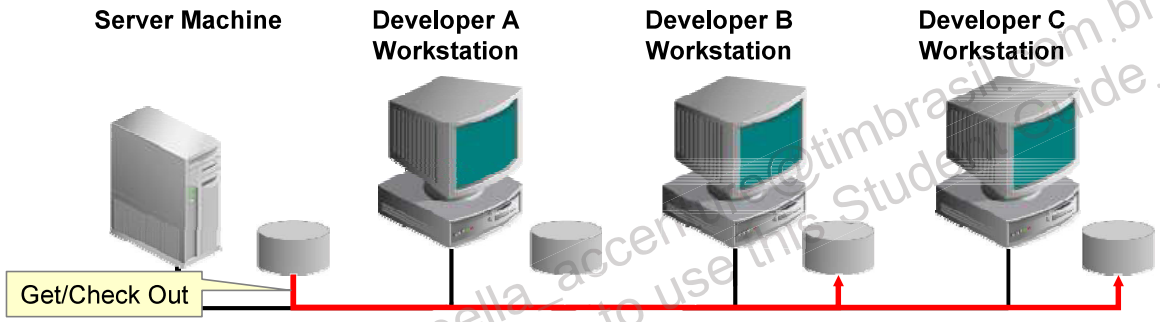
2. Propagate Changes to Server Database

Alternatively you can run the Database Configuration Utility to apply a set of schema changes to the server database.

3. Propagate Changes to Other Developers

- Other developers need to apply changes to their local databases
  - Have other developers get or check out the project and apply the changes locally
  - Alternatively re-extract developers and have them get all projects
    - Ensure all work on the local machines has been checked in first



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Lesson Highlights

- Extend the Siebel database in Siebel Tools:
  - Add an extension column to an existing table
  - Use the Table wizard to create a standalone, 1:1 extension, 1:M extension, or intersection table
- Best practices to modify Siebel database schema:
  - Apply changes locally and test
  - Propagate changes to the server database
  - Propagate changes to other developers

Practice 15 Overview: Extending the Siebel Database

This practice covers the following topics:

- Exploring the Siebel database
- Extending a Siebel database table
- Creating a Siebel database table

16

Additional Data Layer Configuration

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Objectives

After completing this lesson you should be able to:

- Create custom indexes
- Modify dock objects to incorporate extension tables
- Extend a database table to support case-insensitive and accent-insensitive (CIAI) queries

Additional Considerations

- After creating a new column or database table, you might need to:
  - Create additional custom indexes
  - Create additional EIM mappings
  - Modify the dock objects

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Custom Indexes

- Custom indexes based on new columns can be created to improve database performance
  - Standard indexes cannot be modified or deleted
  - Work with the database administrator to determine whether custom indexes are required
- Custom indexes:
  - Must be specified carefully
    - Consider consulting Oracle Expert Services
  - Can impact the benefit of standard indexes
  - Need to be thoroughly tested prior to release to production

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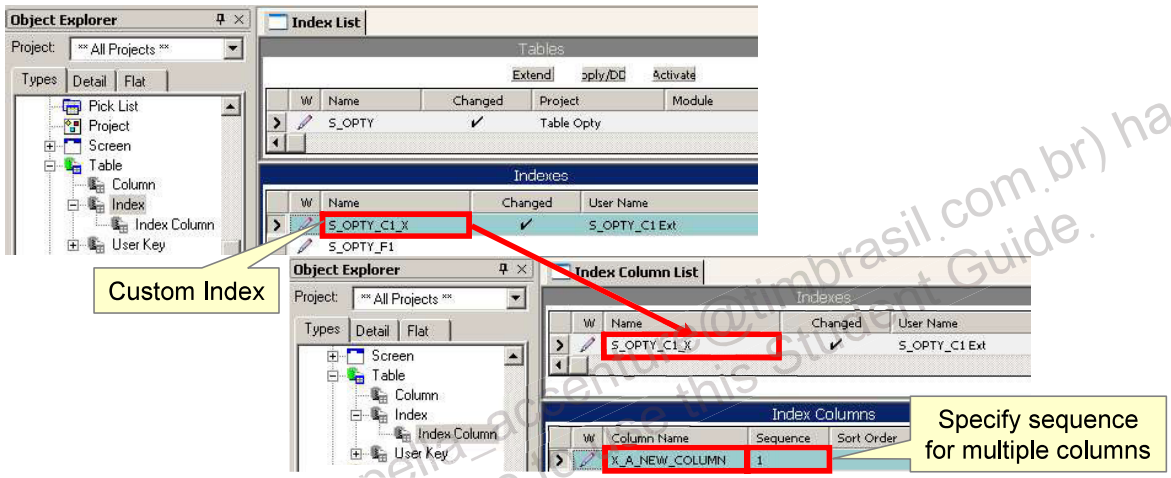
Custom Indexes

Custom indexes are created using Siebel Tools to make sure that they can be migrated from development to test and production environments. In addition this allows developers to be aware of custom indexes when they are configuring search and sort specifications.

Reference: “Configuring Tables and Columns” in *Configuring Siebel Business Applications*

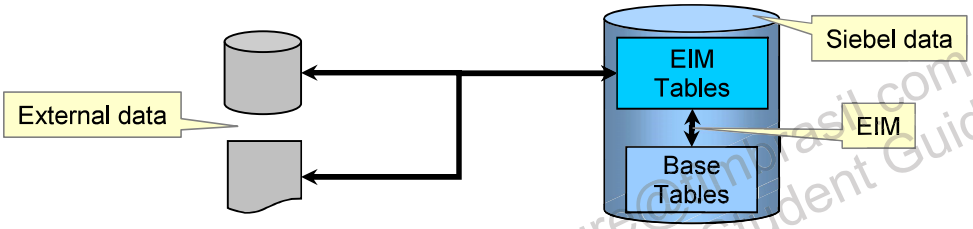
Creating a Custom Index

- Select the table
- Create a child Index object definition
  - Name is automatically suffixed with _X
- Create new Index Column records to specify the columns



Enterprise Integration Manager (EIM)

- Is a server component that enables the batch exchange of data between a Siebel database and an external data source
- Moves data between Siebel EIM tables and Siebel base tables



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Enterprise Integration Manager

Enterprise Integration Manager in covered in detail in its own Oracle University course.

EIM Mappings

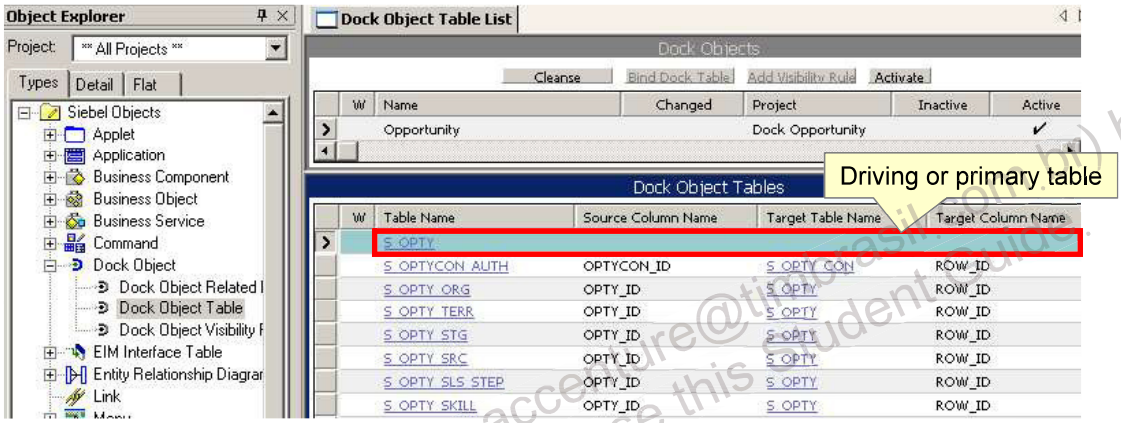
- Identify the columns in a base table that are populated by columns in an EIM table
  - Are specified as child object types of the EIM Interface Table object type
- Are used by EIM when importing or exporting data
  - New EIM mappings will need to be created to allow EIM processes to import data into or export data from new tables and columns
    - For new columns in an extended or a new table:
      - Add a new column to an EIM table
      - Create a new mapping between the EIM and base table
    - The EIM Mapping wizard can implement the configuration for many common scenarios

EIM Mappings

Reference: "Configuring EIM Interfaces" in *Configuring Siebel Business Applications*

Dock Objects

- Are a set of related tables used to determine which records are synchronized with mobile users
- Consist of a driving table and other related tables
  - Are specified as Dock Object Table object definitions



Dock Objects

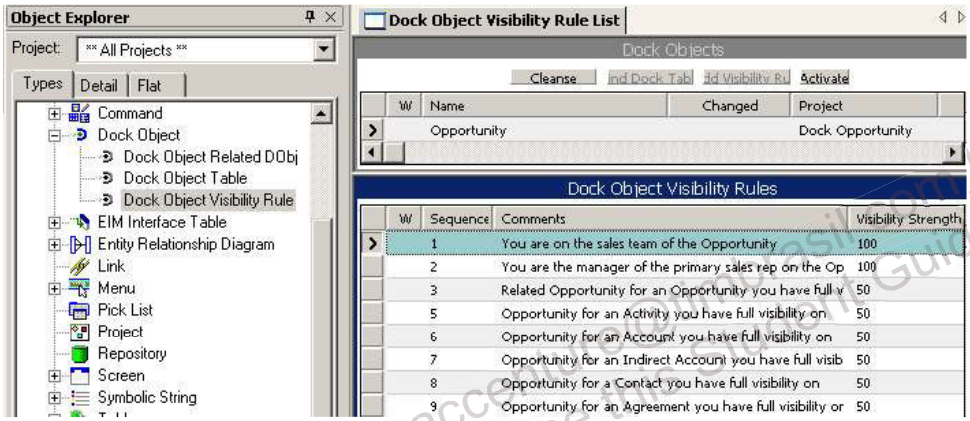
Reference: "Configuring Docking Rules" in *Configuring Siebel Business Applications*

Types of Dock Objects

- Dock objects are classified into three types based on how records in tables are distributed during remote synchronization
  - Enterprise: allows all records to be synchronized
  - Private: prevents records from being synchronized
  - Limited: records are synchronized for particular users based on characteristics of the remote user
    - Reduces the amount of data exchanged during synchronization
    - Provides remote users with data they need to have

Dock Object Visibility Rules

- Limited dock objects have a set of rules that determine:
  - The users that receive updated or new records
  - The tables in a dock object from which they receive such records



