Quick Reference

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Table of content

1 Quick Reference

Review PowerDesigner's core features and the main features supported for each modeling domain.

2 Core Features Quick Reference

SAP® PowerDesigner® is a graphical enterprise modeling solution supporting standard methodologies and notations and providing automated code reverse engineering and generation through customizable templates. PowerDesigner provides powerful reporting capabilities, is highly extensible, and offers a scalable enterprise repository solution with strong security and versioning capabilities to aid multi-user development.
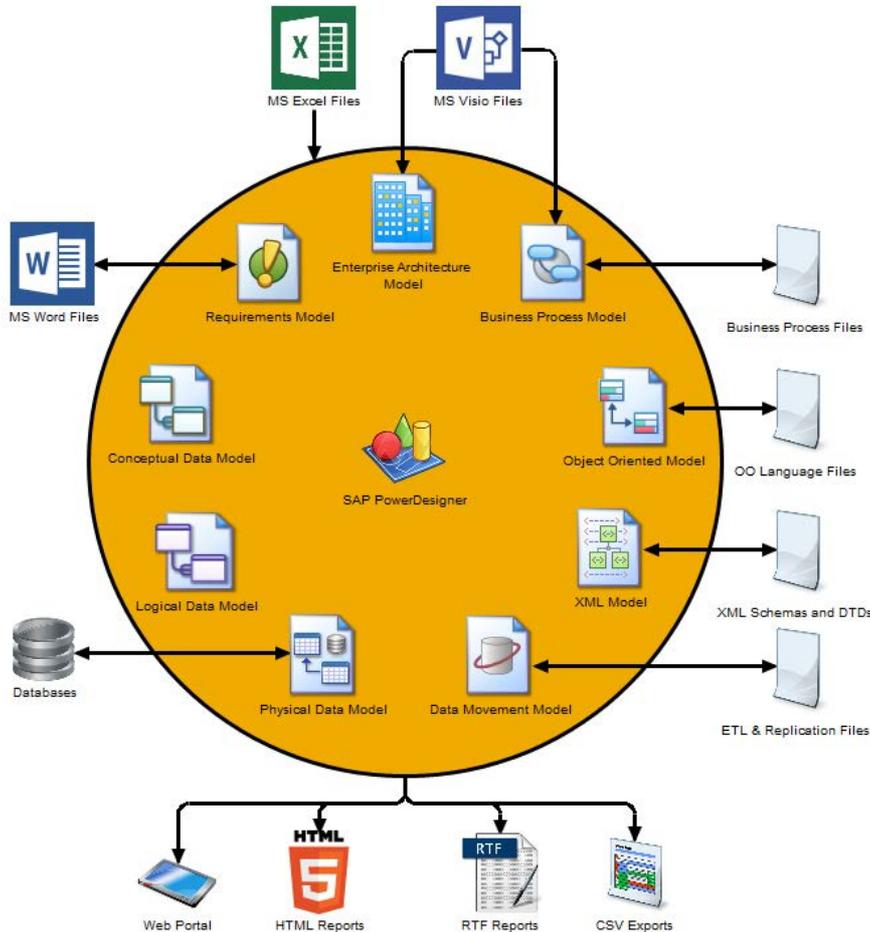
Creating Models and Projects

Models are the basic working unit in PowerDesigner, and contain one or more diagrams. Projects contain one or more models and can also include a framework diagram or matrix to guide how your project should be modeled:

- To create a new model, select ▶ File ❯ New Model ❚.
- To create a new model by importing an Excel, Word, ERwin, XMI, Rational Rose, or SIMUL8 file, select ▶ File ❯ Import ❯ <type> ❚.
- To create a new model by reverse-engineering a database, process or object language files, or an XML schema, select ▶ File ❯ Reverse Engineer ❯ <type> ❚.
- To create a new project, select ▶ File ❯ New Project ❚.

Setting Up Your Modeling Environment

- To connect to a repository, select ▶ Repository ❯ Connect ❚.
- To set model options including naming conventions for your objects, select ▶ Tools ❯ Model Options ❚.
- To control the look of and information displayed on your diagram symbols, select ▶ Tools ❯ Display Preferences ❚.
- To set general options for dialog boxes, editors, variables, etc, select ▶ Tools ❯ General Options ❚.
- To customize the commands in your menus and tools in your toolbars, select ▶ Tools ❯ Customize Menus and Tools ❚.

The PowerDesigner Interface

These core features are available in all or many models:

- To create an object in a diagram, select the appropriate tool in the Toolbox and then click in the diagram.
- To create an object in the Browser, right-click the model or a package and select ▶ New ❯ <Object Type> ❚.
- To open an object property sheet, double-click its Browser entry or diagram symbol.
- To add a diagram to your model, right-click the model node in the Browser and select ▶ New ❯ <Diagram Type> ❚.

- To find objects, select ▌ Edit ❯ Find Objects ▐ (or press Ctrl + F).
- To find the Browser entry for an object symbol, right-click the symbol and select Find in Browser .
- To find the diagram symbol for an object in the Browser, right-click the Browser item and select Find in Diagram .
- To check the validity of your model, select ▌ Tools ❯ Check Model ▐ (or press F4).
- To add a dependency matrix to your model, right-click the model node in the Browser and select ▌ New ❯ Dependency Matrix ▐.
- To create a report on your model, select ▌ Report ❯ Report Wizard ▐ (or press Ctrl + F12).
- To enable the use of the glossary in your model, select ▌ Tools ❯ Model Options ▐, choose the Naming Convention category, and select Use glossary for autocompletion and compliance checking .

Linking and Syncing

These features help you to create and review connections in and between your models:

- To create a connection from one object to any other object, open its property sheet and click the Traceability Links tab.
- To generate one model from another (where available), select ▌ Tools ❯ Generate <type> Model ▐.
- To generate objects from one model to another, select ▌ Tools ❯ Generate Objects ❯ Define New Object Generation ▐.
- To create a shortcut to an object in another model or package, right-click on the target object in the Browser (or its symbol in a diagram) and drag and drop it into the diagram where you want to create the shortcut (or onto a model or package in the Browser). Release the right mouse button, and select Create Shortcut(s) Here .
- To create a synchronized replica of an object in another model or package, right-click on the target object in the Browser (or its symbol in a diagram) and drag and drop it into the diagram where you want to create the replica (or onto a model or package in the Browser). Release the right mouse button, and select Replicate Here .
- To create or review mappings between two models (where available), select ▌ Tools ❯ Mapping Editor ▐
- To compare two models, select ▌ Tools ❯ Compare Models ▐ (or press Ctrl + F6).
- To merge two models, select ▌ Tools ❯ Merge Models ▐ (or press Ctrl + F6).
- To analyze the impact of a change to an object, select ▌ Tools ❯ Impact and Lineage Analysis ▐ (or press Ctrl + F11).

Documentation

For detailed documentation, see Core Features Guide .

In this section:

Manipulating Symbols
You can select symbols in a PowerDesigner diagram using standard gestures. You can edit properties of the selected symbol's object or it's sub-objects, and resize the symbol by clicking and dragging on its handles.

