Marty McCormick, Matt Stratford

Content Integration with SAP NetWeaver® Portal

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Contents at a Glance

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In this chapter, you’ll learn about the Business Package for Manager and Employee Self-Services (XSS). Although it’s one of the most widely implemented SAP Business Packages, it’s also one of the most challenging to implement. In addition to complex configuration, there is often confusion around the impacts relative to customization, development, and architecture.

3 Business Package for Manager and Employee Self-Services

After completing this chapter, you’ll be familiar with how to configure the Business Package for Manager and Employee Self-Services (XSS) in SAP NetWeaver Portal. In addition, you’ll understand how to address architecture and development challenges often experienced during an XSS implementation.

3.1 Business Content Integration

In terms of portal functionality, few business packages can offer as much as the Business Package for Employee Self-Service (ESS) and Manager Self Service (MSS). They are often implemented in parallel, and many concepts relating to configuration, architecture, and development are consistent across both business packages. Although these two business packages contain the portal content directory (PCD) content necessary, such as iViews and pages, the actual code is delivered in the form of Java-based software components. The underlying technology used is Web Dynpro Java, and there are several components that make up SAP Self Services (XSS).

Technically speaking, XSS consists of the following components, which are delivered as software component archive (.sca) files:
3.1.1 Brief History

XSS screens

Before the release of SAP NetWeaver 6.40, the business packages for ESS and MSS were based on SAP transactions that were delivered in the form of Internet Transaction Server (ITS) services known as Internet Application Components (IACs). ESS and MSS deployments included a standalone ITS infrastructure in addition to the SAP Enterprise Portal and backend SAP R/3 system. Because the screens were standard SAP transaction screens, casual company users who were not used to SAP screens and navigation components were required to learn it for self-services such as benefits, personal data, and so on. With the release of SAP ERP 2004 (ECC 5.0) and the SAP NetWeaver 6.40 Java stack, SAP redesigned the self-services application to be based on Web Dynpro.

As shown in Figure 3.1, the Web Dynpro-based XSS screens resemble a more traditional web-based look and feel that is often seen at commercial websites. This is highly beneficial because the self-service applica-
tions within XSS are often used by casual SAP users who may not be familiar with the intricate nature of traditional SAP screens. The emergence of the XSS business package has also resulted in the ability to leverage a large amount of functionality from your Java-based SAP NetWeaver systems.

For example, users can now work with SAP Interactive Forms using Adobe Document Services (ADS), which is built into the SAP NetWeaver 7.0 Java AS. In this section, we’ll provide an overview of the XSS functionality available to integrate into your SAP NetWeaver Portal. The versions that we base our documentation on is a SAP NetWeaver 7.0 SPS 15 system with ECC 6.0 backend.

In the next few sections, we'll provide an overview of the SAP NetWeaver Portal content that is provided with the XSS business packages. The functionality described in these sections highlights some of the commonly used areas of XSS but isn’t an exhaustive list. As always, consult the official, most recent SAP documentation for each business package for detailed explanations.
3.1.2 Employee Self-Service

Within the ESS business package, iViews are grouped into several categories, which are assembled together into portal worksets in the delivery of the ESS application. Of course, these iViews can be assembled into your own portal roles in a manner specific to your organizational structure. Figure 3.2 shows the main ESS page and the associated work areas or groups.

![Figure 3.2 Overview of ESS](image)

The **Benefits and Payment** applications allow employees to view information related to their benefits package, such as current and past income statements, retirement planning assistance, and health and dental benefit information. Users can update their benefit options, such as updates to 401K contribution percentages. As the name suggests, the **Personal Information** applications allow employees to update personal data, such as addresses, phone number, bank information, and family-related information. The address book workset contains iViews that enable employees to access certain personal information from other employees. In addition, they can make updates to their own information in the corporate directory. One of the most sophisticated sets of applications is the **Life and Work Events** functionality. In this area of ESS, users can manage significant events such as changes to employment status or family events such as the birth of a child or divorce. In addition, various
important events are linked with tasks and supporting documentation necessary to address each event.

The ability to trigger workflow-related processes specific to an employee event is highly configurable. In fact, placeholders to include customized HTML content are included with each application, making it easier for content administrators to manage your company-specific documents and distribute them to end users.