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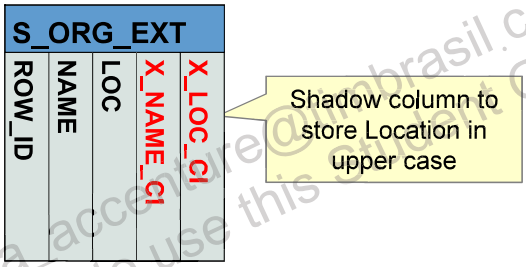
Modifying Dock Objects

- Docks objects might need to be created or modified to allow records to be synchronized with mobile users when:
  - Creating a table
  - Adding a foreign key column to a new or an existing table
- Use the Dock Object wizard to create a new dock object for a new standalone table
- Consult Expert Services to modify existing dock objects

Extending a Table to Support Case Insensitive Queries

- A database table can be extended to support case-insensitive and accent-insensitive (CIAI) queries
  - Restricted to columns of type text
- Process involves:
  - Creating a shadow column to store the value in the original column in uppercase
  - Creating new indexes on the shadow column to permit rapid access to records using the uppercase value

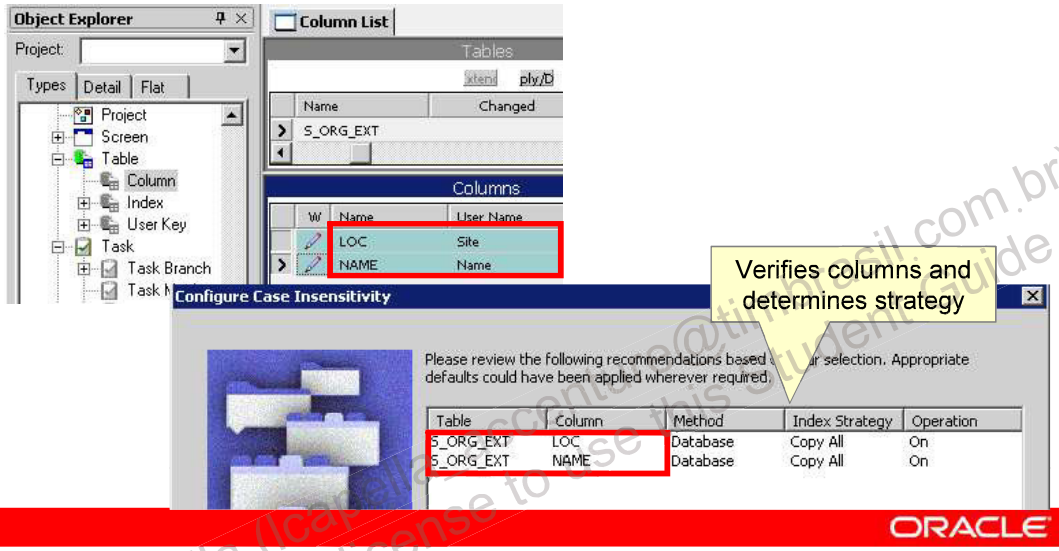


Extending a Table to Support Case Insensitive Queries

Reference: "Configuring Tables and Columns" in *Configuring Siebel Business Applications*

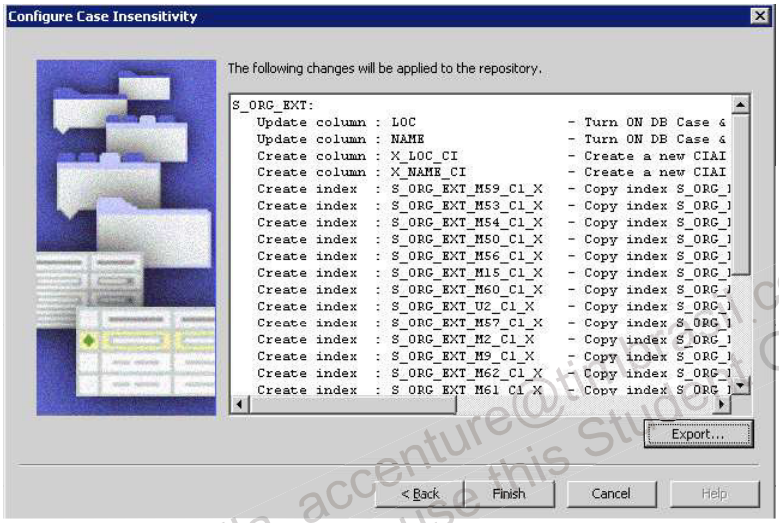
Creating CIAI

- Select the columns in the object list editor to convert to CIAI
- Right-click and select Case Insensitivity to invoke the CIAI wizard



CIAI Wizard

- Identifies columns and indexes to create
- Applies them to the repository



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CIAI Wizard

When you apply these repository changes to the physical database, the resultant changes are database dependent. In some databases the shadow columns are explicitly created, while in other databases the shadow columns are implemented by creating database indexes.

Lesson Highlights

- Custom indexes based on new columns can be created to improve database performance
- Use the EIM Mapping wizard to allow EIM processes to import data into or export data from new tables and columns
- Dock objects may need to be modified to allow data to be synchronized with remote users
  - Use the Dock Object wizard to create a new dock object for a new standalone table
- Use the CIAI wizard to extend a table to support case-insensitive and accent-insensitive (CIAI) queries

Practice 16 Overview: Additional Data Layer Configuration

This practice covers the following topics:

- Configuring case insensitive columns

17

Configuring Drilldowns and Applet Toggles

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Objectives

After completing this lesson you should be able to:

- Configure a drilldown to a related view
- Configure a thread bar
- Configure a toggle applet

Navigation Using Drilldown

- You can configure list columns for drilldown
  - When the user clicks the hyperlinked value, the application navigates to another view
- You can configure drilldown as static or dynamic
  - Static: Clicking the hyperlink always navigates to the same target view
  - Dynamic: Clicking the hyperlink navigates to a target view determined by the value of a field in the record

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Navigation Using Drilldown

Drilldowns are not supported for controls in a form applet.

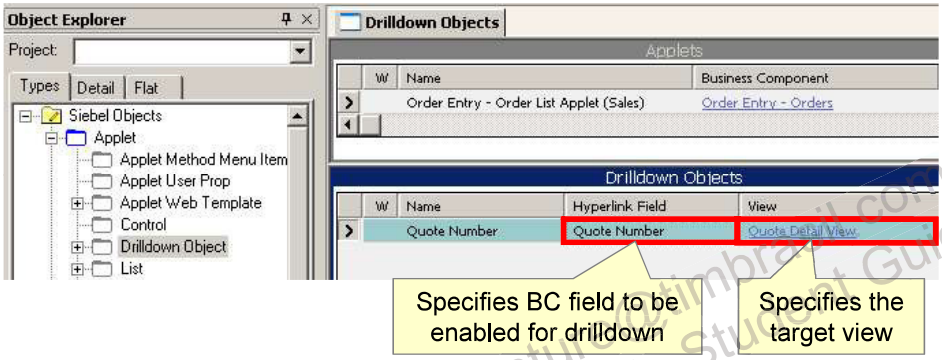
Reference: "Configuring Screens and Views" in *Configuring Siebel Business Applications*

Static Drilldown: Same Business Component

- Drill down to a detail view for the same record
  - Destination view uses the same business object and business component (BC)

Configuring Drilldown Within the Same Business Component

- Create a drilldown object (child of applet)
  - Set the Hyperlink Field to the field to be enabled for drilldown
  - Set the View to the target view when the field is clicked

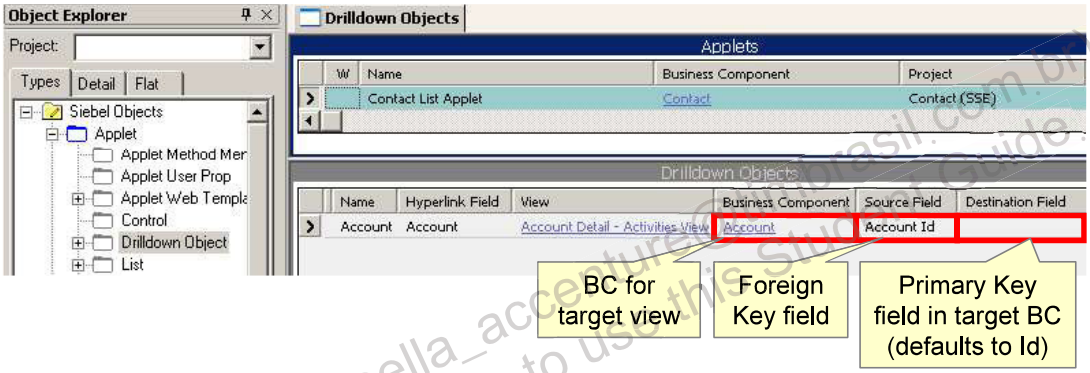


Static Drilldown: Different Business Component

- Drill down to a detail view for a related record
  - Destination view uses a different business object and business component (BC)

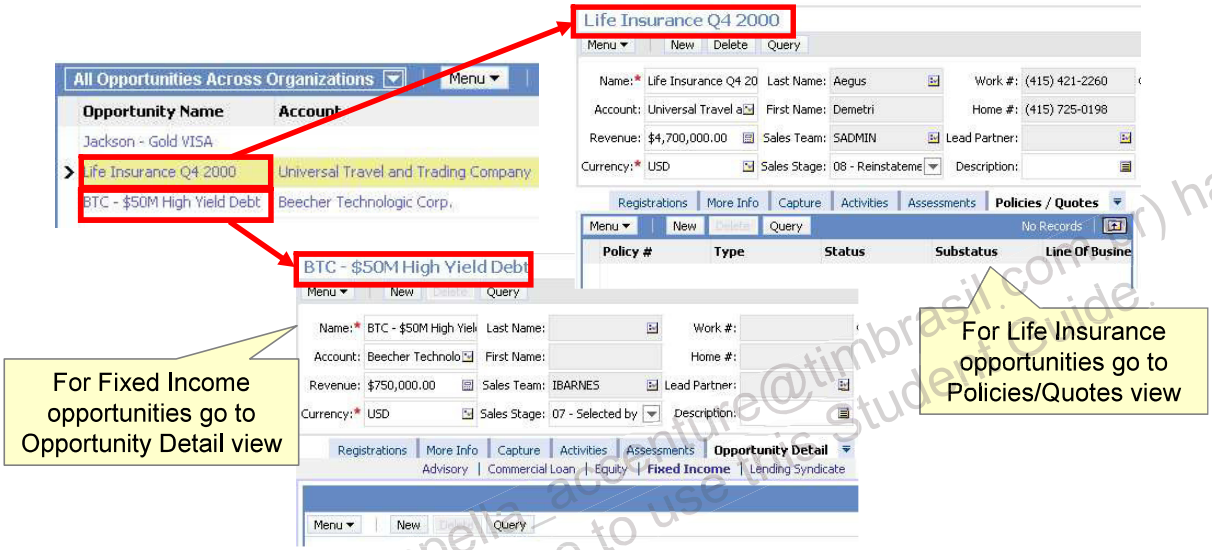
Configuring Drilldown to a Different Business Component

