

Sample 2

Portal Management System: Data Dictionary Words Specification

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Section Overview

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Purpose

The purpose of the Data Dictionary is to define Data Dictionary Words (DDWs) that are used in the Portal Management System.

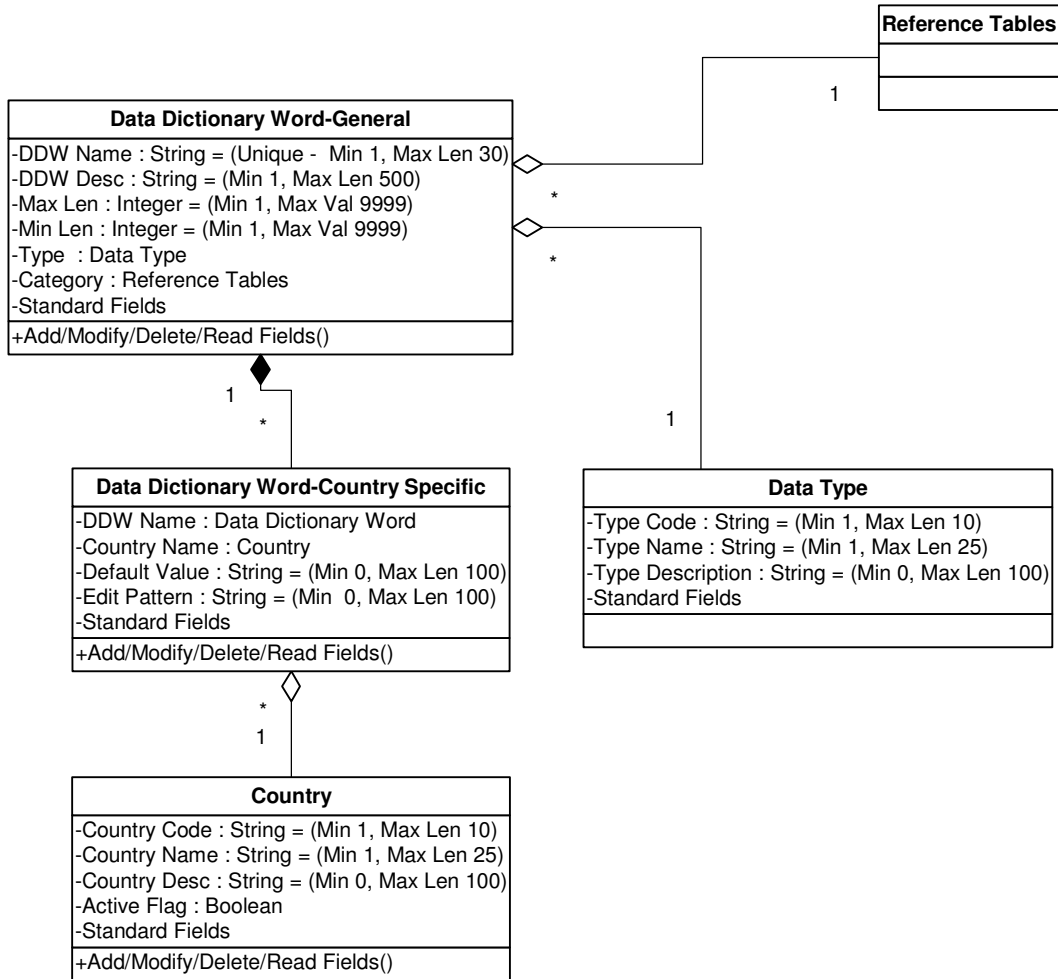
A DDW is a data element definition that is available throughout the Portal Management System. The definition includes attributes such as maximum and minimum length, type, edit pattern, etc. The definition can also include a default value.