As a drill-down example to the previous paragraph, Figure 3.3 shows the Web Dynpro for Java-based **Benefits** and **Payment** iView. From this iView, employees can manage their plan participation relative to benefits. Furthermore, during open enrollment, employees can use this iView as the launch point to enroll or change their benefit plans. We used this iView as an example because it’s often one of those pieces of functionality that gets hit really hard once a year (i.e., the two weeks during open enrollment) and has relatively low volume the rest of the time. Thus, as a system architect or performance engineer, you should account for these peaks when sizing your environment. Also, as shown in Figure 3.3, this iView allows employees to check items related to their compensation and access online pay statements — which is another peak period as employees often check their pay statement once per pay period, often as soon as they get in on payday.

![Figure 3.3 ESS Benefits and Payment iView](image-url)
The ESS business package is also used for a wide variety of work-related administrative tasks. The Working Time application allows users to perform actions related to functions such as time entry and leave requests. In addition, users can link time entry to specific tasks or SAP objects as well as make corrections to previous time entered as they view the hours worked in a specific time period using a calendar graphical display. Users can also trigger a leave request, which initiates approval processes that are actually linked to functionality delivered in MSS. Travel management functionality is also included in ESS. iViews included in the Travel and Expenses workset allow employees to perform tasks such as entering expenses from business trips and submitting them for approval. They can also create new trip requests and even book their travel plans for lodging and transportation. Authorized users can also perform travel functions for other users, which may be useful for secretaries who work for executives who travel frequently for business. The Learning and Career applications allow users to manage functions such as internal job moves and updates to their skills profile. In addition, users can search for internal positions and save search profiles for future use. There is also functionality to apply directly for a desired position or release your candidate profile.

Manager Self-Service

The MSS business package contains applications that allow managers within various areas of an organization to perform several of their respective job functions through the SAP NetWeaver Portal. The applications within MSS are organized by the type of operational role that a manager plays within an organization. As shown in Figure 3.4, MSS is organized in worksets containing similar tasks relating to both generic HR functions as well as business-related activities such as project planning and financial management.

The Team workset provides managers with a snapshot of various types of information about their team and gives them the ability to execute nearly a managerial task for one of their employees. Managers can view and, in certain cases update, all employee-related HR data. In addition, this workset provides the ability to manage requests generated by ESS applications, such as business trip or vacation requests. Recruiting
requests, headcount planning, and compensation management and planning are also examples of functionality found in this workset.

The Budget workset gives managers insight into the finances at the organizational entities in which they oversee or have a stake in. For example, this is where a manager could view how their respective cost center was doing at a given point in a quarter. In addition, costs related to assets such as computer-related equipment is available through the Budget workset. The Work Overview workset includes SAP-related items that a manager must complete. The Universal Worklist (UWL) is included within this functionality.

Several other worksets aren’t part of the MSS core but are often used because they relate to manager tasks. For example, the Projects workset integrates project management functionality if that area of SAP is used within your organization. The Reports workset integrates SAP NetWeaver BI content as well as iViews from the Business Package for Common Parts. Each of the former related business packages are optional and by nature complementary to the MSS functionality.

### 3.2 Configuration of the XSS Business Package

XSS requires substantial configuration within SAP NetWeaver Portal and the J2EE engine. There is also configuration needed on the backend SAP ERP software into which the business package applications connect too. In addition, optional configuration exists to enable functionality relating
to integration with ADS and SAP NetWeaver BI. In this section, we review the common steps required to configure an XSS system in SAP NetWeaver 7.0.

### 3.2.1 Installation Requirements

A fully functional XSS implementation requires several SAP NetWeaver usage types with various components deployed to them. On the SAP NetWeaver Portal system, you’ll need the AS Java, EP, and EPC usage types. The default SAP NetWeaver Java installation contains components that need to be configured such as ADS and the System Landscape Directory (SLD). For both ADS and SLD, you may elect to use a separate, existing AS Java system for such functionality depending on your SAP landscape. We discuss options like this in great detail in Chapter 9, in Sections 9.2, “Adobe Document Services,” and 9.3, “System Landscape Directory.”