- Create a drilldown object (child of applet)
  - Set the Hyperlink Field and View properties as before
  - Specify how to identify the related record:
    - Business Component: the BC the target view is based on
    - Source Field: the foreign key field that points to the target BC
    - Destination Field: the primary key field on the target BC



Dynamic Drilldown

- Enables drilldown to different views from the same hyperlink field
  - Determined by a value in a field for the active record



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Dynamic Drilldown

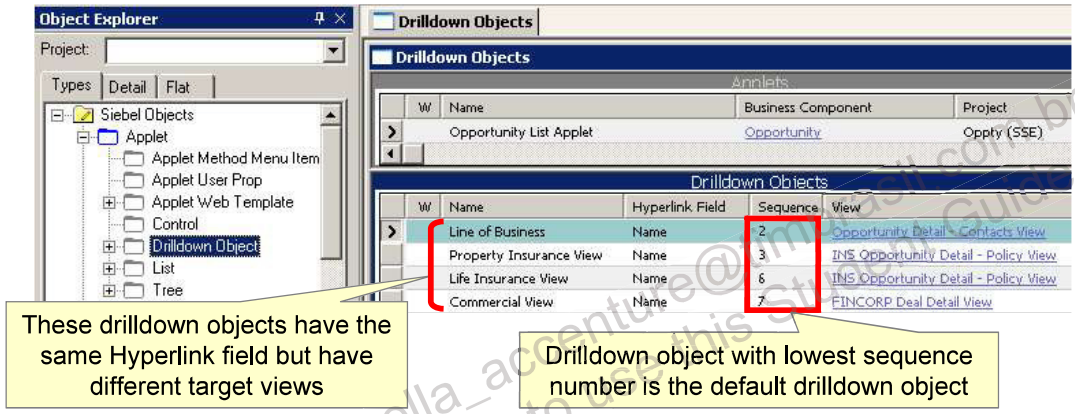
In the example shown in the screen shot, the Deal Type field in the Opportunity business component is used to determine the destination view. The Deal Type field typically appears with a caption Product Line in opportunity form applets.

Determining the Target View

- Identify one or more matching conditions to trigger drilling down to a specific target view
  - For example:
    - If Deal Type = Life Insurance, go to INS Opportunity Detail - Policy View
    - If Deal Type = Fixed Income, go to FINCORP Deal Debt View
    - Else go to Opportunity Detail - Contacts View
- Determine the order to check the matching conditions
  - Conditions can involve different fields
  - Multiple matches could occur for a given record

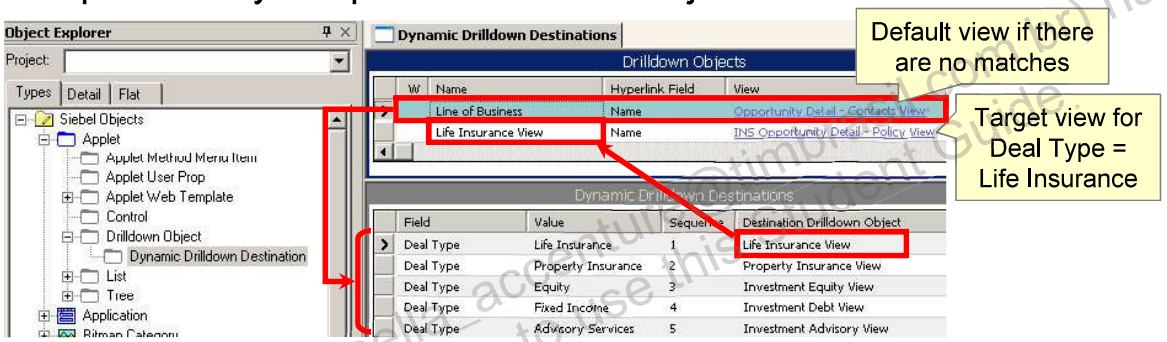
Configuring Dynamic Drilldown

- Create multiple drilldown objects for the same hyperlink field
  - Each specifies a different target view
- Assign Sequence Numbers to determine the default drilldown object for the set



Specifying the Conditions

- For the default drilldown object, configure a dynamic drilldown destination for each condition
  - Specify the Field, Value, and Sequence properties
  - Specify the Destination Drilldown Object property to correspond to the desired target view
- If no default condition is configured, the target view is specified by the parent drilldown object



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Specifying the Conditions

Sequence

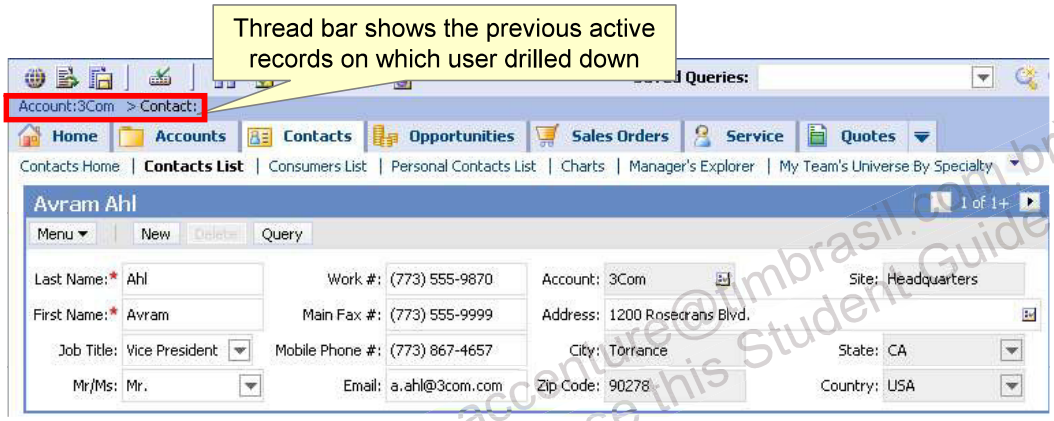
- The sequence property for a dynamic drilldown destination object definition determines the order in which the conditions are checked. The first match is used to determine the drilldown object with the target view. A sequence number is required since the conditions may not be mutually exclusive.

Determining the Destination View

- As shown in the previous slide the Line of Business drilldown object has the lowest sequence number so its dynamic drilldown destinations are checked. If the Deal Type = Life Insurance, the search stops after the first dynamic drilldown destination is checked. This specifies a destination drilldown object of Life Insurance View. This destination object (a sibling of the parent object definition) is then checked to determine that the target view is INS Opportunity Detail - Policy View.
  If the search through the dynamic drilldown destinations does not result in a match, then the view specified in the parent drilldown object (Line of Business) becomes the target view.

Thread Bar

- Tracks the previous active record
  - Provides a hyperlink to the previous view
- Is updated whenever the user drill downs to a different business object

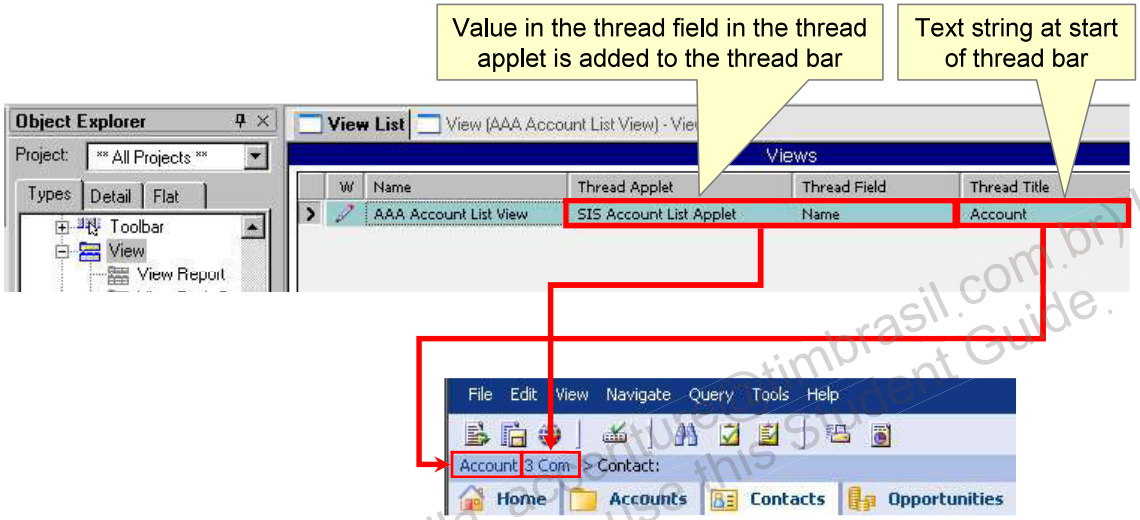


Thread Bar

The browser back button can also be used to return to the previous record.