A primary purpose of DDWs is to ensure consistency of data element definitions throughout the system. This reduces errors and speeds development time. Two examples of how DDWs help ensure consistency are noted below:

- DDWs are used to provide consistent data editing rules for data entry fields on some function pages. These fields reference DDW definitions to obtain rules for: DDW data type (numeric, alphanumeric, etc.), maximum length, edit patterns, etc. Typically, a unique DDW is not defined for each field; rather, the same generic DDW provides common editing rules for a number of fields. That way, a single DDW definition can control many fields.
- DDWs are used in the definitions of components or “objects” referenced in transaction-oriented functions. These objects include host and print formats, journals, total processes, etc. Using DDWs in these object definitions means that any of the functions or operations which refer to the object can readily determine the object’s definition. This ensures that functions and operations use objects in a consistent manner.

Another purpose of DDWs is to provide a means, through DDW default values, for storing settings, threshold values, field defaults and other information. Defining DDWs for this purpose will sometimes be easier than defining new settings.

Data Elements Rules and Relationships



The above diagram shows the “classes” that are used in the definition of DDWs and the data elements (fields) that are used in those classes.

Rules/Notes

1. The Country reference is included in DDWs because certain, attributes of DDWs might need to change based on the language or country where the Portal Management System is being used. Such attributes include Default Value and Edit Pattern.
2. The country-specific attributes are included in the Data Dictionary Word - Country Specific class to avoid having to duplicate the entire Data Dictionary for each country
3. Each DDW can have multiple sets of country-specific attributes. The default country is USA.
4. Functions/transactions call the Data Dictionary to get one or more attributes that have been defined for a DDW. Country-specific attributes are based on the country selected (either as an enterprise-wide or local setting).

Following is a more complete description of some of the fields in the DDW classes. Only those fields that need additional description are listed.

5. Data Dictionary Word – General

- 5.1. General Description of Class: This class describes general attributes that don't change from one application to another (e.g., that are the same for printing, host messages, editing data entered on a page, etc.). It is also used to store attributes, such as the DDW Name, that don't change from country to country.
- 5.2. DDW Name: This must be unique. This is the value that appears in drop downs when DDWs are being selected in maintenance functions.
- 5.3. Category: This is selected from values that have been defined in a standard reference table. It is used to organize DDWs into useful groups.
- 5.4. Type: This is a value, such as "Numeric", "Float", "Alphanumeric" etc. that is stored in Data Type reference table. Any Portal Management System function can use the Data Dictionary to get the data type for a given word. The data type could be used by the function to validate data entered in a field associated with a DDW.
- 5.5. Max Len: This specifies the maximum number of characters that can be entered for a given DDW. For example, the "ACCNT-17" DDW might have a maximum length of 17 characters. This entry does not affect the maximum default value which is 100 characters.

6. Data Dictionary Word – Country Specific

- 6.1. General Description of Class: This class is used to store country-specific values for each DDW. Functions would need to refer to the appropriate system settings to determine which country is in effect and then get the country-specific DDW attributes for that country.
- 6.2. Edit Pattern - The edit pattern is used by functions to format data entered in a field associated with a DDW. . 'R' in the edit pattern indicates that entry is required. '?' indicates that an entry is optional. Any other value (including a blank) becomes part of the edit pattern or mask.

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In another example, the edit pattern for the "SmallAmountReq" DDW might be ???,??R.RR. Entering 99999999 would result in a display of 999,999.99. Entering anything less than 3 characters would result in an error message. ('000' would be a valid entry in this case and would result in a display of 0.00.) The Max Len for this DDW should logically be 8. However if the Max Len were greater, for instance 12, then any additional characters would not have an edit mask applied. For example, if the entry were 123456789012, the display would be 1234567,890.12

The type of the entry is determined by the type of the DDW.

Typically, only display functions use a DDW's edit pattern. The edit pattern is typically stripped out before data is stored in a DDW. If no edit pattern is specified, the edit pattern is null and no edit pattern will be applied.