Manipulating Link Symbols
You can add and remove corners to and from link symbols, and change the objects that they connect.

2.1 Manipulating Symbols

You can select symbols in a PowerDesigner diagram using standard gestures. You can edit properties of the selected symbol's object or it's sub-objects, and resize the symbol by clicking and dragging on its handles.

Click on a symbol with the default Pointer tool to select it. To select:

- Additional symbols, press and hold Shift while clicking them.
- All symbols in an area, click and hold while dragging the pointer over the area.
- All symbols connected to a symbol, click the symbol and then select ▌ Edit ❯ Select Connected Symbols ▐
- All symbols in the diagram, press Ctrl + A, click the Grabber tool, or select ▌ Edit ❯ Select All ▐

In the following example, the `Customer` table is selected, and can be moved by dragging or resized by dragging on one of its handles:
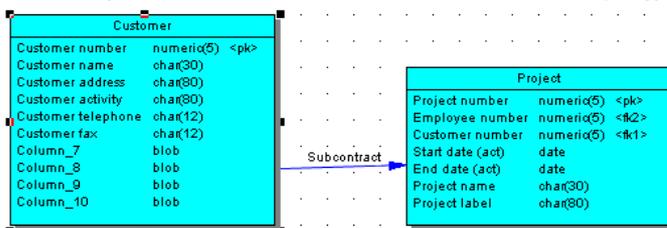
> ℹ **Note**
>
> To resize all the symbols in a diagram at once, click the Grabber tool and then drag one of the handles.

When a symbol is selected, clicking on one of its object properties lets you edit its value. Now, the table name is selected for editing:
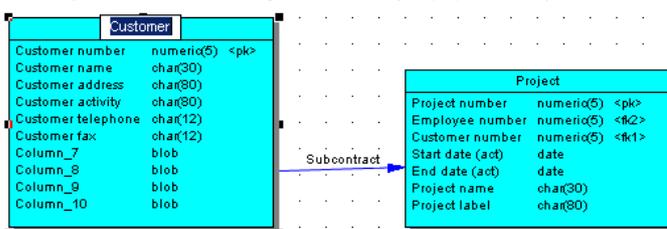
When an object property is selected for editing, you can navigate through its editable properties and on into its sub-object properties by pressing the Tab or Shift + Tab keys.

> **i** Note
>
> You can control the object and sub-object properties that appear on a symbol using display preferences (|► Tools ❯ Display Preferences ❮|).

When a symbol is selected, clicking on one of its sub-objects selects that sub-object. Now, the `Customer activity` column sub-object is selected:
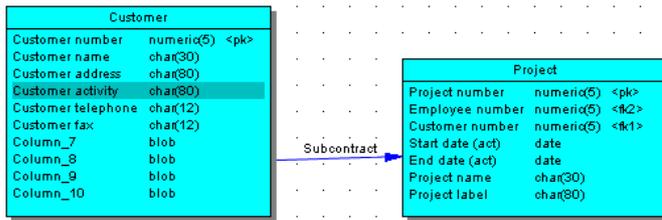
You can navigate up and down in the list of sub-objects by pressing the Up Arrow or Down Arrow keys. When a sub-object is selected, clicking on one of its properties lets you edit its value. Now the `Customer activity` column name is selected for editing:
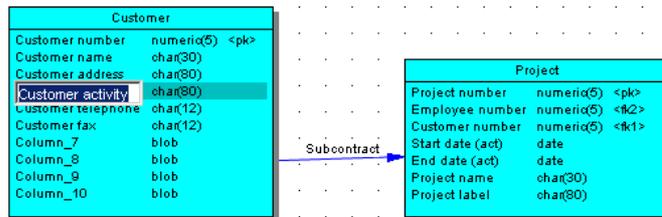
To create a new sub-object at the end of the list, press Ctrl + N . To insert a new sub-object above the selected sub-object, press Ctrl + I . To delete the selected sub-object, press Del. Right-clicking a sub-object opens a contextual menu offering useful commands.

When a sub-object property is selected for editing, you can navigate right and left along the line of its editable properties by pressing the Tab or Shift + Tab keys.

> **i** Note
>
> The following kinds of properties are not editable via object symbols:
> - Boolean properties, such as the Abstract property on OOM class symbols.
> - Custom indicators, such as those used to identify keys and indexes on PDM table symbols.
> - Certain calculated properties, such as Domain or Datatype on PDM table symbols.

2.2 Manipulating Link Symbols

You can add and remove corners to and from link symbols, and change the objects that they connect.

Procedure

1. Draw a link between two objects:

2. Press Ctrl and click a point on the line to create a handle where you want to insert a corner:

3. You can add a second handle, or as many as you need:

4. To create a corner, click and hold the handle and then drag it to where you want the corner to be:

5. You can drag the other handles too:

6. To remove a handle (and corner), press Ctrl and click on the handle to remove:

> **i Note**
> To move an extremity of a link symbol from one object to another, click to select the link, and then drag the end handle to the new object.

3 Glossary Quick Reference

The glossary model (GLM) helps you capture and organize the terminology to be used for naming your model objects. An admini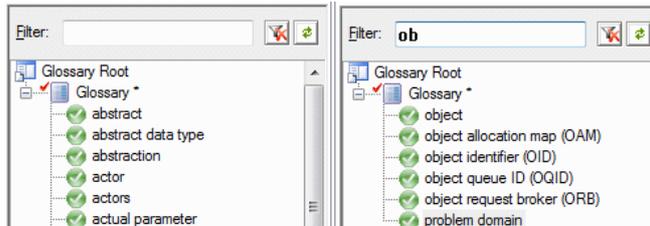strator deploys the glossary, and users enable it in their models to provide autocompletion for object names and model checks to ensure compliance. The glossary appears in the Browser Glossary tab and updates are pushed to users each time they connect to the repository, or on demand. Only one glossary is permitted per repository.

Administering the Glossary

An administrator performs the initial deployment of the glossary to the repository by adding terms to it and checking it into the repository:

- To control access to the glossary, right-click the Glossary node, and select Permissions . By default, all users have **Read** permission on the glossary.
- To import terms from the names of objects from a PowerDesigner model open in your workspace, right-click the Glossary node, and select Import from Model .
- To import terms from an Excel or CSV file, right-click the Glossary node, and select Import from Excel File .
- To create a glossary terms list, right-click the Glossary node, and select ▶ New ▶ Glossary Terms List ▶.

Using the Glossary

- To consult the glossary, click the Browser Glossary tab.
- To enable the use of the glossary in your model, select ▶ Tools ▶ Model Options ▶, then click Naming Convention in the category list and select Use glossary for autocompletion and compliance checking .
- To check glossary compliance, select ▶ Tools ▶ Check Model ▶ and select the Name/Code contains terms not in glossary and Name/Code contains synonyms of glossary terms for the types of objects whose names you want to verify.