On SAP NetWeaver Portal, you must deploy the following software components:

- **Business packages**
  
  The Business Packages for Employee & Manager Self Services provide the portal content required for XSS. Furthermore, based on project requirements, the Business Package for Common Parts and Project Self-Services may be required. The business packages can be downloaded from the SDN content Portfolio, [https://www.sdn.sap.com/irj/sdn/contentportfolio](https://www.sdn.sap.com/irj/sdn/contentportfolio).

- **Web Dynpro software components**
  
  You must deploy the following components to enable runtime execution of XSS screens in the portal: PCUI_GP, MSS, ESS, and SAP_PSS and SAP_ASR depending on your requirements. PCUI_GP is mandatory; the rest are optional. You can find these software components at [http://service.sap.com/patches](http://service.sap.com/patches) • SAP Application Components • SAP ERP • SAP ERP 6.0 • Entry By Component • SAP XSS (Self Services). At this location, you’ll find subareas for ESS, MSS, PCUI, ASR, and PSS.

In addition to the items just listed, your ECC 6.0 system must have the extensions installed for Financials (EA-FIN) and Human Resources (EA-HR). For the MSS components, you also have the option to use SAP systems such as SAP NetWeaver Business Intelligence (SAP NetWeaver BI)
3.2.2 XSS Configuration Steps

After downloading the files required for your project, it’s time to start the installation and configuration process. The first step is to deploy the downloaded archives to the SAP NetWeaver system. You can use the Java Support Pack Manager (JSPM) or the Software Deployment Manager (SDM) to deploy these components, although JSPM is the preferred method starting with SAP NetWeaver 7.0. You can find detailed steps on deploying components using JSPM in Appendix A.

After deployment, the first step is to ensure that your SLD is successfully configured. Particularly, you should make sure that your SLD is updated with the latest component repository (CR) content. Furthermore, you need to ensure that the SLD that SAP NetWeaver Portal is using contains the ECC system as a technical ABAP system. This is a prerequisite for the Java Connector (JCo) configuration step. Typically, an SAP production landscape has one SLD that all SAP systems replicate their information for. SLD concepts are further discussed in Section 9.3.

Note

SAP Note 669669 contains instructions on how to update your SLD with the latest CR (component repository) content.

The next step is to configure Single Sign-On (SSO) between the SAP NetWeaver Portal system running XSS and ECC 6.0. Refer to Appendix A for exact steps on configuring SSO between a SAP NetWeaver Java and ABAP system. After ensuring the SLD and SSO configuration, you now need to enable communication between the SAP NetWeaver Java system and backend ECC system by configuring the JCo destinations for the Web Dynpro applications. These are configured through the Web Dynpro Content Administrator, which can be accessed through the portal under Content Administration • Web Dynpro. As shown in Figure 3.5, after deploying the business package, the required destinations
show up in the tool, and you need to configure them. The JCo destinations beginning with SAP_R3_* should be configured.

![Figure 3.5 Web Dynpro Content Administrator](image1)

**JCo users**  
As shown in Figure 3.6, when configuring JCo destinations, there are two types of connections for each JCo destination, **Dictionary Meta Data** and **Application Data**. For the JCo destinations of type **Dictionary Meta Data**, you should use a service or technical user so that the meta data connection retrieves information about the RFC connection itself and returns no real application data. This service user would typically have no dialog permissions on the backend ECC system.

![Figure 3.6 Editing a JCo Destination](image2)
For the JCo destinations of type Application Data, most likely, the Used Method will be of type Ticket, which uses the SAP Logon Ticket of the user signed into the SAP NetWeaver Portal for SSO to the backend system. User mapping, while rarely used due to the manual effort needed, is another option. Either way, these connection types return actual application data, and user-defined data on the actual destination is rarely used except in development and testing scenarios.

After successfully configuring and testing the JCo destinations used by the Web Dynpro applications as shown in Figure 3.7, you need to ensure that you have a portal system object configured for the Java Web Dynpro runtime.
Within the portal, you create a new system object with alias `SAP_WebDynpro_XSS`. The only property category that needs to be filled out is the Web Application Server (AS), and an example is shown in Figure 3.9. The **Web AS Host Name** should be the J2EE where the XSS Java components are deployed. The **Web AS Path** should be set to `/webdynpro/dispatcher`. Appendix A contains detailed information on how to create a portal system object and configure the **Web Application Server (Web AS) Property Category**.