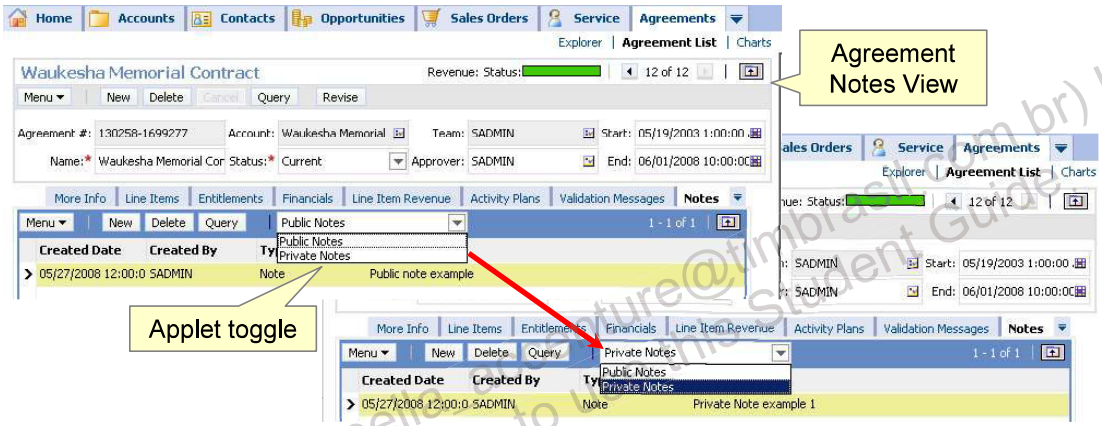
Configuring the Thread Bar

- Set the thread bar properties to generate the thread bar to track user navigation



Applet Toggles

- You can configure several applets to share the same space in a view
  - You only add one applet to the view Web template
  - Users can switch this applet with others by an applet toggle that you define on the applet

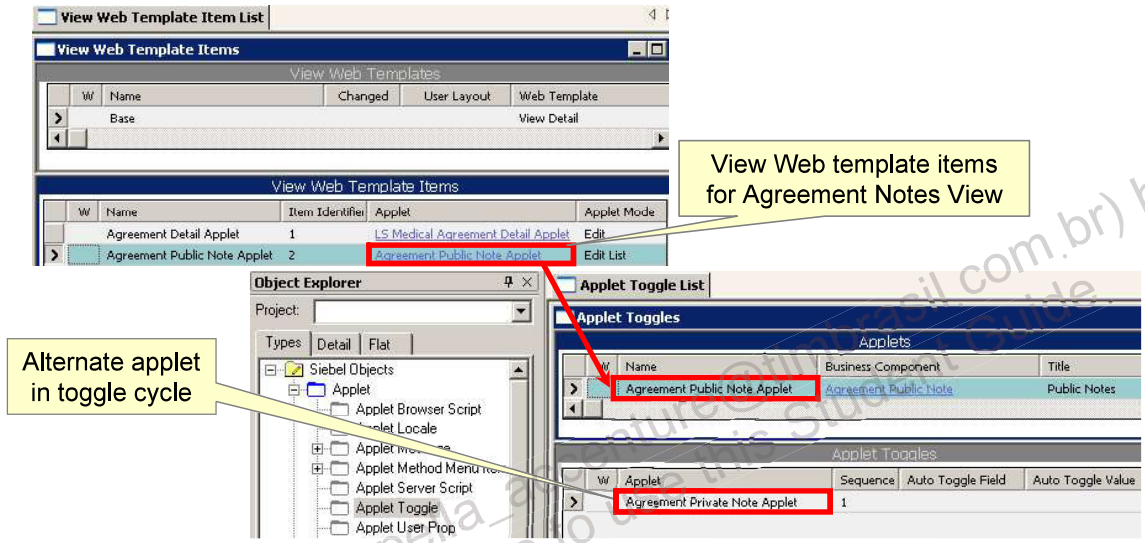


Applet Toggles

Reference: "Configuring Screens and Views" in *Configuring Siebel Business Applications*

Configuring Applet Toggles

- Create a new applet toggle definition for each applet to be added to the toggle list
  - Create it on the applet defined in the view Web template



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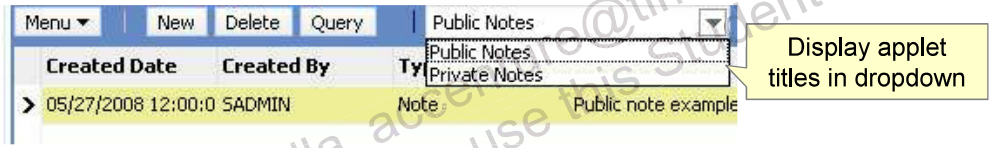
Togglebar Tag

- The toggle list will appear only if the applet template includes a SWE *togglebar* tag
  - Togglebar is rendered as a drop-down select control
  - Example:

Example html from a template

```
<swe:togglebar type="Select">
<table>
<tr> <td> <swe:control id="1"
property="DisplayName"> </td>
<td> <swe:this property="FormattedHtml"/> </td>
</tr>
</table>
</swe:togglebar>
```

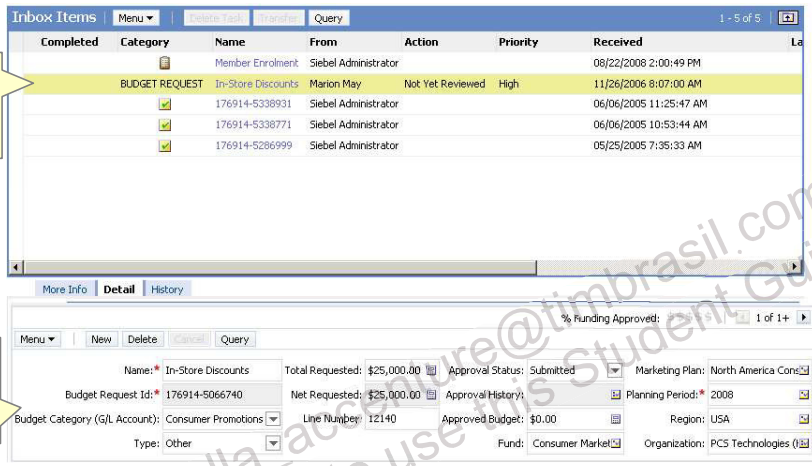


Display applet titles in dropdown

Dynamic Applet Toggling

- Automatically selects the applet to be displayed in a view based on the value of a field in the underlying business component
  - User does not explicitly select a toggle applet

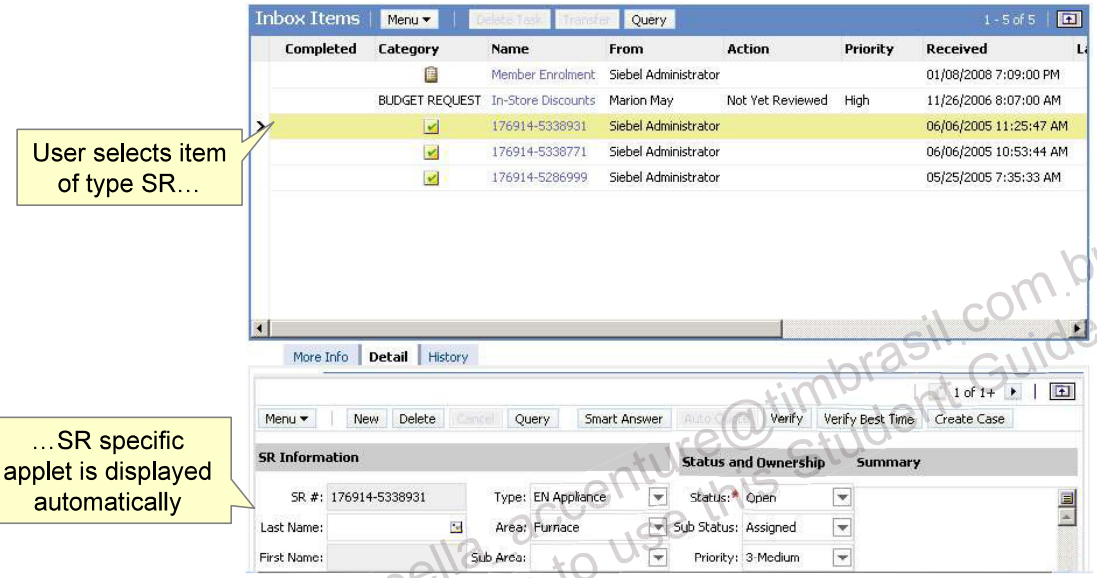
User selects item of type Budget Request…



…budget request applet is displayed automatically

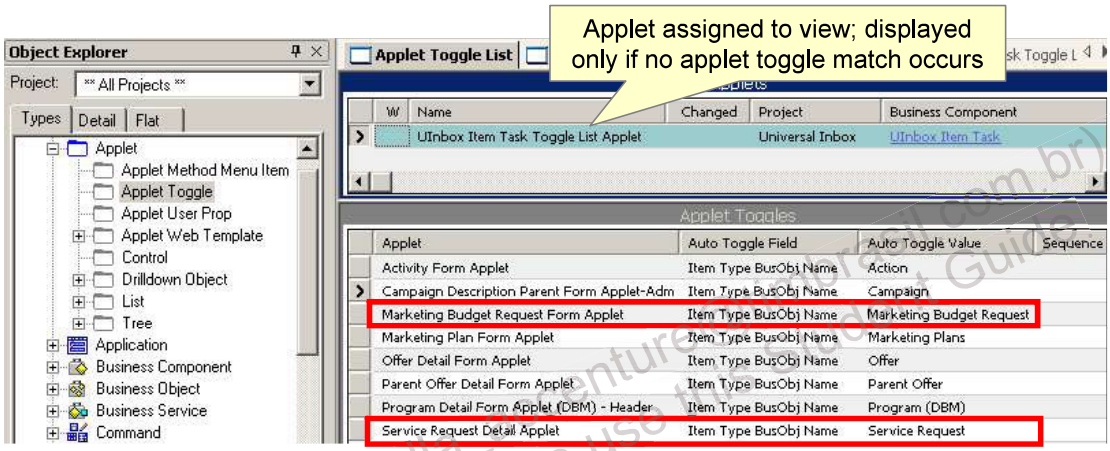
Dynamic Applet Toggling

- When user selects a different inbox item, the lower applet toggles to an applet determined by the category of the item



Configuring Dynamic Applet Toggling

- Create a child applet toggle for each possible field value
  - Set the Auto Toggle Field and Auto Toggle Value properties
  - Assign a sequence if conditions are not mutually exclusive
- If there are no matches, parent applet is displayed



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Configuring Dynamic Applet Toggling

The default toggle applet is the UInbox Item Task Toggle List Applet. Although it is a list applet, it is rendered in the view in the Edit mode and appears as a form applet.