Documentation

For detailed documentation, see Core Features Guide > Modeling with PowerDesigner > The Browser > The Glossary .

4 Requirements Model Quick Reference

A requirements model (RQM) helps you analyze any kind of written requirements and link them with users and groups who will implement them and with design objects in other models. You can use an RQM to represent any structured document (e.g. functional specification, test plan, business goals, etc.) and import and export hierarchies of requirements as MS Word documents.
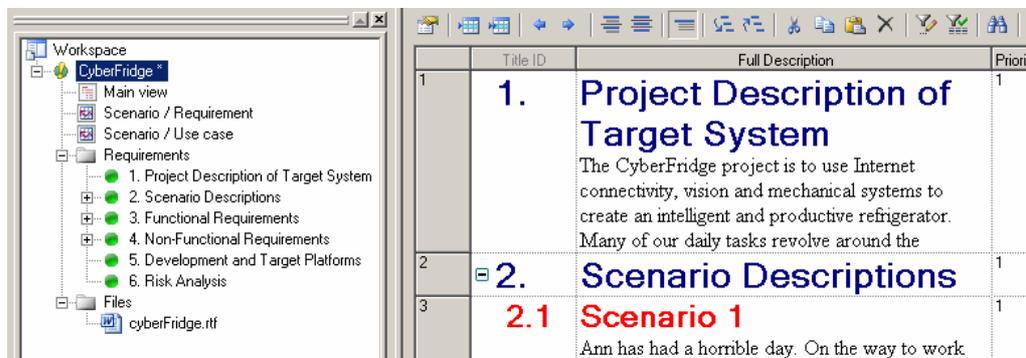
Creating an RQM

- To create a new RQM - Select ▶ File ▶ New Model ▶, and choose Requirements Model .
- To create a new RQM by importing a Word document - Select ▶ File ▶ Import ▶ Word Document ▶.

The following types of views are available:

- A requirements document view displays a list of written requirements in a hierarchic grid. Multiple views can be created with different filters to display

various subsets of requirements.
- A `traceability matrix view` displays the links between requirements and objects from other types of models, external files or other requirements.
- A `user allocation matrix view` displays the links between requirements and the users and groups who will fulfill them.

Linking Requirements with Design Objects and External Files

You can link requirements to objects from other types of models, external files, and other requirements on the `Requirement Traceability Links` tab of the requirement property sheet.

Documentation

For detailed documentation, see Requirements Modeling .

5 Enterprise Architecture Model Quick Reference

An `enterprise architecture model (EAM)` helps you analyze and document your organization, its functions and processes, the applications and systems that support them, and the physical architecture on which they are implemented.

Creating an EAM

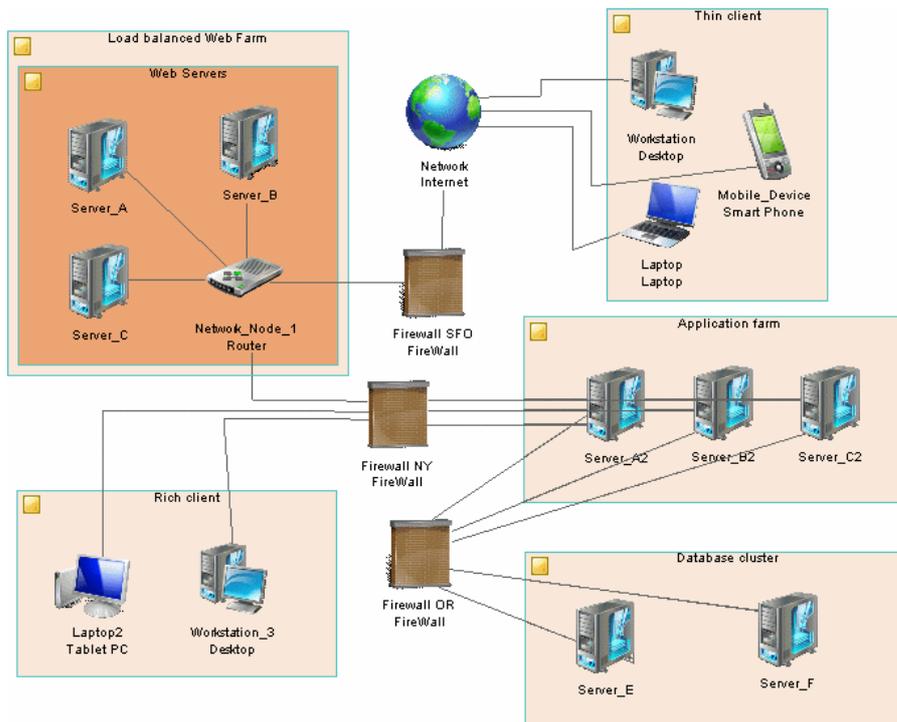- To create a new EAM - Select ▶ `File` ▶ `New Model` ◣, and choose `Enterprise Architecture Model` .
- To create a new EAM by importing an Excel file - Select ▶ `File` ▶ `Import` ▶ `Excel File` ◣.
- To create a new EAM by importing a Visio diagram - Open your diagram in Visio and select ▶ `PowerDesigner` ▶ `Export to PowerDesigner Model` ◣.

The following types of diagrams are available:
- A `process map` provides a graphical view of your business architecture, and helps you identify your business functions and high-level processes, independent of the people and business units who fulfill them.
- An `organization chart` provides a graphical view of your organization as a tree structure, and helps you analyze and display the relationships between organization units (divisions, groups, teams, etc), individuals, and roles.
- A `business communication diagram` provides a graphical view of your organization, and helps you analyze, the relationships, flows, and other connections between business functions, organization units, roles, and sites.
- A `city planning diagram` provides a graphical view of the big picture of your enterprise architecture, using the metaphor of planning the infrastructure of a city to represent the organization of functions, systems, applications, etc into architectural areas.
- A `service-oriented diagram` provides a graphical view of your business and application services and the relationships between them, and helps you associate applications and other application layer objects with business services and processes to assist with SOA design.
- An `application architecture diagram` provides a high-level graphical view of the application architecture, and helps you identify applications, sub-applications, components, databases, services, etc, and their interactions.
- A `technology infrastructure diagram` provides a high-level graphical view of the physical architecture required to support the application architecture.
- A `timeline diagram` provides a calendar-style overview of your enterprise architecture programs and projects in relation to your goals, or to the assets that they impact or are in other ways related to.

Exporting and Importing Objects to and from Other Models

The EAM provides wizards to export EA objects to lower-level models and to import implementation objects to be represented in the EAM:
- To export EAM objects to another model - Select ▶ `Tools` ▶ `Export Objects Wizard` ◣

- To import objects from other models into an EAM - Select `Tools` `Import Objects Wizard`

Documentation

For detailed documentation, see Enterprise Architecture Modeling .