7. Data Type

- 7.1. General Description of Class: This class refers to is a reference table that is used to store data type definitions. Standard reference tables are not used so that users cannot change the data type definitions.

8. Country

- 8.1. General Description of Class: This table is used to store the names of countries (and by inferences, languages) which the Portal Management System supports. The default language is Maintained by the Portal Management System Server Settings page.

9. Reference Tables

9.1. General Description of Class: This is a standard Portal Management System reference table Maintained by the Maintain Table Elements function.

Maintain Data Dictionary Word Function

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Purpose

See the "Overview".

Description of Pages and Dialogs

Maintain Data Dictionary Words

First National Bank

Home Page
 Message System
 View Inbox
 Send a Message
 View Messages Sent
 Pending Ticklers

AMD Data Dictionary Words

Find Modify

Name

Description

Min Length

Max Length

Type

Category

Country Specific

Country	Default	Edit Pattern	Select
United States of		n,nnn,nnn,nnN.NN	<input type="button" value="edit"/>

Country

Default

Edit Pattern

Enter input text to test

Actions

[Apply/Clear](#) [Cancel](#) and return to home page.
[Submit](#) DDW. [Delete](#) DDW.
[Clear](#) editable fields.

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Maintain Data Dictionary Words

This page is used to Maintain Data Dictionary Words.

Find Data Dictionary Word

Name	Country	Type	Mask	Description
AMOUNT	United States of...	MonetaryCent	n,nnn,nnn,nnN.NN	12

Find Data Dictionary Word

This page appears as a result of the Find action on the Maintain Data Dictionary Word page.

Field/Control Definition

Maintain Data Dictionary Words

Field/Control Name	Min	Max	Type	Description
New/Modify /Copy	N/A	N/A	Dropdown	In conjunction with the Name field, follows the standard rules for New/Modify/Copy Dropdowns described in Section 5, "Common Business Rules".
Name	1	30	Alphanumeric	The unique name by which the DDW is stored and referenced.
Description	1	500	Alphanumeric	A description of the DDW. Can be the basis for field-level help.
Min Length	1	9999	Numeric	See "Specific Rules/Interrelationships for Max Len, Min Len, Data Type and Edit Pattern."
Max Length	1	9999	Numeric	See "Specific Rules/Interrelationships for Max Len, Min Len, Data Type and Edit Pattern."
Type	N/A	N/A	Dropdown	The default value is "Alphanumeric". The Type cannot be changed if the DDW definition has already been saved to the database. If the DDW has not been saved and the Type is changed, any Edit Pattern that has been specified will be cleared. The user will be warned before this happens and asked if he/she wishes to proceed. See "Specific Rules/Interrelationships for Max Len, Min Len, Data Type and Edit Pattern."
Category	N/A	N/A	Dropdown	This is a dropdown of values established in a new reference table. The default value is blank.
Country-Specific Section	N/A	N/A	List and fields	<u>(restricted)</u>
Country	N/A	N/A	Dropdown	All the countries that have been defined appear in this drop down. This value defaults to USA. When a new country is selected, a new row appears in the Country-Specific table.
Default	0	100	Alphanumeric	This is an editable field that contains the default DDW value for the selected country. If no country-specific Default value has been defined for the selected DDW, this field will be blank. When this field loses focus, the corresponding entry in the Country-Specific Table is updated.
Edit Pattern	0	100	Alphanumeric	This is an editable field that displays the edit pattern for the selected country. If no country-specific edit pattern value has been defined for the selected DDW, this field will be blank. When this field loses focus, the corresponding entry in the Country-Specific Table is updated. See "Specific Rules/Interrelationships for Max Len, Min Len, Data Type and Edit Pattern."
Enter input text to test	0	500	Alphanumeric	This field is used to test the validation rules (Data Type, Edit Pattern, Max Len and Min Len) that have been defined for this DDW

Find Data Dictionary Word

Field/Control Name	Min	Max	Type	Description
Name	1	30	Alphanumeric	Enter an asterisk, the full name, or a partial name and an asterisk.
Type	N/A	N/A	Dropdown	Defaults to blank. If this value is not to be included in the search, select blank.
Category	N/A	N/A	Dropdown	Defaults to blank. If this value is not to be included in the search, select blank.
Country	N/A	N/A	Dropdown	Defaults to USA. If this value is not to be included in the search, select blank.