Lesson Highlights

- List columns or controls can be configured for drilldown
- Drilldowns can be static or dynamic
  - Static drilldowns always navigate the user to the same target view
  - Dynamic drilldowns navigate the user to a target view determined by the values shown in the current view
  - Static drilldowns can be configured to drill down to the same business component or to a different business component
- Toggle applets allow several applets to share the same space in a view
  - Applets are cycled by user selection
- Dynamic applet toggles display different applets in a view based on the value of a field in the business component

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Practice 17 Overview: Configuring Drilldowns and Applet Toggles

This practice covers the following topics:

- Configuring drilldown
- Configuring a dynamic drilldown
- Configuring a dynamic toggle

Choose one to complete

18

Configuring Picklists

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Objectives

After completing this lesson you should be able to:

- Describe the differences between dynamic and static picklists
- Administer a static picklist
- Configure a static or dynamic picklist

Picklists

- Allow users to populate one or more single-value fields by selecting a value from a list
  - Enforces business rules and policies
  - Makes data entry faster
  - Reduces errors
- Can be either static or dynamic

Picklists

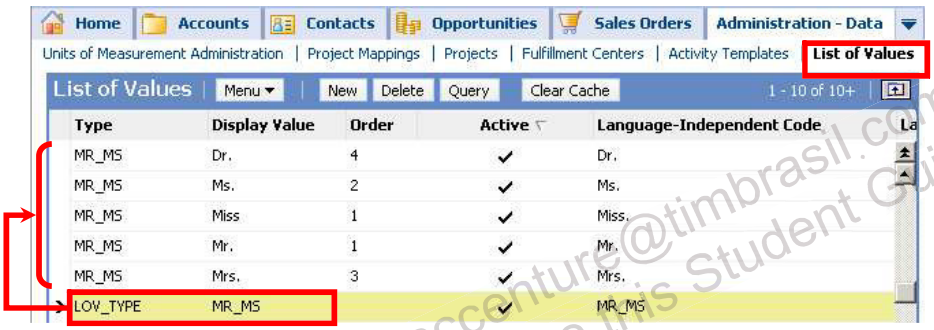
Reference: "Configuring Picklists and Pick Applets" in *Configuring Siebel Business Applications*

Static Picklist

- Displays values in a drop-down list for user selection
- Copies the selected value into a destination field
  - There is no link to the original picklist data
- Can be bounded or unbounded
  - Bounded picklist forces users to enter only a value in the picklist
  - Unbounded picklist permits users to enter any value into the field
    - User entered value is not added to the picklist values
- Draws values from picklist data managed by an administrator
  - Values displayed in static picklists do not change during run time as result of user activity

Static PickList Values

- Are stored for all static picklists in the S_LST_OF_VAL table
  - Is a user data table in the application database
- Have a type that identifies the static picklist the value belongs to

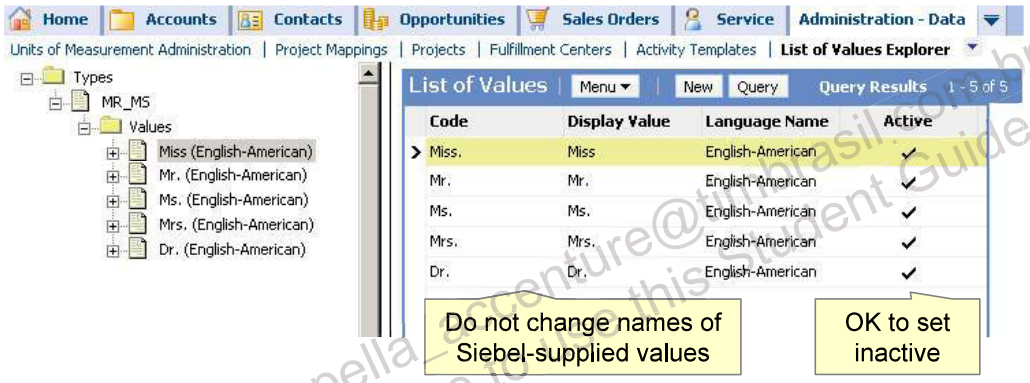


Static PickList Values

Reference: "Creating and Administering Lists of Values" in *Configuring Siebel Business Applications*

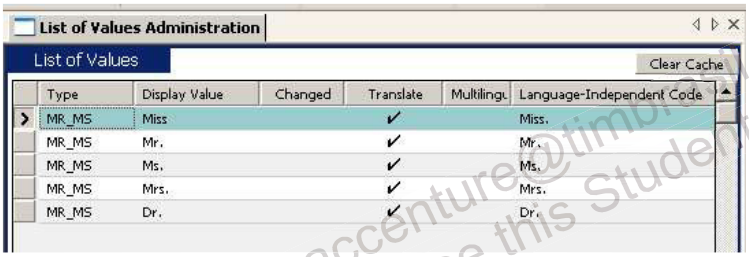
Administering Static Picklists

- Use the List of Values Explorer to administer static picklist data
  - Navigate to Administration - Data > LOV Explorer
  - Select an existing picklist
  - Expand the type and select the child Values folder
  - Edit the picklist values in the List of Values applet



Administering Static Picklists Using Siebel Tools

- List of Values can also be administered from Siebel Tools
  - Select Screens > System Administration > List of Values
  - Query for the picklist type
  - Edit values in the object list editor
  - Create a picklist by:
    - Creating a new LOV Type
    - Creating values for the LOV Type



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Administering Static Picklists Using Siebel Tools

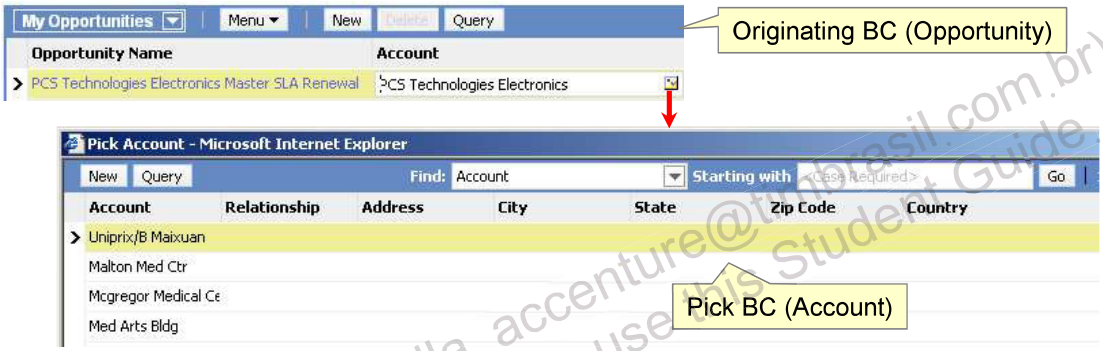
Any changes you make to the entries in the LOV table (whether by Siebel Tools or the Siebel client application) must be migrated from the development database to the test and production databases. Entries in the list of values are not complied into the .srf file, nor can they be checked into the server repository.

Dynamic Picklist

- Displays values in a pick applet
- Draws values from a business component (BC) whose records are edited by users
  - Values are dynamic and depend on current BC records
- Copies the primary key of the selected record into the foreign key field
  - Updates the values of joined fields displayed in the applet

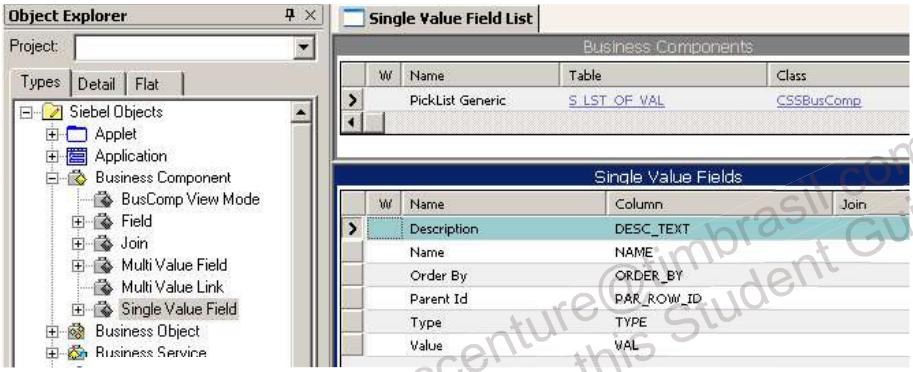
Picklist Terms

- Siebel picklists:
  - Are associated with a field in the *originating* business component
  - Draws values from a *pick* business component
    - Copies values from one or more fields in the pick BC into corresponding fields in the originating BC



PickList Generic Business Component

- Is the business component in the Siebel repository that references the S_LST_OF_VAL table
- Serves as the pick business component for Static picklists
  - Static picklists are based on PickList Generic



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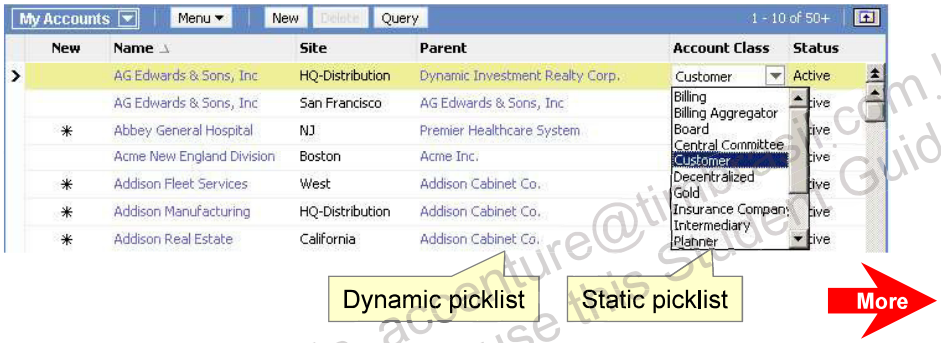
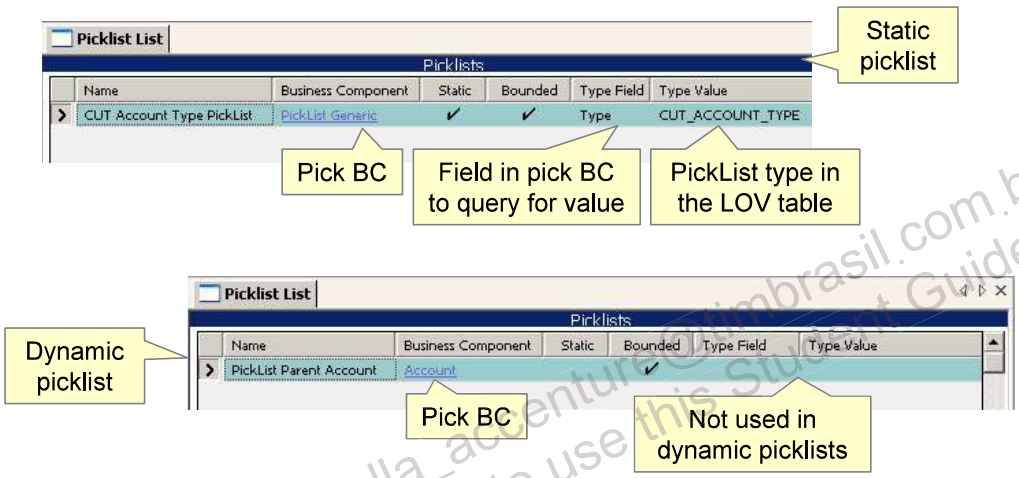
Object Definitions for PickLists