6   Business Process Model Quick Reference

A `business process model (BPM)` helps you identify, describe, and decompose business processes. You can analyze your system at various levels of detail, and focus alternatively on control flow (the sequence of execution) or data flow (the exchange of data). SAP® PowerDesigner® supports Analysis, SOA, DFD, SAP® Solution Manager, BPMN (including for SAP BPM), and BPEL process languages, and process simulation through SIMUL8.
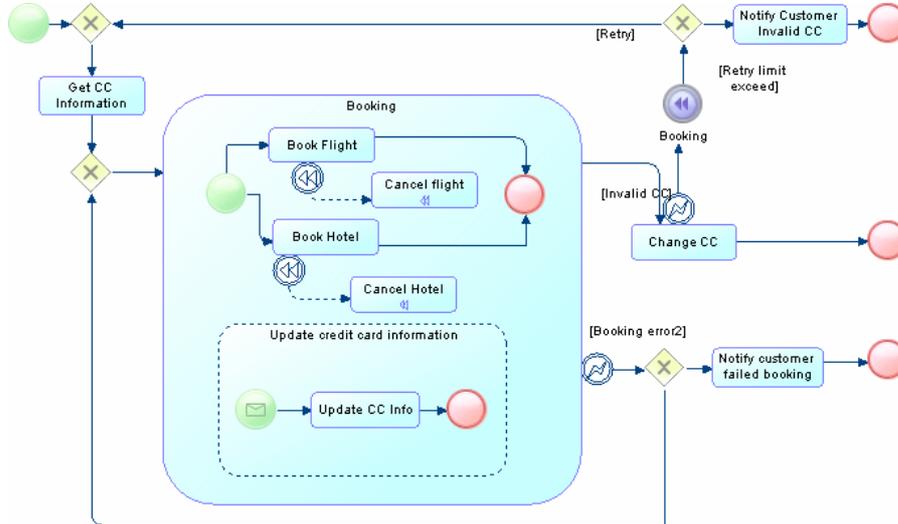
Creating a Business Process Model

- To create a new, empty BPM, select `File` `New Model`, and choose `Business Process Model`.
- To reverse engineer a new BPM from process language files, select `File` `Reverse Engineer` `Process Language`.

The following types of diagrams are available:

- A `business process diagram` (or process flow diagram) provides a graphical view of the control flow (the sequence of execution) or data flow (the exchange of data) between processes at any level in your system.
- A `process hierarchy diagram` (or functional decomposition diagram) provides a graphical view of the functions of a system and helps you decompose them into a tree of sub-processes.
- A `process service diagram` provides a graphical view of the services, operations, and interfaces available in your system.

Working with Data in a BPM

PowerDesigner provides various methods for linking data in your BPM to data items, entities, tables or classes in other PowerDesigner models:

- To link data in a BPM with other PowerDesigner objects, use the `Definition` field on the `General` tab of the data property sheet.
- To export data in a BPM to other PowerDesigner objects, select `Tools` `Data Export Wizard`.
- To import other PowerDesigner objects as data in a BPM, select `Tools` `Data Import Wizard`.

Working with Process Language Definitions

The process language definition file defines features specific to the language being modeled:

- To open the process language definition file in the Resource Editor, select `Language` `Edit Current Process Language`.
- To change the process language to model with, select `Language` `Change Current Process Language`.

Documentation

For detailed documentation, see Business Process Modeling .

7   Conceptual and Logical Data Model Quick Reference

A `conceptual data model (CDM)` helps you analyze the conceptual structure of an information system, to identify the principal entities to be represented, their attributes, and the relationships between them. A CDM is more abstract than a logical (LDM) or physical (PDM) data model.

A `logical data model (LDM)` helps you analyze the structure of an information system, independent of any specific physical database implementation. An LDM has migrated entity identifiers and is less abstract than a conceptual data model (CDM), but does not allow you to model views, indexes and other elements that are available in the more concrete physical data model (PDM).
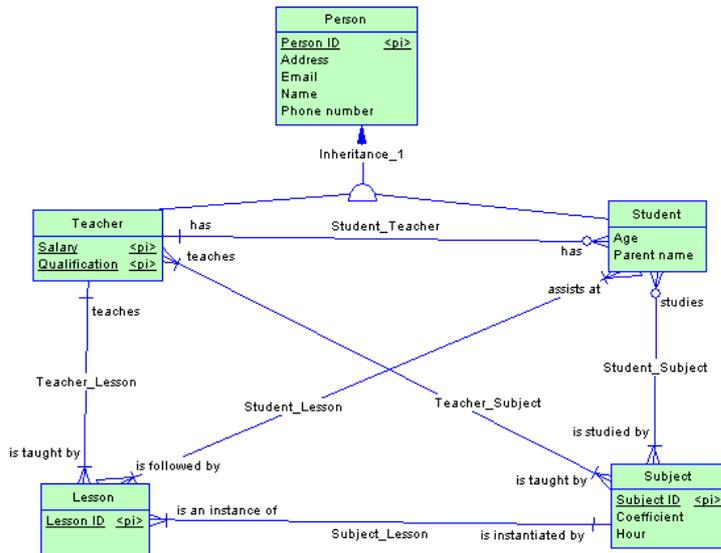
Creating a CDM or LDM

- To create a new CDM, select ▌ File ❯ New Model ▐, and choose Conceptual Data Model .
- To create a new LDM, select ▌ File ❯ New Model ▐, and choose Logical Data Model .
- To create a new CDM or LDM by importing one or more ERwin files, select ▌ File ❯ Import ❯ ERwin File ▐ or ▌ File ❯ Import ❯ Multiple ERwin Files ▐.

Specifying a Modeling Notation and Other Options

- To specify a modeling notation and set other model options, select ▌ Tools ❯ Model Options ▐.

Generating Other Models

You can generate other PowerDesigner models from a CDM or LDM by selecting Tools > :

- Generate Conceptual Data Model (or press Ctrl + Shift + C)
- Generate Logical Data Model (or press Ctrl + Shift + L)
- Generate Physical Data Model (or press Ctrl + Shift + P)
- [CDM only] Generate Object-Oriented Model (or press Ctrl + Shift + O)

Documentation

For detailed documentation, see Data Modeling .

8 Physical Data Model Quick Reference

A physical data model (PDM) helps you to analyze the tables, views, and other objects in a database, including multidimensional objects necessary for data warehousing. A PDM is more concrete than a conceptual (CDM) or logical (LDM) data model. You can model, reverse-engineer, and generate for all the most popular DBMSs.