Actions

Maintain Data Dictionary Words

- **Find** – Launches the Find DDW Modal Dialog.
- **Country-Specific Select** - Hovering over this icon, or clicking or double-clicking on a row in the Country-Specific list will cause the contents of the row to be copied to the Default and Edit Pattern fields. The Country drop-down will display the country selected. The default country is USA.
- **Apply/Clear** – Saves the data on the page, clears the fields and sets focus on the Name field.
- **Submit DDW** - Saves the data on the page and returns to the Home Page.
- **Clear editable fields** - Clears the data entry fields and sets the focus on the Name field.
- **Cancel and return to home page** – Returns to the Home page.
- **Delete DDW** – Deletes the DDW – unless it is being used, in which case an error message indicating the type of usage will appear.

Find Data Dictionary Word

- **Find (executed by Enter)** – Locates one or more DDWs based on the filter information entered on the page.
- **Stop** – Stops the asynchronous search operation.
- **Clear** – Clears the contents of all fields.
- **Select** – Returns the selected DDW to the Maintain Data Dictionary Words page.
- **Cancel** - Returns to the MAINTAIN Data Dictionary Words page without selecting a DDW.

Business Rules

1. The Submit and Delete actions are initially disabled. They become enabled when a Workstation Configuration Name is entered or selected.

Specific Rules/Interrelationships for Max Len, Min Len, Data Type and Edit Pattern

This part provides more detailed rules and examples for Max Len, Min Len, Data Type and Edit Pattern (Mask) and the interrelationship between these elements. **These rules apply not only to the Maintain Data Dictionary Words page, but to pages in which DDWs are used.**

1. Max Len, Min Len, Data Type and Edit Pattern are used by function pages for applying editing rules to data entry fields. Other rules, such as maximum and minimum values for numeric fields, rounding requirements, etc, are specified on a page-by-page basis.

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2. Whether or not a DDW requires an entry on a page is controlled by the page which uses the DDW. Max Len and Min Len are only applied if a value is actually entered in field.
3. The Edit Pattern contains two types of characters, reserved characters and all other characters.
4. The reserved characters allowed in an Edit Pattern will be restricted by the Data Type specified for DDW. This rule will be enforced by the Maintain Data Dictionary Word page. All other characters (including blanks) comprise the Edit Pattern itself. The percent character, symbol, (as explained below) can be used to include reserved characters (including the percent symbol itself) in an Edit Pattern, if that is desired.
5. Pages which use the DDW shall apply the Edit Pattern as data is being typed in a field. In other words, dashes, slashes, commas, etc. will appear as the user types. The Edit Pattern is displayed in empty fields (before the user starts entering data). The reserved characters are displayed as blanks. Data entry begins with the Edit Pattern's first reserved character. The operator only types characters into the reserved locations; the fixed characters are skipped by the field formatting logic in our code.
6. In addition to the Edit Pattern, default values are also displayed in empty fields (by the page the which uses the DDW). If the field has an Edit Pattern, the default value is applied to the Edit Pattern as if it had been entered by a user. For example, a MonetaryCents, 'OverrideFee' field might have an Edit Pattern of nnn,nnN.NN and a default value 100. This field would initially appear as “ , 1.00”.
7. Pages which use the DDW shall remove all Edit Pattern characters before passing a DDW value to any other component. The exceptions to this rule are:
 - Dates passed to the database are reformatted to the '121' format. (Dates being passed directly to the host might (or might not) be formatted differently. If this becomes necessary, a special date data type with special rules could be provided.)
 - The decimal point for monetary data types is not stripped out.
8. We are not, at this time, attempting to define all Data Types. The Data Type list (and possibly the reserved character list) will probably grow.
9. Reserved characters can be used in Edit Patterns by including the percent (%) symbol. Any character to the right or left (depending on the data type), including the percent symbol itself would be included in the Edit Pattern – see the LoanAcctNum example. NOTE: For Data Types other than monetary, the % symbol would apply to any character to the right of the symbol. For monetary data types the symbol would apply to any character to the left of the percent symbol. This rule is enforced by the DDW Maintenance page.
10. Next are Data Types that have been defined at this time, noting the ...
 - **Data Type Name** - as noted above, this list can grow.
 - **Edit Pattern Reserved Characters.** (1) Characters in the Required Entry column indicate that a character of the specified type must be entered in this position. (2) Characters in the Optional Entry column indicate that a character of specified data type may optionally be entered in this position. The total of all the required characters in an Edit Pattern indicates the minimum value required in the field. The total of all the required and optional characters in an Edit Pattern indicates the maximum values that can be entered in the field. These rules are enforced by page where the DDW is being used.
 - **Data Type Rules** that are applied by the page where the DDW is being used. (in addition to the rules noted above) and the DDW Maintenance page.
 - **DDW Examples**