Assuming HR is successfully configured in ECC, you should be good to go from a configuration standpoint after completing these steps. If there are issues connecting to your ECC system using any of these connections, pay close attention to the service users. In addition, check the security traces to ensure all necessary authorizations are assigned to the dialog users as well.

### 3.3 Architecture Impacts

With SAP NetWeaver 7.0, one of the key aspects to XSS that must be considered from an architecture perspective is the fact that the applications in XSS are dependent on the portal runtime when they are executed. Technically speaking, the Web Dynpro runtime in AS Java does not require a portal. However, the Web Dynpro for Java applications that are used in the XSS-based iViews actually run in the portal frame-
work and use features such as implicit personalization (discussed in detail in Section 3.4 “Development Impacts”). Figure 3.10 shows a logical overview of the XSS architecture from a portal perspective.

This dependency is very significant and is contrary to previous versions of XSS. Prior to this version, the Web Dynpro applications (or ITS/IAC-based iViews) used in self-services were executed outside of the portal framework. Previously, for Web Dynpro-based packages, you could install a separate J2EE-only system used for Web Dynpro and point the iViews to that system. For ITS- or IAC-based iViews, of course, they ran in the SAP ERP system.

As outlined in Figure 3.11, this new architecture essentially leaves you with two choices. First, you can install your XSS applications on your existing portal. Although simplistic, the obvious drawback to this approach is the potential performance impacts the new XSS applications will cause on your portal environment. In addition, you’re introducing version dependencies among XSS, your existing portal, and, of course, the backend system.
The second option is to use FPN to integrate XSS into your existing portal. This protects your current portal from potential negative performance impacts of the XSS content. If your existing portal wasn’t sized to handle the resource-intensive Web Dynpro-based XSS iViews, this is a very good option. In addition, you gain the advantages previously discussed when using FPN, such as separating the XSS business content from an implementation perspective and the ability to scale XSS (or your consumer portal) independently of the other system.

### 3.3.1 Using FPN with XSS

Implementing self-services functionality is no longer as simple as installing a standalone ITS, deploying the business package to your central portal and beginning end-user rollout. Since SAP NetWeaver 6.40, the self-services functionality is now written in Java, and the footprint required to run the XSS applications is much larger on a SAP NetWeaver

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<tr>
<td><strong>Combine XSS Java with Existing Portal</strong></td>
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| **Pros** | - Simple Approach with Streamlined Installation  
- Only Need to Maintain One Portal Environment  
- Avoid Additional Portal Requirement  
- No Need to Implement FPN |
| **Cons** | - Performance Issues in XSS Applications  
- Unable to Isolate XSS Applications from Existing Portal  
- Version Dependencies Created Between XSS Java Components and Portal |
| **Implement FPN** |  |
| **Pros** | - Existing Corporate or “Primary” Portal Not Impacted by XSS Performance Issues or Version Dependencies  
- Flexible Content Integration Options Offered by FPN  
- Ability to Scale Portals Independently of Each Other |
| **Cons** | - Must Stand Up Additional Portal Environment |

---

**Figure 3.11 XSS Architecture Choices**

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<th>XSS Architecture Choices</th>
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| **Pros** | - Simple Approach with Streamlined Installation  
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| **Cons** | - Performance Issues in XSS Applications  
- Unable to Isolate XSS Applications from Existing Portal  
- Version Dependencies Created Between XSS Java Components and Portal |
| **Pros** | - Existing Corporate or “Primary” Portal Not Impacted by XSS Performance Issues or Version Dependencies  
- Flexible Content Integration Options Offered by FPN  
- Ability to Scale Portals Independently of Each Other |
| **Cons** | - Must Stand Up Additional Portal Environment |
Java Portal system. Further complicating things is the fact that the XSS Java components have dependencies to the underlying SAP NetWeaver J2EE version and also to the ABAP backend patch level.

As such, running XSS in an FPN configuration is recommended. Because your users of self-service functionality will require a user ID in the ABAP user store anyway, you’ll often see the XSS portal leverage the ECC ABAP client as its user store. However, you may choose to use LDAP for both SAP NetWeaver Portals if you want to assign the same LDAP group to portal roles on both systems.

Essentially, to implement XSS, most likely you’ll be looking at adding another J2EE instance to your landscape. Depending on high availability, sizing, and performance requirements, decisions such as running a J2EE add-in versus standalone instance need to be made by the technical infrastructure team in conjunction with SAP Basis teams. We outlined the advantages and disadvantages to these items in Section 2.2.