Team

Team number	numeric(5)	<pk>
Speciality	char(80)	

Division

Division number	numeric(5)	<pk>
Division name	char(30)	
Division address	char(80)	

Member

Employee number	numeric(5)	<pk,fk2>
Team number	numeric(5)	<pk,fk1>

Customer

Customer number	numeric(5)	<pk>
Customer name	char(30)	
Customer address	char(80)	
Customer activity	char(80)	
Customer telephone	char(12)	
Customer fax	char(12)	

Employee

Employee number	numeric(5)	<pk>
Emp_Employee number	numeric(5)	<fk1>
Division number	numeric(5)	<fk2>
First name	char(30)	
Last name	char(30)	
Employee function	char(30)	
Employee salary	numeric(8,2)	

supervises

Is manager of

Used

Employee number	numeric(5)	<pk,fk2>
Material number	numeric(5)	<pk,fk1>

Project

Project number	numeric(5)	<pk>
Start date (act)	date	
End date (act)	date	
Customer number	numeric(5)	<fk1>
Employee number	numeric(5)	<fk2>
Project name	char(30)	
Project label	char(80)	

Subcontract

Material

Material number	numeric(5)	<pk>
Material name	char(30)	
Material type	char(30)	

Participate

Project number	numeric(5)	<pk,fk1>
Task name	char(30)	<pk,fk1>
Employee number	numeric(5)	<pk,fk2>
Start date (par)	date	
End date (par)	date	

Task

Project number	numeric(5)	<pk,fk>
Task name	char(30)	<pk>
Start date (act)	date	
End date (act)	date	
Task cost	numeric(8,2)	

Compose

Mat_Material number	numeric(5)	<pk,fk2>
Material number	numeric(5)	<pk,fk1>

Creating a Physical Data Model

- To create a new, empty PDM, select ▶ File ▶ New Model ◀, and choose Physical Data Model .
- To reverse engineer a new PDM from a live database connection, select ▶ File ▶ Reverse Engineer ▶ Database ◀.
- To create a new PDM by importing one or more ERwin files, select ▶ File ▶ Import ▶ ERwin File ◀ or ▶ File ▶ Import ▶ Multiple ERwin Files ◀.

The following types of diagrams are available:

- A physical data diagram provides a graphical view of your database structure, and helps you analyze its tables (including their columns, indexes, and triggers), views, and procedures, and the references between them.
- A multidimensional data diagram provides a graphical view of your datamart or data warehouse database, and helps you identify the facts and dimensions that will be used to build its cubes.

Specifying a Modeling Notation and Other Options

- To specify a modeling notation, column, reference, and ownership defaults and set other model options, select ▶ Tools ▶ Model Options ◀.

Interacting with Databases

- To connect to a database, select ▶ Database ▶ Connect ◀.
- To generate a database, select ▶ Database ▶ Generate Database ◀.
- To modify a database, select ▶ Database ▶ Apply Model Changes to Database ◀.
- To reverse engineer from a live database connection into an existing PDM, select ▶ Database ▶ Update Model from Database ◀.
- To generate test data to a database, select ▶ Database ▶ Generate Test Data ◀.
- To estimate the size of a database, select ▶ Database ▶ Estimate Database Size ◀.

Generating Other Models

You can generate other PowerDesigner models from a PDM by selecting Tools > :

- Generate Conceptual Data Model (or press Ctrl + Shift + C)
- Generate Logical Data Model (or press Ctrl + Shift + L)
- Generate Physical Data Model (or press Ctrl + Shift + P)
- Generate Object-Oriented Model (or press Ctrl + Shift + O)
- Generate XML Model (or press Ctrl + Shift + C)

Working with DBMS Definitions

The DBMS definition file defines features specific to the DBMS being modeled:

- To open the DBMS definition file in the Resource Editor, select ▶ Database ▶ Edit Current DBMS ◀.
- To change the DBMS to model with, select ▶ Database ▶ Change Current DBMS ◀.
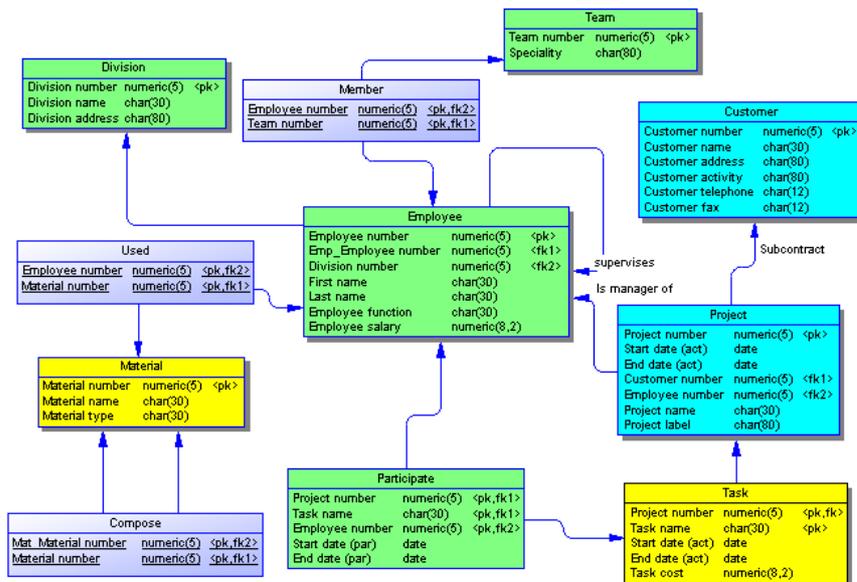- To set default DBMS-specific physical options, select ▶ Database ▶ Default Physical Options ◀.

Documentation

For detailed documentation, see Data Modeling .

9 Data Movement Model Quick Reference

A data movement model (DMM) provides a global view of the movement of information in your organization. You can analyze and document where your data originates, where it moves to, and how it is transformed on the way, including replications and ETL.
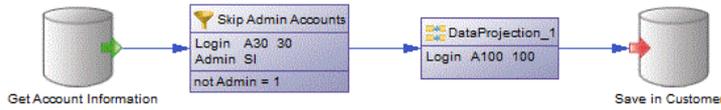
Creating a Data Movement Model

- To create a new, empty DMM - Select ▶ File ❯ New Model ◢, and choose Data Movement Model .
- To reverse engineer replication processes into a DMM from a consolidated database connection - Select ▶ Tools ❯ Reverse Engineering Replication Server ◢.
- To import an SAP Data Services XML file into a DMM - Select ▶ Tools ❯ SAP Data Services 4.2 ❯ Import SAP Data Services XML File ◢.

The following types of diagrams are available:

- A data movement diagram provides a high-level graphical view of the movement of your information, including data sources, replications, and ETL operations.
- A data transformation diagram provides a graphical view of the inputs, outputs, and steps involved in a data transformation task.
- A transformation control flow diagram provides a graphical view of the order in which a series of data transformation tasks is linked together in a control flow.

## Creating Replication and Transformation Environments

- To create an environment to replicate data from one or more databases to one or more databases, select ▶ Tools ❯ Replication Wizard ◢.
- To create a transformation process to transform data from databases, XML documents, business processes, and flat files, select ▶ Tools ❯ ETL Wizard ◢.
- To create a transformation process from existing PDM-to-PDM mappings, select ▶ Tools ❯ Convert Mappings to ETL Wizard ◢.

Documentation

For detailed documentation, see Data Movement Modeling .

