

Replacing Prompt constant (F4) with a *clickable* icon

Prompting for possible values of fields (also known as *drilling down* on a user interface) is very common.

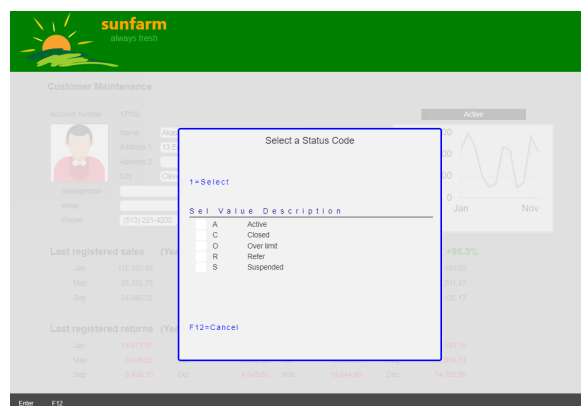
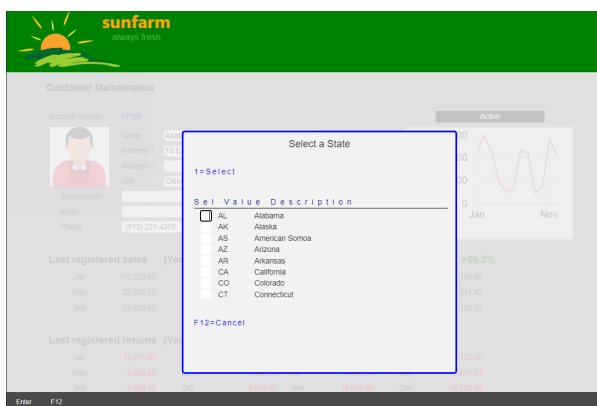
There are several ways to enhance a Page with this functionality, such as using drop-down lists. In this Guide we will assume we want to keep the Window record feature of the legacy DDS and pop-up records on the screen to present valid field values.

The legacy application used to present a constant label — to the right of the given field — with the content “**(F4)**” to hint to the user that pressing Function 4 on the keyboard at specific fields would present the list of valid values.

In particular, the SunFarm Application menu option “Update” on the main Page would show the “Customer Maintenance” screen — which we have been enhancing in during the narrative of this Guide —. The Customer Maintenance Page contains two Prompts:

1. Prompting for States (to update Address Information) and
2. Prompting for Status (to update Customer Status)

The Window records presented when F4 key is pressed at the proper fields are shown below:



Adding a Button with a magnifying glass icon to the right of the State field.

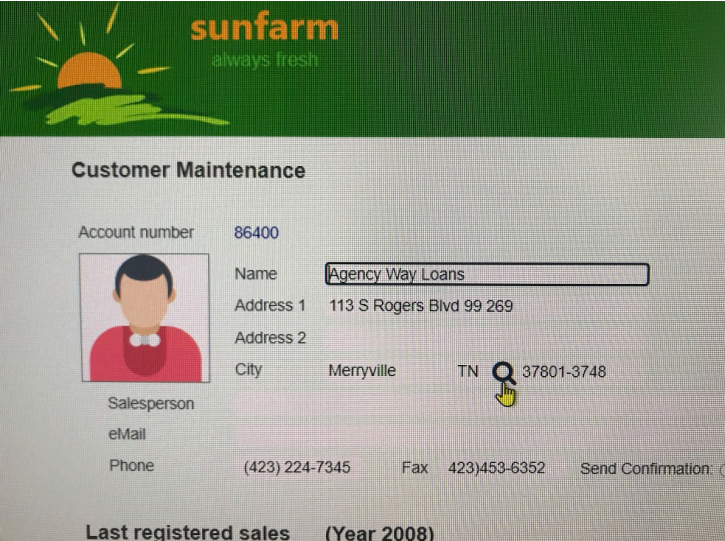
The following is the tagHelper added (in blue) to the CUSTREC record in file:

\$\SunFarm\CustomerAppSite\Areas\CustomerAppViews\Pages\CUSTDSPF.cshtml

```
<div Row="7">
  <DdsConstant Col="20" Text="City" />
  <DdsCharField Col="27" ColSpan="10" For="CUSTREC.SFCITY" Lower="true" VirtualRowCol="10,27"
  PositionCursor="42" tabIndex=5 />
  <DdsCharField Col="37" For="CUSTREC.SFSTATE" VirtualRowCol="11,27" PositionCursor="43"
  tabIndex=6 />
  <DdsButton Col="40" IconId="search" ButtonStyle="Icon" AidKey="F4"
  FocusField="CUSTREC.SFSTATE"/>
  <DdsCharField Col="42" For="CUSTREC.SFPOSTCODE" VirtualRowCol="11,37" tabIndex=7 />
</div>
```

That simple markup line would do the trick nicely, WITHOUT having to change a single line in the Model's code or Application logic.