From an FPN content-usage perspective, if XSS is the only FPN producer node in your landscape, it probably makes most sense to use RDL and integrate XSS content into roles on the consumer portal. However, each implementation is unique, and there may be requirements where RRA makes the most sense, such as the HR team wanting to own and administer their own roles.

### 3.3.2 Deploying XSS to an Existing Portal

Although an FPN configuration has advantages, it does require an additional SAP NetWeaver Java system to be installed and maintained in your SAP landscape. This, of course, equates to cost and additional work for your technical staff. If the overhead is too much for your organization, you can deploy XSS to an existing SAP NetWeaver Portal environment.

If you choose to go this route, you must be sure to consider several important factors. We’ve already talked about the fact that Web Dynpro-based iViews can be very resource intensive on your portal. This is a key item to keep in mind because often a portal is used as simply a gateway to applications running on separate systems. With XSS, you’re using
your portal as a runtime environment for the execution of a large amount of content.

**Important Points in Deploying XSS Java to an Existing Portal**

- Ensure hardware is properly sized for the new functionality.
- Conduct performance tests of XSS applications prior to rollout.
- Be ready to scale your portal (add dialog instances) if needed.
- Regularly monitor individual XSS applications and the portal environment as a whole.
- Understand all version dependencies.

In addition, be aware that you’re creating a dependency between versions of the XSS business package and the SAP NetWeaver Portal instance. If a problem is discovered during testing of XSS that requires an upgrade, your entire portal landscape may be affected in that you may be forced to apply a new Support Package to the engine. This often introduces a new series of regression testing for other portal functionality that potentially could impact other areas of an SAP project.

Performance testing importance

To mitigate the risk from a performance perspective, running a performance stress test early against an environment that is production or closely mirrors production is a good idea. Although this may require a lot of coordination and additional work, it’s time well spent and will save many headaches after going live. Performance testing is discussed in further detail in Chapter 11, mainly Section 11.4, “Performance Tools and Problem Diagnosis.”

### 3.3.3 SAP NetWeaver Dependencies

XSS interacts with many system components that may be run outside of your immediate XSS landscape, regardless of whether you choose to use FPN or not. In Chapter 9, Managing a Content Driven Architecture, we discuss services that are embedded in the AS Java system but are often shared by several systems for reasons such as simplified configuration and performance. Two examples of these services used heavily by XSS are ADS and SLD (see Figure 3.12).
As discussed in detail in Section 9.2, ADS extends Adobe integration to SAP NetWeaver applications for areas such as form processing, printing, and the development and execution of SAP Interactive Forms. Although it’s installed in every AS Java system, you may elect to run parts of ADS on a central server. XSS heavily uses ADS in various applications.

The SLD stores various types of data about your SAP (and non-SAP) landscape such as version information, development configurations, and connection data. The SLD is required by XSS for the connections from Web Dynpro-based iViews to the SAP ERP system. If the SLD goes down, your XSS applications won’t be accessible. In Chapter 9, we discuss the impacts of this in great detail.

Finally, XSS may lead to the introduction of SAP NetWeaver Development Infrastructure (NWDI) in your SAP landscape. NWDI is used to manage SAP Java development projects and is a separate SAP NetWeaver usage type that typically requires a dedicated AS Java system. XSS may need NWDI if your developers choose to customize SAP-delivered screens. We also discuss NWDI in detail in Section 9.4, “SAP NetWeaver Development Infrastructure,” of Chapter 9.
3.4 Development Impacts

As mentioned, XSS is probably one of the most widely implemented business packages and is also one of the only SAP software packages that has a heavy Java footprint and that has the source code delivered by SAP. XSS is also unique in that a lot of the portal configuration is actually contained on the ABAP side. For example, the navigation links from the main page area in ESS are actually configured in the IMG within the backend ECC system.

Customizing XSS

If you want to modify the delivered XSS functionality by custom development through configuration or new development, three main options are available for you to leverage. First, you can use Web Dynpro Implicit Personalization (WD Implicit Personalization). Second, you can modify the Java-based Web Dynpro components by editing source code or creating your own Java components. Finally, you can write new functionality on the ABAP side by using Web Dynpro or even classic Dynpro screens.