10   Object-Oriented Model Quick Reference

An object-oriented model (OOM) helps you analyze an information system through use cases, structural and behavioral analyses, and in terms of deployment, using the Unified Modeling Language (UML). You can model, reverse-engineer, and generate for Java, .NET and other languages.
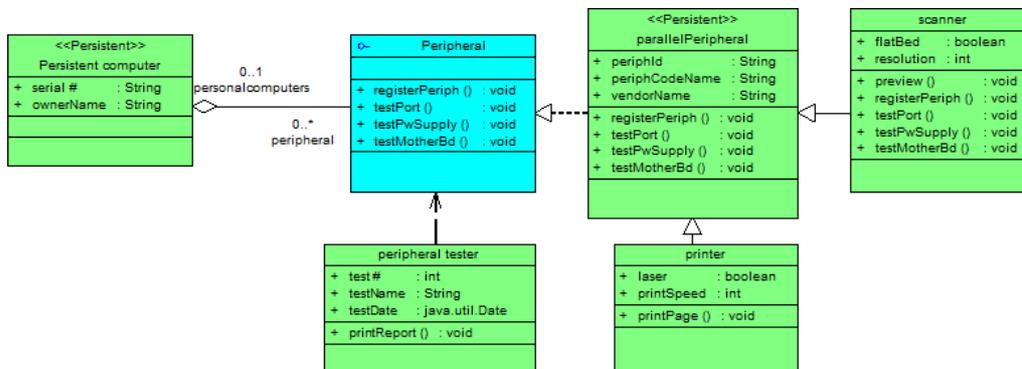
Creating an Object-Oriented Model

- To create a new, empty OOM - Select ▶ File ❯ New Model ◢, and choose Object Oriented Model .
- To reverse engineer a new OOM from a object language files - Select ▶ File ❯ Reverse Engineer ❯ Object Language ◢.
- To import a Rational Rose model into an OOM - Select ▶ File ❯ Import ❯ Rational Rose File ◢.
- To import an XMI file into an OOM - Select ▶ File ❯ Import ❯ XMI File ◢.

The following types of diagrams are available:

- A use case diagram is a UML diagram that provides a graphical view of the requirements of your system, and helps you identify how users interact with it.
- A class diagram is a UML diagram that provides a graphical view of the classes, interfaces, and packages that compose a system, and the relationships between them.
- An object diagram is a UML diagram that provides a graphical view of the structure of a system through concrete instances of classes (objects), associations (instance links), and dependencies.
- A composite structure diagram is a UML diagram that provides a graphical view of the classes, interfaces, and packages that compose a system, including the ports and parts that describe their internal structures.
- A package diagram is a UML diagram that provides a high-level graphical view of the organization of your application, and helps you identify generalization and dependency links between the packages.
- A sequence diagram is a UML diagram that provides a graphical view of the chronology of the exchange of messages between objects and actors for a use case, the execution of an operation, or an interaction between classes, with an emphasis on their chronology.
- A communication diagram is a UML diagram that provides a graphical view of the interactions between objects for a use case scenario, the execution of an operation, or an interaction between classes, with an emphasis on the system structure.
- An interaction diagram is a UML diagram that provides a high-level graphical view of the control flow of your system as it is decomposed into sequence

and other interaction diagrams.

- An activity diagram is a UML diagram that provides a graphical view of a system behavior, and helps you functionally decompose it in order to analyze how it will be implemented.
- A statechart diagram is a UML diagram that provides a graphical view of a State Machine, the public behavior of a classifier (component or class), in the form of the changes over time of the state of the classifier and of the events that permit the transition from one state to another.
- A component diagram is a UML diagram that provides a graphical view of the dependencies and generalizations among software components, including source code components, binary code components, and executable components.
- A deployment diagram is a UML diagram that provides a graphical view of the physical configuration of run-time elements of your system.

Generating Other Models

You can generate other PowerDesigner models from an OOM by selecting Tools > :

- Generate Conceptual Data Model (or press Ctrl + Shift + C)
- Generate Physical Data Model (or press Ctrl + Shift + P)
- Generate Object-Oriented Model (or press Ctrl + Shift + O>)
- Generate XML Model (or press Ctrl + Shift + M)

Working with Object Language Definitions

The object language definition file defines features specific to the language being modeled:
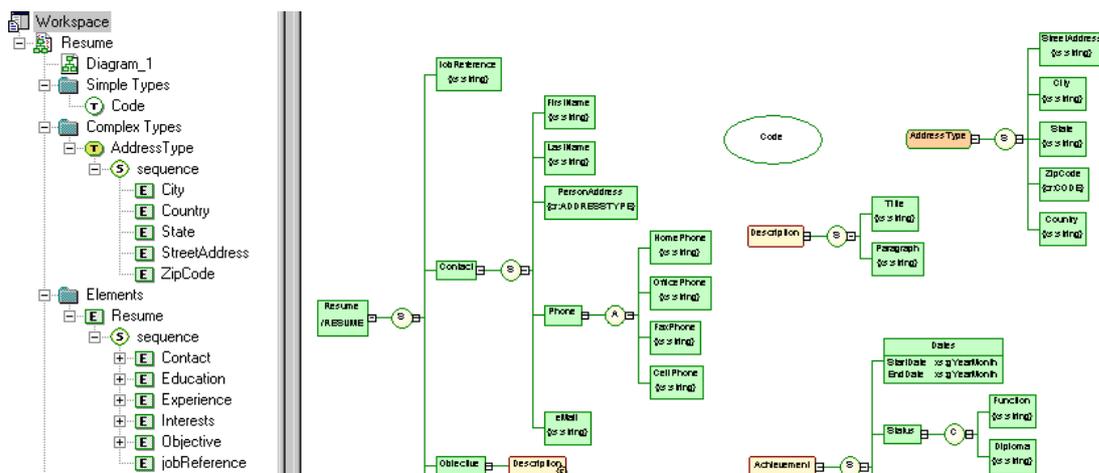
- To open the object language definition file in the Resource Editor, select ▐ Language ❯ Edit Current Object Language ◢.
- To change the process language to model with, select ▐ Language ❯ Change Current Object Language ◢.

Documentation

For detailed documentation, see Object-Oriented Modeling .

11   XML Model Quick Reference

An XML model (XSM) helps you analyze an XML Schema Definition (.XSD), Document Type Definition (.DTD) or XML-Data Reduced (.XDR) file. You can model, reverse-engineer, and generate each of these file formats.

Creating an XML Model

- To create a new, empty XSM - Select ▐ File ❯ New Model ◢, and choose XML Model .
- To reverse engineer a new XSM from an XML schema definition - Select ▐ File ❯ Reverse Engineer ❯ XML Definition ◢.

Generating Other Models

You can generate other PowerDesigner models from an XSM by selecting Tools > :

- Generate Physical Data Model (or press Ctrl + Shift + P)
- Generate XML Model (or press Ctrl + Shift + M)

Working with XML Language Definitions

The XML language definition file defines features specific to the language being modeled:

- To open the XML language definition file in the Resource Editor, select ▐ Language ❯ Edit Current Language ◢.
- To change the XML language to model with, select ▐ Language ❯ Change Current Language ◢.

Documentation

For detailed documentation, see XML Modeling .