Data Type Name	Edit Pattern Reserved Characters		Rules and Examples
	Indicates Required Entry	Indicates Optional Entry	
Alpha	A	a	<p><u>Rules for Data Type</u> (enforced by the page in which DDW is used)...</p> <ul style="list-style-type: none"> Allow alphabetic only characters. <p><u>DDW Example:</u> SpecialAcct AAA-AAA-AAAA</p>
Alphanumeric	X	x	<p><u>Rules for Data Type</u> (enforced by the page in which DDW is used)...</p> <ul style="list-style-type: none"> Allow all characters. <p><u>DDW Example:</u> HTTP-WWW http://www.XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX</p>
Numeric	N	n	<p><u>Rules for Data Type</u> (enforced by the page in which DDW is used)...</p> <ul style="list-style-type: none"> Allow numeric only characters. <p><u>DDW Examples:</u> SSN NNN-NN-NNNN TeleNumWithReqArea (NNN) NNN-NNNN TeleNumWithOptArea (nnn) NNN-NNNN</p>
Date		MM, DD, YYYYY, YY	<p><u>Rules for Data Type</u> (enforced by DDW Maintenance Page)...</p> <ul style="list-style-type: none"> Date Data Type must have an Edit Pattern. The '121' date format requires that years, months and days be present. <p><u>Rules for Date Type</u> (enforced by the page in which DDW is used)...</p> <ul style="list-style-type: none"> If DD is in Edit Pattern, value in this position must be 1 – 31. If MM is in Edit Pattern, value in this position must be 1 – 12. If DD is used in conjunction with MM, then DD is checked for accuracy. In other words, we would not 09/31/2001 or 02/29/2001. Date values are always returned in '121' format. If conventions are not observed (if there is no mask or a partial mask) page only does what it is "told" – which might be nothing. <p><u>DDW Examples:</u> 4yearDate... MM-DD-YYYY (country specific – USA) DD/MM/YYYY (country specific – Spain)</p>
Password	AXN	axn	<p><u>Rules for Data Type</u> (enforced by DDW Maintenance Page)...</p> <ul style="list-style-type: none"> Only allow reserved characters to appear in edit pattern. Do