3.4.1 Web Dynpro Implicit Personalization

One of the most powerful features of Web Dynpro is the concept of Implicit Personalization. All of the Web Dynpro-based iViews in the XSS business package support WD Implicit Personalization. WD Implicit Personalization allows content administrators to make changes to the screens, such as adding text or hiding fields, using a WYSIWYG editor directly in SAP NetWeaver Portal. This is an important concept because functional teams typically want to make what they consider simple modifications that are more aesthetic and UI based, or example, changing the color of a text on a screen to produce emphasis, adding additional verbiage on a screen (i.e., benefit enrollment due date), or simply hiding fields that aren’t required functionality for a specific implementation. The changes made are stored as iView properties.

Note

It’s important to stress the fact that WD Implicit Personalization can be used to visually alter UIs with no additional configuration or development effort.
Furthermore, WD Implicit Personalization works on two levels. First, as shown in the example in the next section, WD Implicit Personalization can be used by a content administrator to distribute a change to a group of users at a global level. However, WD Implicit Personalization can also be enabled at the end-user level so that an end user can use it to modify the screens just for themselves.

3.4.2 Web Dynpro Implicit Personalization Example

As WD Implicit Personalization may be a new concept to even the most seasoned SAP NetWeaver Portal professionals, we’ll walk through a quick example so you can see it in action. Our sample scenario has us modifying the header text for the ESS Overview application shown in Figure 3.13 to include specific company text.

Because we want this change to apply to all users, the content administrator uses the portal content studio to edit the iView. WD Implicit Personalization is based on the object’s runtime PCD URL, which means that you need to edit the iView from within its runtime structure. To put it another way, you shouldn’t edit the iView as it sits under a PCD folder, but rather open the role where the iView resides and edit from here. In Figure 3.14, we’ve opened the Employee Self-Service role for editing.
After selecting the **Overview** page, select the **Open** button to view the page editor as shown in Figure 3.15.

![Figure 3.14 Overview Page Within the ESS Role](image1)

**Figure 3.15 Overview Page**

After further drilling down, select the **Overview** iView, and select the **Open** button. Now we’re at the actual iView properties screen as shown in Figure 3.16.

![Figure 3.16 iView Properties Screen](image2)

**Figure 3.16 iView Properties Screen**

From here, we’re ready to perform our modifications. WD Implicit Modifications are set from the iViews preview mode. Select the **Preview** button in Figure 3.16. In Figure 3.17, we’re now viewing the **Overview** application preview.
Figure 3.16 Overview iView Properties

Employee Self-Service applications provide you with easy access to information and services for employees. This page gives you an overview of the entire offering.

- **Employee Search**: Search for employees by name and find basic information about colleagues and their position in the company.
  - **Quick Links**: Who’s Who

- **Working Time**: Record your working times, plan your leave, and display your time data.
  - **Quick Links**: Record Working Time

- **Benefits and Payment**: Display the plans in which you are currently enrolled, enroll in new benefit plans, and download an enrollment form.
  - **Display**: Your salary statement.

- **Personal Information**: Manage your addresses, bank information, and information about family members and dependents.

- **Life and Work Events**: Guides you through a number of Life and Work Events from a birth of a child to beginning work at a new company.

- **Travel and Expenses**: Create your travel request and plan travel services for your business trip. Record your travel expenses.
  - **Quick Links**: My Trips and Expenses

- **Learning & Career**: View and change your own skills profile. View a list of open positions in your company and apply for one of these positions.
  - **Quick Links**: Tuition Reimbursement

- **Purchasing**: Create a shopping cart with the goods and services you need. Check the status of your order, and confirm once completed.

- **Work Environment**: Display and change the asset data assigned to you.

- **Organization Information**: Corporate Business

Figure 3.17 ESS Overview Screen — Preview Mode
To use WD Implicit Personalization from either administrator or end user mode, you hold down the Ctrl key and right-click. The user is presented with the WD Implicit Personalization editor, as shown in Figure 3.18.

Once in the editor, you’re given a list of the Web Dynpro elements on the screen, and you can personalize each individually. In Figure 3.19, we change the Semantic Color to the value Positive, change the value within the Text input field, and also check the box to Disable end user personalization for this iView. By disabling personalization for end users, you prevent them from Ctrl and right-clicking and customizing the iView for themselves.