12 Free Model Quick Reference

A free model (FEM) provides a context-free environment for modeling any kind of objects or systems. You can use it to sketch simple visualizations or create entirely new forms of model by defining your own concepts and graphical symbols through an extension file.
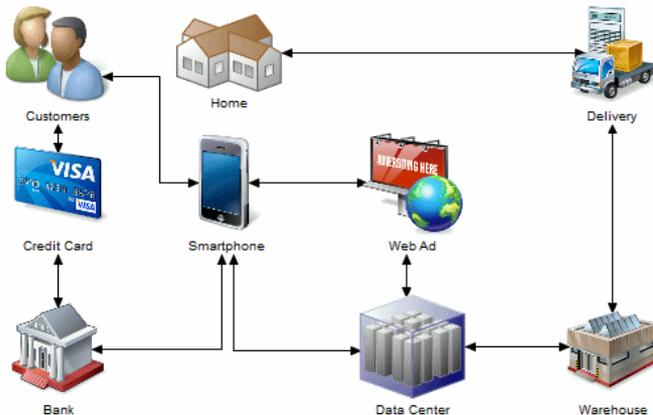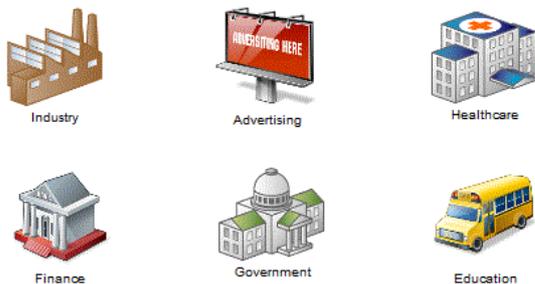

Creating a Free Model

- To create a new, empty FEM - Select ▌ File ▌ New Model ▌ , and choose Free Model .

Changing a Symbol Image

PowerDesigner provides a library of high-quality symbols to use in your models. To change the image associated with a symbol, right-click the symbol and select Change Image .

Documentation

See the Extensions Quick Reference. For detailed documentation, see Customizing and Extending PowerDesigner > Extension Files .

SAP Platform Support Quick Reference

PowerDesigner provides support for various components in the SAP platform.

SAP HANA

PowerDesigner supports round-trip reverse-engineering and generation of HANA tables and other catalog objects for SAP HANA® 1.0 and 2.0 databases. In addition, for SAP HANA® 1.0 environments, PowerDesigner supports initializing and reverse-engineering graphical calculation views (including the XML definition and projection list) for inclusion in impact analysis.

For detailed documentation, see Data Modeling > DBMS Definition Reference > SAP HANA.

SAP HANA Core Data Services (CDS)

PowerDesigner supports modeling and generation of CDS artifacts to SAP HANA® 1.0 Classic Repository and SAP HANA® 1.0 HDI environments.

For detailed documentation, see Data Modeling > DBMS Definition Reference > SAP HANA Core Data Services (CDS).

SAP Business Suite

An SAP Business Suite installation is built on a complex database structure, which comprises many thousand tables with often cryptic names, and may include large numbers of customizations. In certain environments, there may be multiple servers, each with different customizations. PowerDesigner allows you to browse the application component and package hierarchy and to import them and their supporting logical objects for analysis, comparison, and merging of data dictionaries, and can also help you prepare a HANA table structure to allow consolidated reporting on one or more SAP® Business Suite installations.

PowerDesigner supports importing any recent version of SAP® Business Suite.

For detailed documentation, see Data Modeling > DBMS Definition Reference > SAP Business Suite .

SAP BusinessObjects

PowerDesigner supports generation of a SAP® BusinessObjects™ universe from your PDM for editing in the BusinessObjects Universe Design or Information Design tools, or for direct consumption by the Web Intelligence rich client. Generating a universe from your PDM gives you access to table, view, and column names and comments and more reliable cardinality information than if you create a universe directly from your database.

To generate universes, you must have SAP® BusinessObjects™ SBOP BI Platform Clients 4.0 SP04 Patch 3 (v14.0.4.819) or higher installed on your workstation. On Windows Vista or Windows 7 machines, if PowerDesigner fails to recognize a valid BusinessObjects installation, it may be necessary separately to launch the Universe Design tool one time with administrator privileges to enable the BusinessObjects SDK.

For detailed documentation, see Data Modeling > Building Data Models > Generating and Reverse-Engineering Databases > Generating an SAP BusinessObjects Universe .

SAP Solution Manager

PowerDesigner supports round-trip importing and exporting of SAP® Solution Manager v7.1 SP07 to SP13 projects. You can import and modify existing business scenarios and processes; create new ones, and re-export your project to your Solution Manager server.

For detailed documentation, see Business Process Modeling > SAP Solution Manager

SAP NetWeaver

PowerDesigner supports round-trip importing and exporting of SAP BPM v7.3 and higher BPMN 2.0 files. PowerDesigner Web makes your process models available for browsing and importing directly into the SAP NetWeaver Developer Studio Process Composer v7.3 EHP1 SP15 or higher.

For detailed documentation, see Business Process Modeling > BPMN 2.0 Descriptive and Executable > Importing and Exporting BPMN2 Files .

SAP Data Services

PowerDesigner supports round-trip importing and exporting of SAP Data Services v4.2 and higher XML files.

For detailed documentation, see Data Movement Modeling > ETL Modeling > SAP Data Services .

SAP Information Steward

PowerDesigner can be used as a metadata integrator with SAP Information Steward v 4.2 SP01 and higher.

For detailed documentation, see the Information Steward documentation at http://help.sap.com/bois.

14   Extensions Quick Reference

Extensions files (`*.xem`) allow you to customize and extend the PowerDesigner metamodel to support your exact modeling needs. You can define additional properties for existing objects or specify entirely new types of objects, modify the PowerDesigner interface (reorganizing and adding property sheet tabs, Toolbox tools and menu items), and define additional generation targets and options.
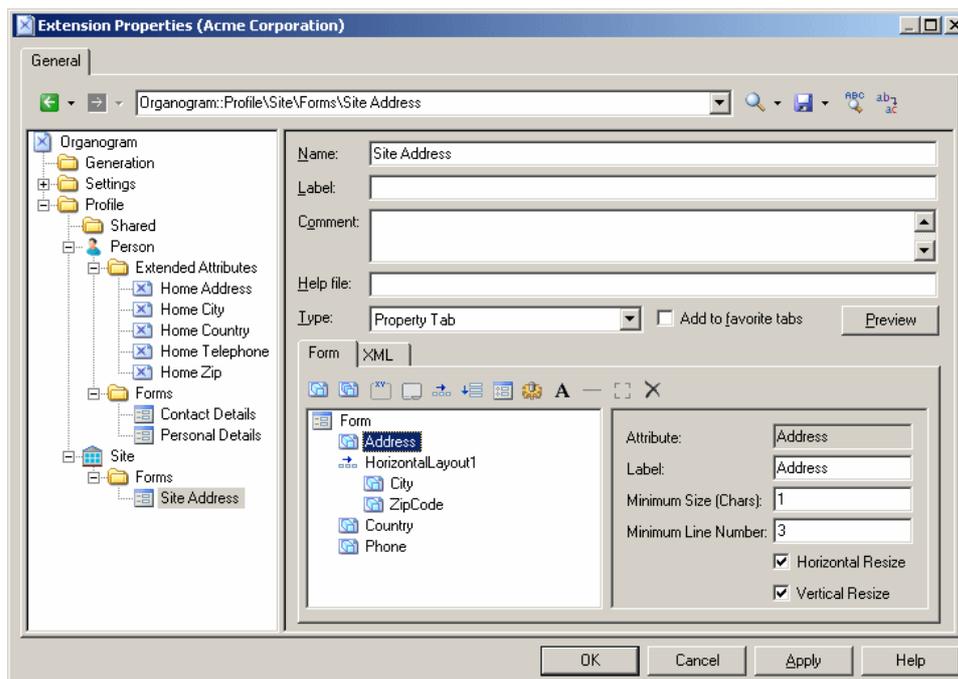
Creating Extensions from a Property Sheet