- Implementing picklists requires configuring several object definitions:
  - PickList
  - Single Value Field and SVF Pick Map
  - Pick Applet (required for dynamic picklists)
  - Control and List Column



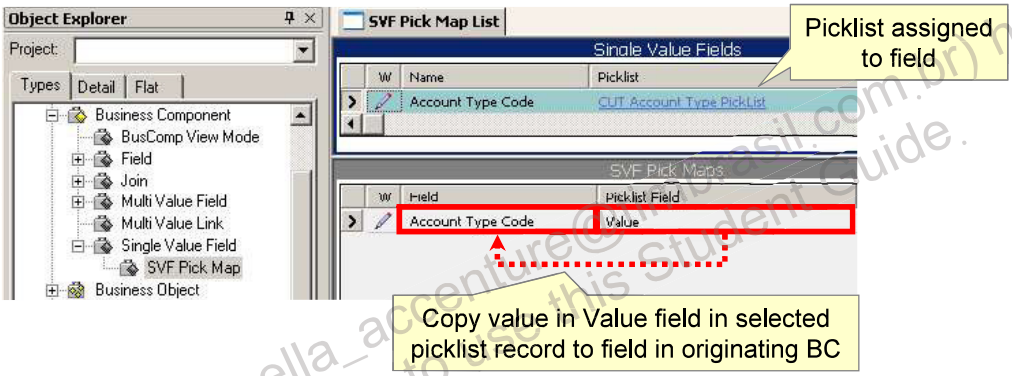
PickList Object Definition

- Defines a static or a dynamic picklist
  - Identifies the pick business component
  - Specifies if the picklist is bounded



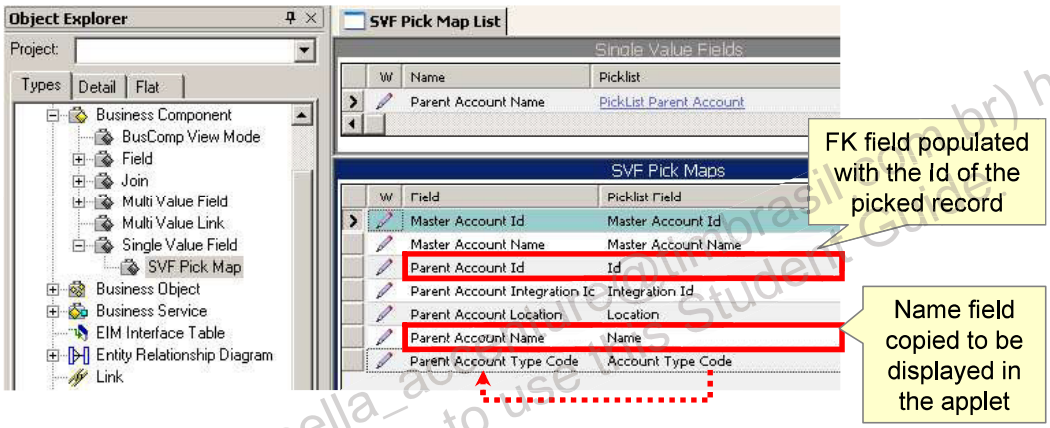
Single Value Field and SVF Pick Map

- Picklist property in Single Value Field specifies which picklist is associated with the field
  - Users see a picklist at run time on applets displaying this field
- SVF Pick Maps identify one or more fields to be copied from the pick BC to the originating BC



SVF Pick Maps

- Several fields from a picklist may be copied into the originating BC
  - For dynamic picklists, the following fields are typically copied
    - Foreign key field to identify the picked record
    - Additional fields to update fields displayed in the UI

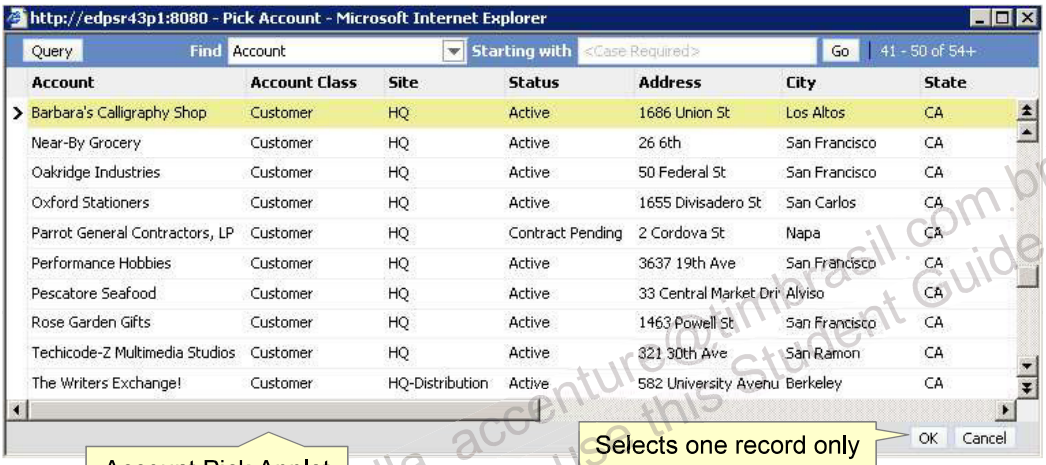


SVF Pick Maps

There are numerous dynamic picklists in the as-delivered repository which are unbounded. In these cases the SVF pick map typically copies the value from a field, other than the primary key field, in the pick business component to a field in the originating business component. There is no mechanism to update the value in the originating business component if the value changes in the pick business component. Since the picklist is unbounded users are not restricted by the choices in the picklist, and can enter another value if desired.

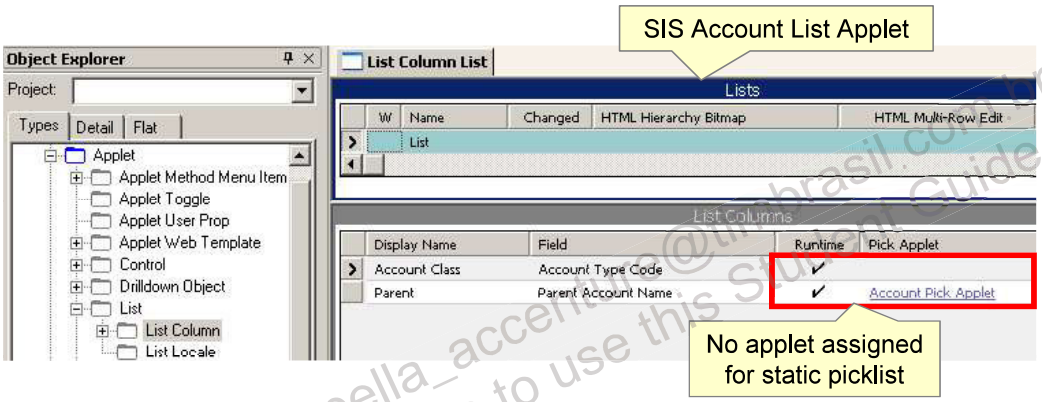
Pick Applet

- Is a floating applet used to display records for dynamic picklists
  - Typically displays multiple columns from the pick BC to assist users with selecting the desired record



Control and List Column

- Set Runtime to TRUE to enable the picklist in the applet
- For dynamic picklists, specify a Pick Applet property
  - Identifies the applet to display the pick business component
- For static picklists, leave the Pick Applet property blank
  - Drop-down list is generated at run time



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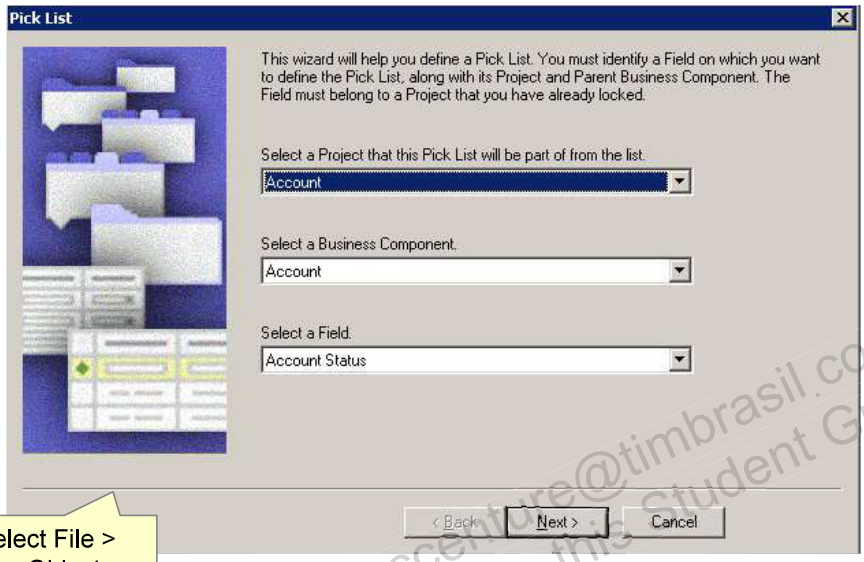
Control and List Column

When a control or a list column has its Runtime property set to TRUE, the application at run time is directed to display a supplementary icon for the field, based on the values of Pick Applet and MVG Applet. For instance if a pick applet is specified, a single select button is displayed. In addition if neither applet is specified, then the application examines the type of underlying field to determine if an icon for a calculator, calendar, or currency pop-up applet should be displayed.