After saving, a series of iView properties are stored on the iView noting our changes. Now when we navigate to the ESS Overview page, we can see our changes, as shown in Figure 3.20.

WD Implicit Personalization, including supporting documentation, isn’t widely known by SAP professionals. It’s extremely important that you and your project team explore this option to see if it meets your needs before deciding to go the route of custom code and moving into an NWDI implementation.
There are significant advantages to using this functionality rather than making code modifications. The primary reason is that you don’t need to install and configure an NWDI infrastructure, thereby reducing overall costs. In addition, upgrades are much easier to manage because there is no code involved. With NWDI, you need to merge code into new releases of the product, which is quite a process as discussed in the next section. However, with WD Implicit Personalization, the iView properties aren’t impacted during an upgrade.
The bottom line is that WD Implicit Personalization is a powerful feature to use and will greatly minimize your development and maintenance efforts.

### 3.4.3 XSS Java Customization

If you need to perform modifications that can’t be met by using WD Implicit Personalization, you’ll most likely need to modify the delivered source code, which is written in Java. SAP delivers the source code in the form of software component archives (*.sca). The only way to modify the source code is to implement NWDI and place the XSS archives under management by NWDI. There is in-depth discussion of NWDI in Chapters 9 and 10.

After configuring NWDI for XSS, SAP NetWeaver Developer Studio (NWDS) is the tool used to carry out code modifications. If you’re already using NWDI on your project, then this isn’t a big deal to add additional Change Management Service (CMS) tracks because you probably already have the infrastructure in place to support XSS. However, if you’re like most customers and new to NWDI and the Java-based SAP concepts such as the SAP Component Model, this will be a significant undertaking for your Basis and development teams. It’s important to note that XSS modifications and more broadly Web Dynpro components are only supported as development components and require the use of NWDI. Unfortunately, when it comes to XSS, there is no backdoor manual workaround to avoid using NWDI on your XSS implementation if you require code modifications.
As previously stated, Java source code from the XSS components is modified using NWDS. However, in most cases, it helps if the Java resource performing the modifications possesses working knowledge of HR from an ABAP standpoint as well because many of the fields and screens for XSS are named after their functional counterparts. As shown in this section, the resources required for implementing NWDI can be significant both from an infrastructure and human capital perspective. Upgrades are also a somewhat manual process and can be very time consuming. Therefore, we strongly advise checking whether Web Dynpro Implicit Personalization can meet your needs before heading down the NWDI route.

### 3.4.4 XSS ABAP Development

As we outline in the next section, in addition to strong SAP NetWeaver Portal and Java resource, XSS implementations also often require someone with a strong ABAP background from a configuration and possibly development perspective because quite a bit of portal configuration is actually done on the ABAP side. Furthermore, if new functionality is required (e.g., a new form that isn’t delivered in the XSS packages), then some project teams will opt to write the application as a Web Dynpro ABAP due to the fact that they most likely already have strong ABAP skills and may be light on Java. The nice thing about using Web Dynpro as the UI is that end users won’t be able to tell the difference regardless of what language it’s written in (ABAP or Java).

### 3.5 Resource Requirements

From a resource perspective, XSS implementations will most likely require a portal content developer to cross into the realm of ABAP con-
configuration and vice versa — or require a very good communication channel between these two individuals or teams. This is because much of the portal configuration in terms of runtime links and information is actually configured in the backend ECC application. Depending on your requirements, as a project manager, you should plan for the following resources on your project:

Typical project resources

- SAP project manager who will be responsible for the coordination of all teams and managing the overall rollout
- SAP NetWeaver Basis team skilled in both Java and ABAP administration, especially configuring Web Dynpro JCo destinations, SLD, and potentially with the installation/configuration of NWDI
- Portal content developer to configure all PCD content from a portal perspective
- Java developer, if modifications to XSS are necessary, who also should possess knowledge of NWDI and how to use it with NWDS and the web-based tools
- Skilled technical HR ABAP resource to assist with any changes in the backend ECC system

Overall, the project time frame for XSS can range anywhere from a few short weeks to many months. Several factors come into play, such as if this is a new HR rollout or an upgrade, and if there is no customization or several development objects. Project rollout size will also bear some weight on the amount of testing that adds in to the project time frame.
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