- To create an extended attribute directly from an object property sheet, click the menu button, and select `New Attribute` .
- To create a new collection directly from an object property sheet, click the menu button, and select `New List of Associated Objects` .

Working with Extension Files

- To attach an existing extension file to a model, select `Model` `Extensions` , and click the `Import` tool.
- To create a new extension file, select `Model` `Extensions` , click the `Add a Row` tool, enter a name for the file, and then click the `Properties` tool.

Types of Extension

You can extend the metamodel in the following ways:

- Create or sub-classify new kinds of objects:
  - Metaclasses – drawn from the metamodel as a basis for extension.
  - Stereotypes [for metaclasses and stereotypes only] – sub-classify metaclasses by stereotype.
  - Criteria – sub-classify metaclasses by evaluating conditions.
- Add new properties and collections to objects and display them:
  - Extended attributes – to add metadata.
  - Extended collections and compositions – to enable manual linking between objects.
  - Calculated collections – to automate linking between objects.
  - Dependency matrices – to show dependencies between two types of objects.
  - Forms – to modify property sheets and add custom dialogs.
  - Custom symbols – to change the appearance of objects in diagrams.
- Add constraints and validation rules to objects:
  - Custom checks – to test the validity of your models on demand
  - Event handlers – to perform validation or invoke methods automatically.
- Execute commands on objects:
  - Methods – VBScripts to be invoked by menus or form buttons.
  - Menus [for metaclasses and stereotypes only] – to add commands to PowerDesigner menus.
- Generate objects in new ways:
  - Templates – to extract text from object properties.
  - Generated Files - to assemble templates for preview and generation of files
  - Transformations – to automate changes to objects at generation or on demand.
- Map correspondences between different metamodels:
  - Object generations - to define mappings between different modules in the PowerDesigner metamodel for model-to-model generation.
  - XML imports - to define mappings between an XML schema and a PowerDesigner module to import XML files as models.

Documentation

For detailed documentation, see Customizing and Extending PowerDesigner > Extension Files .

15 Shortcut Keys

PowerDesigner provides many shortcut keys to accelerate your workflow.

Toolbox Shortcuts

Shortcut	Action
Ctrl + A (or double-click `Pointer` tool)	Select all symbols in diagram.
Double-click `Delete` tool	Delete selected symbols (with confirmation).
Double-click `Grabber` tool	Zoom to whole diagram.
Double-click any object tool	Select all symbols of this type.
Shift+Double-click any object tool	Retain current selection and add all symbols of this type.
Right-click	Release tool and select pointer.

Browser Shortcuts

Shortcut	Action
* (number pad)	Expand all nodes.
+ (number pad)	Expand subnodes.
- (number pad)	Collapse subnodes.
F2	Rename selected item.
Ctrl + Shift + F	Find selected item in Diagram.

Diagram Shortcuts

Shortcut	Action
Del	Delete object with confirmation dialog.
Shift + Del	Delete object directly, without confirmation.
Alt + Enter	Open object property sheet.
Ctrl + K	Paste as shortcut.
Ctrl + H	[on selected link] Force link to horizontal.
Ctrl + L	[on selected link] Force link to vertical.
Ctrl + Page Up	Bring symbol to front.
Ctrl + Page Down	Send symbol to back
Ctrl + Home	Align selection on vertical axis.
Ctrl + End	Align selection on horizontal axis.
Ctrl + T	Open Symbol Format dialog.
Ctrl + J	Auto-resize the symbol to display all the text it contains (up to the value specified for word wrapping in the diagram).
Ctrl while dragging a symbol handle	Resize object while keeping same center point.
Ctrl + Shift while dragging a symbol handle	Resize object while keeping same center point and proportions.
F2 (or Ctrl+Right-click on Name)	Rename object.
Ctrl Double-click (or Ctrl + + (plus sign)	[on package or other composite symbol] Open subdiagram.
Ctrl + U	Go to parent diagram.

Drag and Drop Shortcuts

Shortcut	Action
Shift+Drag and drop	Move object.
Ctrl+Drag and drop	Copy object.
Shift + Ctrl +Drag and drop	Create shortcut of object.
Alt+Drag and drop	Create replica of object.
Right-click+Drag and drop	Open menu to choose an action.

Window and General Shortcuts

Shortcut	Action
F4	Check model.
F5	Zoom to actual size.
F6	Zoom in.
F7	Zoom out.
F8	Zoom to whole diagram.
F9	Previous view.
F10	Display used pages.
Shift + F5	Redisplay.
Shift + F9	Next view.
Shift+Click item	Select consecutive items.
Alt + 0	Show/hide Browser.
Alt + 1	Show/hide Output view.
Alt + 2	Show/hide Result List view.
Alt + 3	Show/hide Welcome page.
Alt + F6	Cycle between active windows.
Ctrl + Tab	Cycle between property sheet tabs.
Ctrl + Page Up / Ctrl + Page Down	Cycle between property sheet tab subtabs.
Ctrl + F6 / Ctrl + Shift + F6	Cycle between property sheets.
Ctrl + B	Find selected object in Browser.
Ctrl + D	Select diagram.
Ctrl + E	Open list of reports.
Ctrl + F	Find objects.
Ctrl + F4	Close diagram.
Ctrl + Alt + F4	Close model.

Shift + F12	Open workspace.
Shift + F3	Save workspace.
Shift + F4	Close workspace.

List Shortcuts

Shortcut	Action
F2	Select text for edit.
F4	Select cell to add text.
Ctrl + Shift + Spacebar	Select line.
Ctrl + A	Select all.
Ctrl + Shift + A	Deselect all.
Ctrl + N	Add entry.
Ctrl + I	Insert entry.
Ctrl + D	Delete entry.

Code Preview Tab Shortcuts

Shortcut	Action
F2	Next bookmark.
F3	Find next.
Shift + F11	Menu.
Ctrl + F2	Insert/Remove bookmark.
Ctrl + I	Insert file.