Data Type Name	Edit Pattern Reserved Characters		Rules and Examples
	Indicates Required Entry	Indicates Optional Entry	
			<p>not use any mask characters (such as dashes, colons, etc.).</p> <p><u>Rules for Data Type</u> (enforced by the page in which DDW is used)...</p> <ul style="list-style-type: none"> Hide entry with asterisks. The error message for an invalid entry in the password field is simply "Invalid data". If no Edit Pattern is specified, allow all characters. <p><u>DDW Example:</u> SpecialPassword ANNNNXXXXXXXXXXXXXX</p>
MonetaryDollar	N	n	<p><u>Rules for Data Type</u> (enforced by DDW Maintenance Page)...</p> <ul style="list-style-type: none"> This data type must have an Edit Pattern. A decimal separator Edit Pattern character must be in the third position from the right of the Edit Pattern. <p><u>Rules for Data Type</u> (enforced by the page in which DDW is used)...</p> <ul style="list-style-type: none"> Force data entry from right-to-left If user does not enter a decimal separator, force two decimal places as user leaves field, e.g., 999 would become 999.00. After decimal separator has been entered, only allow two more numbers to be entered. If a decimal separator and one number is entered, the second decimal place is added when the user leaves the field, e.g. .9 becomes .90. Apply the thousands separators as data is being entered so that 9999 as entered becomes 9,999 and after the user leaves the field becomes 9,999.00. Does not strip decimal when sending value to database. <p><u>DDW Example:</u> SmallMonetaryDollar nnn,nnN.NN (country specific – USA) NNN.NNN,NN (country specific – Tibet)</p>
MonetaryCents	N	n	<p><u>Rules for Data Type</u> (enforced by DDW Maintenance Page)...</p> <ul style="list-style-type: none"> This data type must have an Edit Pattern. A decimal separator Edit Pattern character must be in the third position from the right of the mask. <p><u>Rules for Data Type</u> (enforced by the page in which DDW is used)...</p> <ul style="list-style-type: none"> Force data entry from right-to-left Do not allow decimal separator to be entered by user, which means... 9 is formatted as .09 when user leaves field 99 is formatted as .99 when user leaves field 999 is formatted as 9.99 as user types

Data Type Name	Edit Pattern Reserved Characters		Rules and Examples
	Indicates Required Entry	Indicates Optional Entry	
			<p>99.9 would not be allowed</p> <ul style="list-style-type: none"> Does not strip decimal when sending value to database. <p><u>DDW Example:</u> SmallMonetaryCents nnn,nnN.NN (country specific – USA) NNN.NNN,NN (country specific – Tibet)</p>
Mixed	AXN	axn	<p><u>Rules for Data Type</u> (enforced by the page in which DDW is used)...</p> <ul style="list-style-type: none"> If a mask is specified, restrict entries to the types listed. If no mask is specified, allow all characters. <p><u>DDW Example:</u> LoanAcct AAA-NNN-NNNX (country specific – USA) AAA%%NNN%%NNNX (country specific – Senegal)</p>
Time		HHMMSS	<p><u>Rules for Data Type</u> (enforced by DDW Maintenance Page)...</p> <ul style="list-style-type: none"> Time Data Type must have an Edit Pattern. Edit Pattern must include at least HH. MM and SS are optional. The string '24' at beginning of Edit Pattern specifies that this DDW displays 24-hour time. This will be called "24 Hour Mode". If '24' is not in the Edit Pattern, it signifies "12 Hour Mode". The '24' string is not included in the edit pattern. <p><u>Rules for Data Type</u> (enforced by the page in which DDW is used)...</p> <ul style="list-style-type: none"> Time data entry fields, by convention shall have a companion AM-PM dropdown. Time displays will include AM or PM if 12-Hour Mode has been specified. If '24' is NOT in edit pattern, (e.g., signifying 12-Hour Mode) the AM-PM dropdown will be enabled. If the time is being retrieved, the dropdown value (AM or PM) will be based on the retrieved time. If time is being entered or updated, the value of the dropdown (AM or PM) will be returned with the time. <p><u>DDW Examples:</u> Time-HH24... 24HH (24-Hour Mode) Time-HH HH (12-Hour Mode) Time-HHMMSS HH:MM:SS (12-Hour Mode)</p>