Let's see how it looks (all the details will be explained later at the end of this document):



The screenshot shows a web application interface for "sunfarm" with the tagline "always fresh". The main section is titled "Customer Maintenance". It displays a form for a customer with the following details:

- Account number: 86400
- Name: Agency Way Loans
- Address 1: 113 S Rogers Blvd 99 269
- Address 2: (empty)
- City: Merryville
- State: TN
- Phone: (423) 224-7345
- Fax: 423)453-6352
- Salesperson: (empty)
- eMail: (empty)
- Send Confirmation: (unchecked checkbox)
- Last registered sales: (Year 2008)

A magnifying glass icon is positioned to the right of the State field (TN), indicating a search or lookup function.

When the mouse pointer is moved close to the magnifying glass icon — also known as *hovering over it* — the shape of the pointer changes to a Hand with finger pointing to it. This is a hint to the user that the icon may be clicked.

¹ Commit "Adding icon to simulate F4 prompt"

When the icon is clicked:

1. The keyboard focus is changed to the field CUSTREC.SFSTATE
2. The AidKey with the value F4 is programmatically set in the keyboard buffer right before the Page is submitted, just as if the User had navigated to the field in question and the key F4 in the keyboard had been pressed.

DdsButton tagHelper

Let's look deeper into how the markup that produced the clickable icon for prompting is defined.

```
<DdsButton Col="40" ButtonStyle="Icon" IconId="search" AidKey="F4"
           FocusField="CUSTREC.SFSTATE"/>
```

The attribute **Col** should already be familiar. It specifies the horizontal position within the row (seven in this case) where the button should be rendered.

ButtonStyle is an attribute that defines the different styles supported for clickable buttons:

1. "Button" - A push button with a text label centered (Default)
2. "Image" - An image that is identified by a user file as a web resource.
3. "Link" - A hyperlink (text label that executes an action)
4. "Icon" - A named *stock image* (more on this below)

If the **ButtonStyle** attribute is set to "**Icon**" (which is what we use in this Guide), the attribute **IconId** must be provided to the name of an existing Icon shape.

Icon shapes are rendered with square dimensions (width equals height) and are scaled to fit in a "cell" of the height of the font and the fore-color of the CSS text, (think of a character with a graphic shape).

AidKey is an attribute that takes the name of an IBMi Aid key ("F1" ... "F24", "Clear", "Help", "PageUp", "PageDown", "Print", "Home", "Enter", "Attn" and "Reset").

FocusField is an attribute that is set to the field-name of the record written to the page where we want to simulate user navigation right before the Page is auto-submitted.

Icon Payload efficiency

ASNA Monarch Expo rendering engine is optimized to include in the Page payload ONE copy of a particular shape. If you plan to add **DdsButton** elements in records of a subfile, you can be assured that the Page's payload will not grow. When more than one instance of a particular














shape is rendered on a Page, there is a single copy in memory of the shape and several references to it.

Icon Stock Image IDs

ASNA Monarch Expo contains a collection of shapes that describe SVG² with commonly used shapes that are inspired by the **Font Awesome** free library³

The shapes are simple and clean, monochrome (color can be selected) , scaled without loss and respect the background (use transparent background).






















ASNA Monarch Expo Icon library contains 250 named shapes, which should be sufficient for most of the DdsButtons you application may need.⁴

Name	Icon shape
"adjust"	
"align-center"	
"align-justify"	
"align-left"	
"align-right"	
"ambulance"	
"angle-down"	
"angle-left"	
"angle-right"	
"angle-up"	
"arrow-down"	
"arrow-left"	
"arrow-right"	







² Scalable Vector Graphic file format.

³ See: <https://fontawesome.com/plans>

⁴ If none of the shapes fits your needs, use Image ButtonStyle and provide your own.