Creating a Picklist

- Use the Pick List wizard to create a new picklist



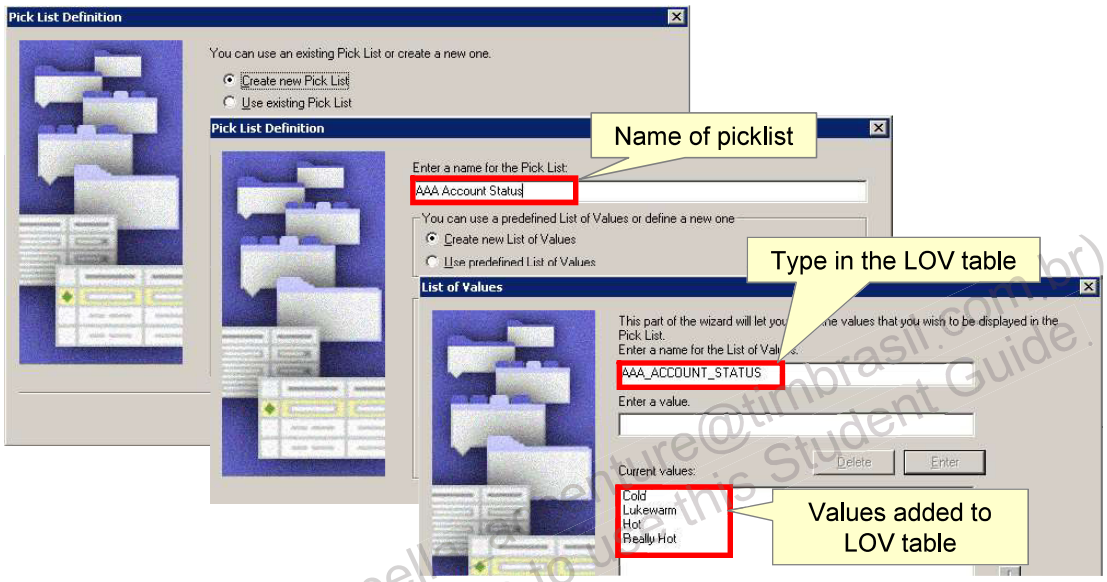
Select File > New Object > Pick List

Pick List Wizard Inputs for Static Picklists

- The project to contain the new picklist
- The originating business component and field to assign the picklist
- Type of picklist (static)

Defining the Static Picklist

- Wizard allows using either an existing picklist or creating a picklist based on a new set of list of values



Pick List Wizard

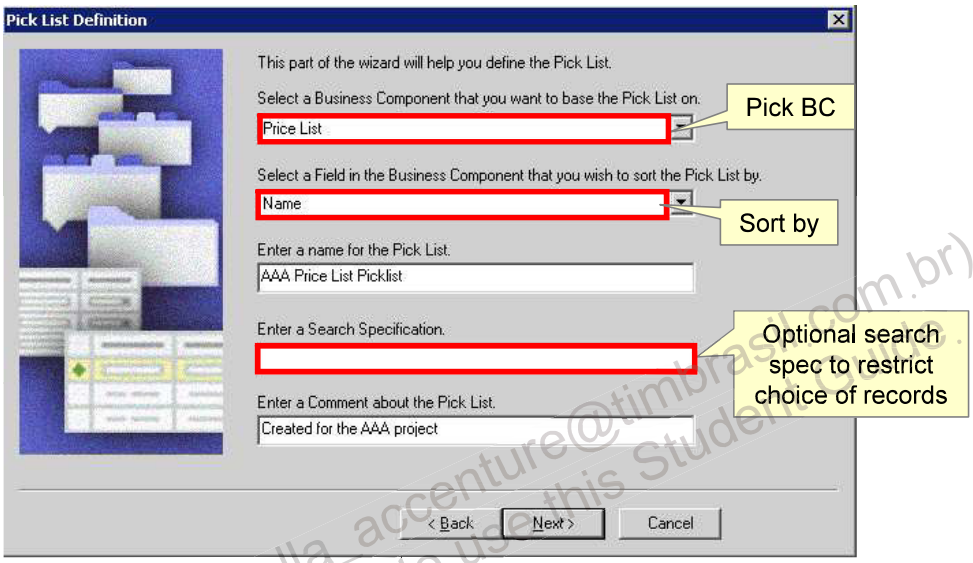
- Creates the following:
  - Values in the S_LST_OF_VAL table
  - A static PickList object definition that references the specified LOV values
  - A SVF Pick Map to copy the LOV value to the specified field in the originating BC
- Sets Runtime to TRUE in the controls or list columns to activate the picklist for users

Pick List Wizard Inputs for Dynamic Picklists

- Project to contain the new picklist
- The originating business component and field to assign the picklist
- Type of picklist (dynamic)

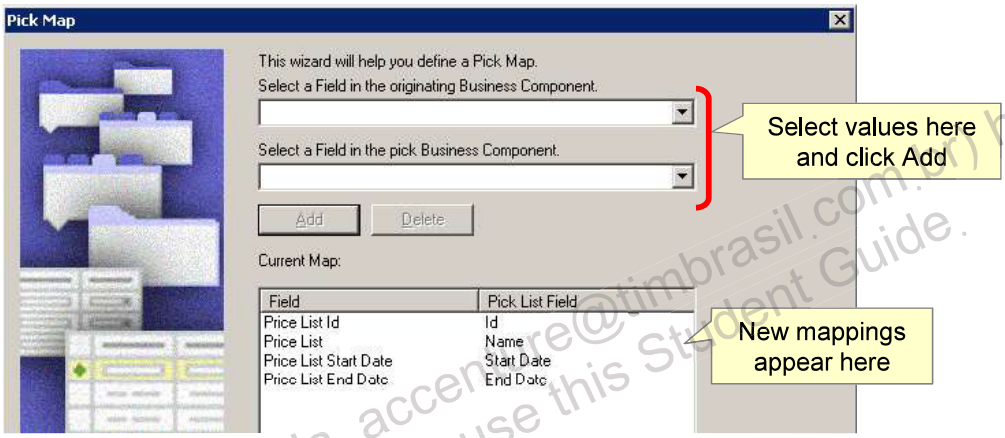
Defining the Dynamic Picklist

- Wizard allows either using an existing dynamic picklist or creating a new dynamic picklist



Defining the Pick Maps

- Specify the editing requirements
- Create one or more pick maps
  - Map the primary key in the pick BC to the FK in the originating BC

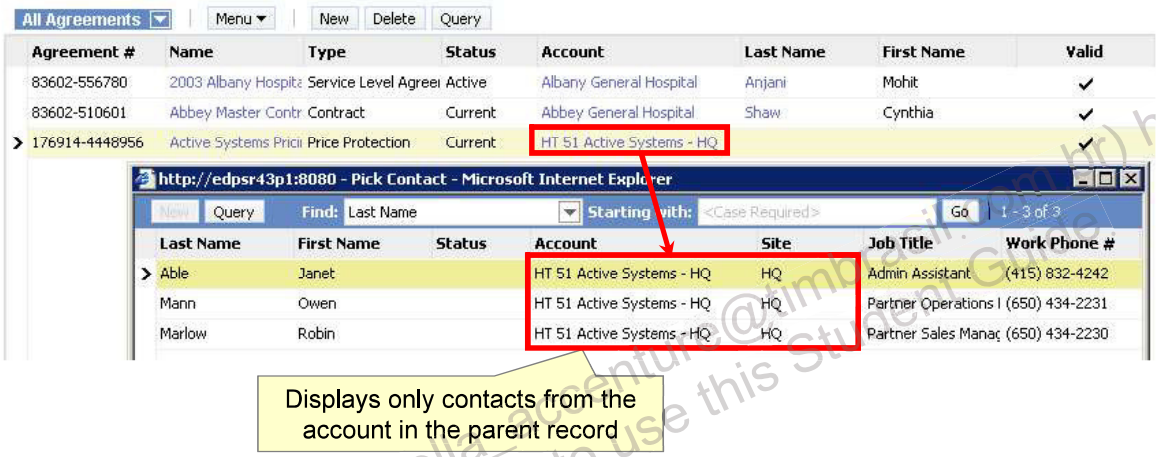


Pick List Wizard

- Creates the following:
  - Picklist object definition that references the pick BC
  - SVF Pick Maps for the BC field with the picklist
- Sets Runtime to TRUE in the controls or list columns to activate the picklist for users
- Invokes the Applet wizard to create a pick applet if required

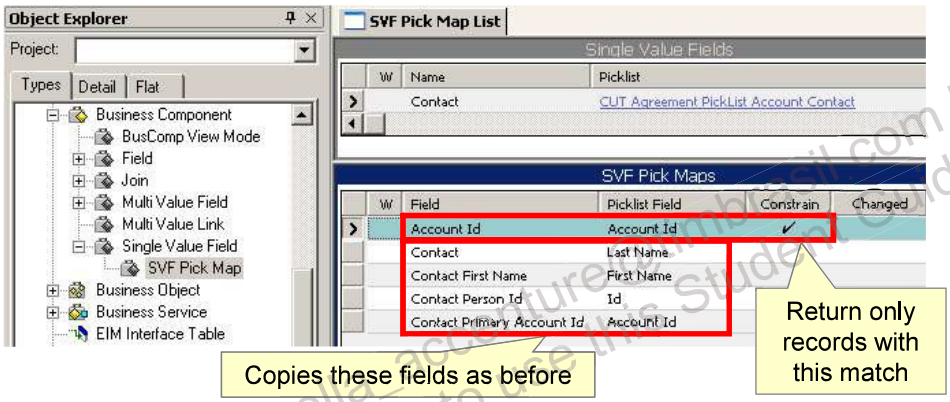
Constrained Picklist

- Filters values dynamically to display only those records with one or more fields that match corresponding fields in the originating BC record



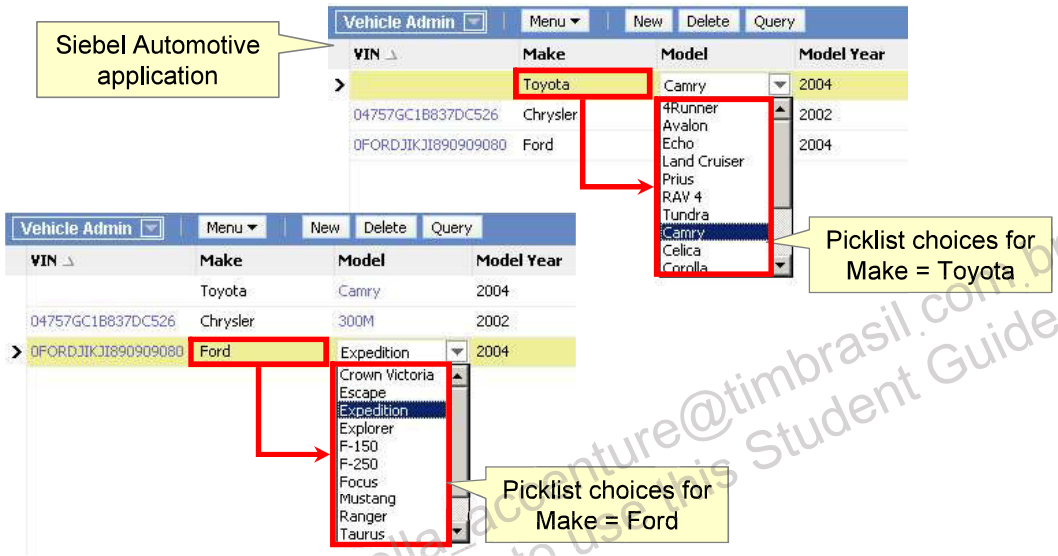
Constraining a Picklist

- Create the regular pick maps
- Create a SVF Pick Map for each field that must match a field in the originating business component
  - Set the Constrain property to TRUE for the matching fields
    - Filters the pick BC records for matches