Name	Icon shape
"arrow-up"	
"asterisk"	
"backward"	
"ban-circle"	
"bar-chart"	
"barcode"	
"beaker"	
"beer"	
"bell-alt"	
"bell"	
"bold"	
"bolt"	
"book"	
"bookmark-empty"	
"bookmark"	
"briefcase"	
"building"	
"bullhorn"	
"calendar"	
"camera-retro"	
"camera"	

Name	Icon shape
"caret-down"	▼
"caret-left"	◀
"caret-right"	▶
"caret-up"	▲
"certificate"	⚙
"check-empty"	□
"check"	☑
"chevron-down"	▼
"chevron-left"	◀
"chevron-right"	▶
"chevron-up"	▲
"circle-arrow-down"	⬇
"circle-arrow-left"	⬅
"circle-arrow-right"	➡
"circle-arrow-up"	⬆
"circle-blank"	◯
"circle"	●
"cloud-download"	☁⬇
"cloud-upload"	☁⬆
"cloud"	☁
"coffee"	☕
"cog"	⚙


Name	Icon shape
"cogs"	
"columns"	
"comment-alt"	
"comment"	
"comments-alt"	
"comments"	
"copy"	
"credit-card"	
"cut"	
"dashboard"	
"desktop"	
"double-angle-down"	
"double-angle-left"	
"double-angle-right"	
"double-angle-up"	
"download-alt"	
"download"	
"edit"	
"eject"	
"envelope-alt"	
"envelope"	
"equals"	
"exchange"	
"exclamation-sign"	
"external-link"	

Name	Icon shape
"eye-close"	
"eye-open"	
"facebook-sign"	
"facebook"	
"facetime-video"	
"fast-backward"	
"fast-forward"	
"fighter-jet"	
"file-alt"	
"file"	
"film"	
"filter"	
"fire"	
"flag"	
"folder-close-alt"	
"folder-close"	
"folder-open-alt"	
"folder-open"	
"font"	
"food"	
"forward"	
"fullscreen"	
"gift"	
"github-alt"	
"github-sign"	
"github"	
"glass"	

Name	Icon shape
"globe"	
"google-plus-sign"	
"google-plus"	
"group"	
"h-sign"	
"hand-down"	
"hand-left"	
"hand-right"	
"hand-up"	
"hdd"	
"headphones"	
"heart-empty"	
"heart"	
"home"	
"hospital"	
"inbox"	
"indent-left"	
"indent-right"	
"info-sign"	
"italic"	
"key"	
"laptop"	
"leaf"	
"legal"	
"lemon"	
"lightbulb"	
"link"	

Name	Icon shape
"linkedin-sign"	
"linkedin"	
"list-alt"	
"list-ol"	
"list-ul"	
"list"	
"lock"	
"magic"	
"magnet"	
"map-marker"	
"medkit"	
"minus-sign"	
"minus"	
"mobile-phone"	
"money"	
"move"	
"music"	
"off"	
"ok-circle"	
"ok-sign"	
"ok"	
"paper-clip"	
"paste"	
"pause"	
"pencil"	
"phone-sign"	
"phone"	

Name	Icon shape
"picture"	
"pinterest-sign"	
"pinterest"	
"plane"	
"play-circle"	
"play"	
"plus-sign-alt"	
"plus-sign"	
"plus"	
"print"	
"pushpin"	
"qrcode"	
"question-sign"	
"quote-left"	
"quote-right"	
"random"	
"refresh"	
"remove-circle"	
"remove-sign"	
"remove"	
"reorder"	
"repeat"	
"reply"	
"resize-full"	
"resize-horizontal"	
"resize-small"	
"resize-vertical"	

Name	Icon shape
"retweet"	
"road"	
"rss"	
"save"	
"screenshot"	
"search"	
"share-alt"	
"share"	
"shopping-cart"	
"sign-blank"	
"signal"	
"signin"	
"signout"	
"sitemap"	
"sort-down"	
"sort-up"	
"sort"	
"spinner"	
"star-empty"	
"star-half"	
"star"	
"step-backward"	
"step-forward"	
"stethoscope"	
"stop"	
"strikethrough"	
"suitcase"	

Name	Icon shape
"table"	
"tablet"	
"tag"	
"tags"	
"tasks"	
"text-height"	
"text-width"	
"th-large"	
"th-list"	
"th"	
"thumbs-down"	
"thumbs-up"	
"time"	
"tint"	
"trash"	
"trophy"	
"truck"	
"twitter-sign"	
"twitter"	
"umbrella"	
"underline"	
"undo"	
"unlock"	
"upload-alt"	
"upload"	
"user-md"	
"user"	

Name	Icon shape
"volume-down"	
"volume-off"	
"volume-up"	
"warning-sign"	
"wrench"	
"zoom-in"	
"zoom-out"	