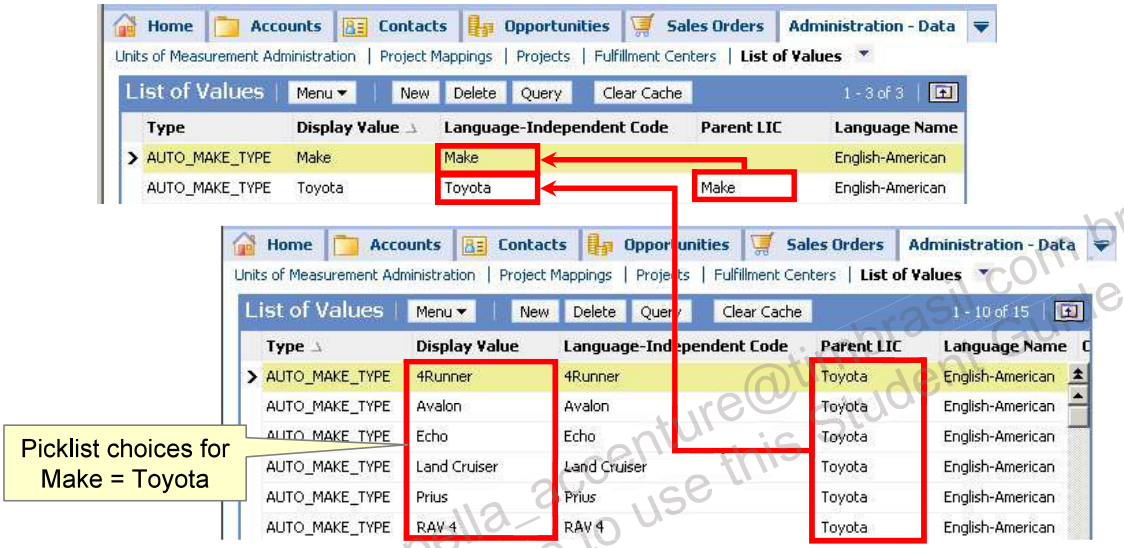
Hierarchical Picklists

- Displays values that are constrained by the value in another picklist



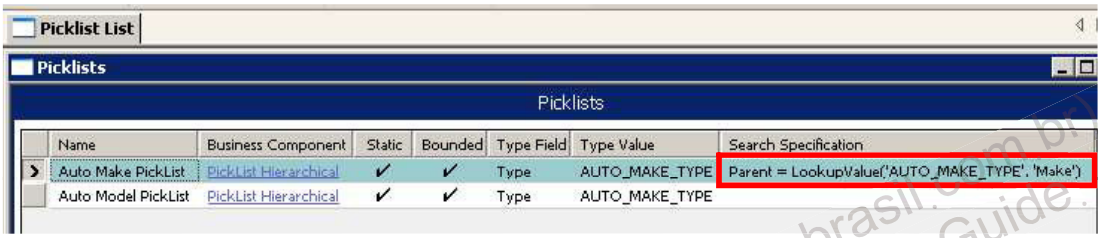
LOVs for Hierarchical Picklists

- List of values in the S_LST_OF_VAL table are organized hierarchically
  - All LOVs in hierarchy have the same type



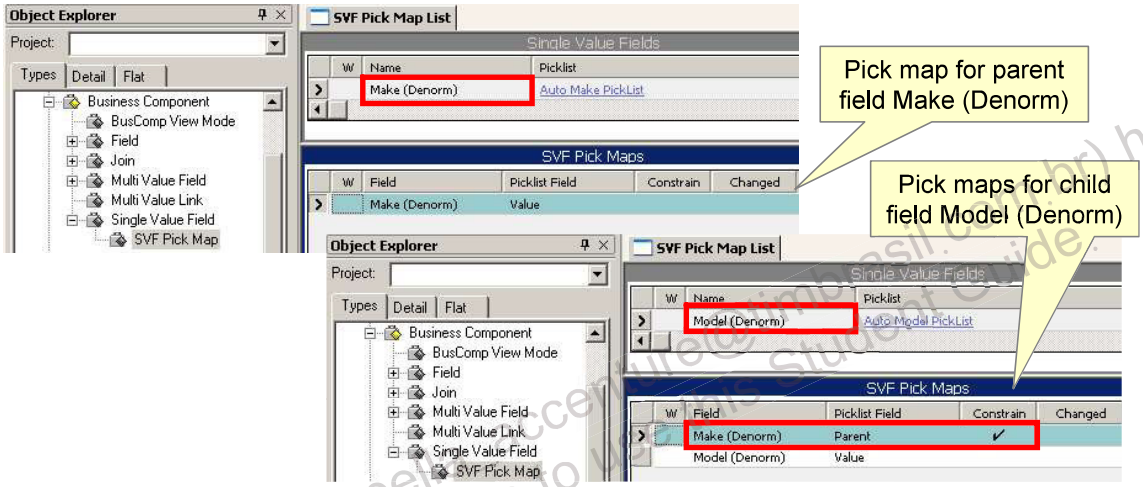
Configuring a Hierarchical Picklist

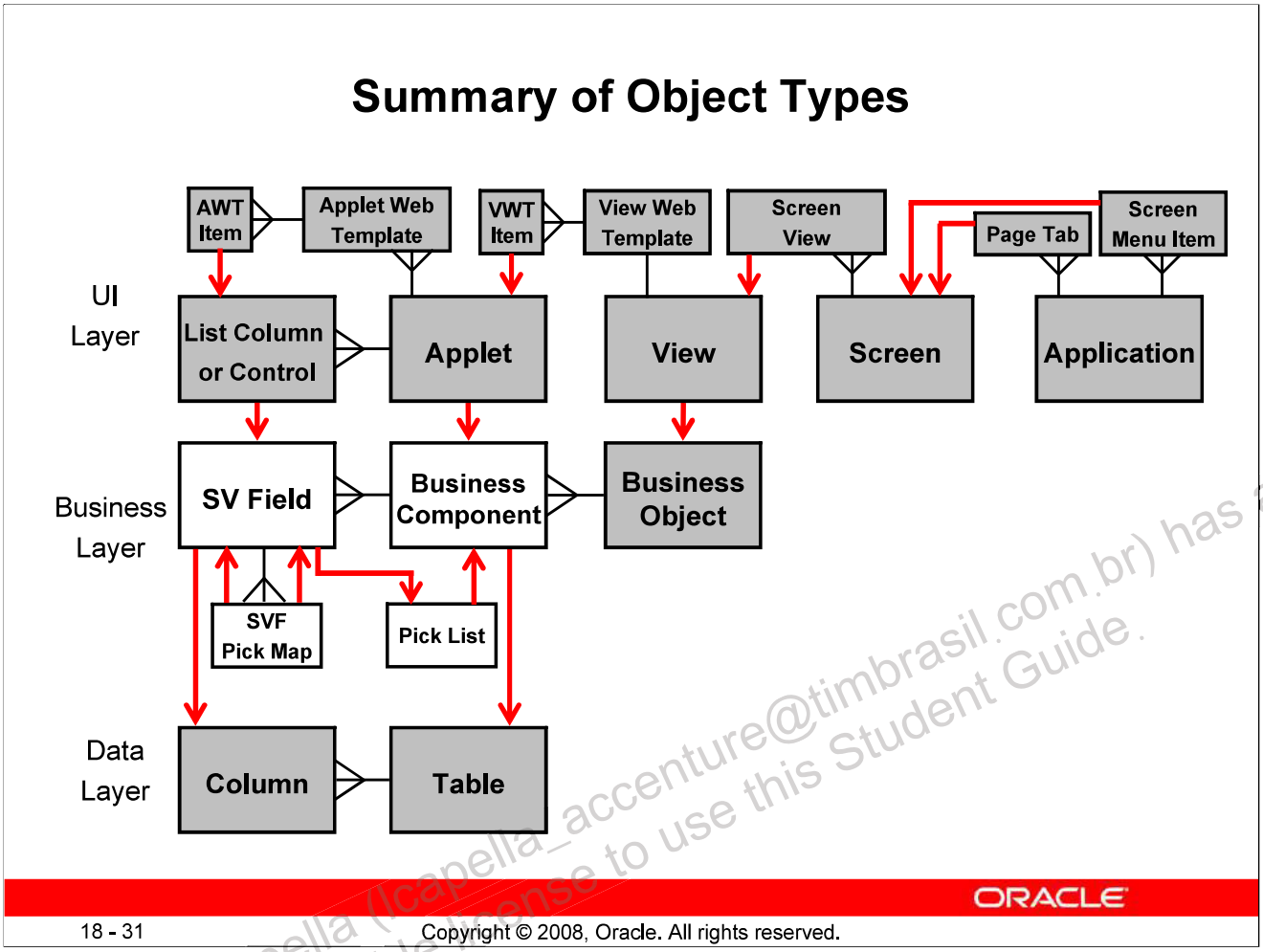
- Set the BC property to PickList Hierarchical
  - Provides functionality to manage hierarchical picklists
- Add a search specification to the Auto Make Picklist to retrieve only those LOVs with Parent = Make



Configuring the SVF Pick Maps

- For the parent field, create a pick map to copy the selected picklist value into the target field in the originating BC
- For the child field, add a constraint based on the value of the model selected





Summary of Object Types

For clarity the detailed object types for joins and links are not shown on this rendition. Also note that there are two references from SVF Pick Map to SVF Field. This indicates that a SVF Pick Map references a field in the pick business component and another field in the originating business component.

Lesson Highlights

- Static picklists:
  - Display values in a drop-down list
  - Contain static values, which are managed through List of Values administrative views
  - Store values in S_LST_OF_VAL table
- Dynamic picklists:
  - Display values in a pick applet
  - Contain dynamic data, which is typically the result of user transactions
  - Access data in pick business component using a foreign key
- Picklists are created using Siebel Tools' Pick List Wizard
- Picklists can be configured to display a constrained set of values that depend upon the value of another field

Practice 18 Overview: Configuring Picklists

This practice covers the following topics:

- Examining picklists
- Configuring a static picklist
- Configuring a dynamic picklist *(Optional)*