With SuccessFactors, you aren’t limited to integrations within the SAP family. Here, you’ll be shown more third-party applications that are available. Chapter 8 describes how to connect SuccessFactors Learning, Recruiting, and Onboarding with third-party vendors like First Advantage, E-Verify, and PayPal. Then learn to use standard data imports to connect with other third-party data integrations.

“Integrating Talent Solutions with Third-Party Applications”

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Integrating SuccessFactors with SAP

551 Pages, 2015, $79.95/€79.95

www.sap-press.com/3723
In this chapter, we will discuss how to integrate your instance of the SuccessFactors Talent Management suite with some of the leading cloud-based service providers. From there, we will move on to the standard data imports available in SuccessFactors that can be used to integrate with systems that do not have a packaged integration.

8 Integrating Talent Solutions with Third-Party Applications

SuccessFactors’ market-leading talent modules are integrated not only within the suite but also with non-SAP systems to share data, execute end-to-end business processes, and provide an integrated user experience. SuccessFactors Talent Management applications make use of multiple third-party cloud applications for assessment verification, background checks, virtual learning, learning assessments, resume, and payroll.

Figure 8.1 illustrates different types of systems that integrate with SuccessFactors Talent Management suite.

![Figure 8.1 Packaged Integrations for SuccessFactors Talent Management Suite and Third-Party Applications](image-url)
SAP provides packaged integrations to connect SuccessFactors Talent Management suite with the following:

- PeopleAnswers and SHL for pre-employment assessments (see Section 8.1.1)
- First Advantage for background check verification (see Section 8.1.2)
- eQuest for posting job requisitions to job boards (see Section 8.1.3)
- LinkedIn for creating candidate profiles (see Section 8.1.4)
- E-Verify for confirming employment eligibility (see Section 8.2, E-Verify Integration)
- PayPal Payflow Pro for payment processing (see Section 8.3.1)
- Virtual Learning System (VLS) for e-learning (see Section 8.3.2)
- Questionmark for learning assessments (see Section 8.3.3)

First, in Section 8.1, we detail the packaged integrations from SuccessFactors that connect SuccessFactors Recruiting with assessment verifications from PeopleAnswers and SHL, background checks from First Advantage, candidate profile information from LinkedIn, and job posting distribution data from eQuest. Section 8.2 analyzes packaged integrations that connect SuccessFactors Onboarding for employment verification through USCIS E-Verify. Section 8.3 describes packaged integrations by SuccessFactors Learning that integrate with virtual learning systems like Cisco WebEx and Adobe Connect, learning assessments through Questionmark, and the payment processor PayPal. Finally, in Section 8.4 we provide an overview of standard connectors available in the SuccessFactors Talent Management suite that enable data exchange with third-party applications.

### 8.1 Packaged Integrations for SuccessFactors Recruiting

In this section, we will look at how SuccessFactors integrations with PeopleAnswers, SHL, First Advantage, eQuest, and LinkedIn, PeopleAnswers and SHL assessment integrations use one of the middleware platforms supported by SAP and make use of event-based web services to trigger the integration in real-time. First Advantage, eQuest, and LinkedIn are built into the SuccessFactors Recruiting product and support real-time integration.

### Other Third-Party Products

There are other third-party products that integrate with SuccessFactors Recruiting that are not covered in this section, such as LexisNexis and the Verifications Inc. background check. However, these will be deprecated due to acquisitions.

### 8.1.1 Assessment Vendor Integration

SuccessFactors Recruiting provides integrations to PeopleAnswers and SHL assessment solutions. The integrations for both providers use the same platform with similar configurations. PeopleAnswers and SHL are pre-employment assessment solutions that provide employers with a cloud-based solution to accurately match the right person with the right job. Assessment vendors receive candidate information along with the position applied for and assessment packages configured in the recruiting system to administer corresponding assessments.

Pre-employment assessments are used to screen job applicants and can include testing of cognitive abilities, knowledge, work skills, physical and motor abilities, personality, emotional intelligence, language proficiency, and even integrity. Employers use assessments to find the candidates most likely to succeed in the open positions and to screen out those who are unqualified, leading to additional company benefits, such as saving time and money in the selection process.

When a candidate applies for a job and if the requisition has assessments configured to be delivered immediately, the candidate will get the assessments link displayed after the job application is submitted. Otherwise, the candidate will be prompted to take the assessment by email when the application reaches the status associated with the assessment package.

The sequence of steps, actors, and systems involved in PeopleAnswers integration with SuccessFactors Recruiting is illustrated in Figure 8.2.
The SHL integration with SuccessFactors Recruiting is illustrated in Figure 8.3.

The integration is implemented with two web services. Both of these services will be hosted on the customer’s Dell Boomi AtomSphere account:

- **Recruiting to PeopleAnswers or SHL – AssessmentOrder process**
  This web service listens to requests from the SuccessFactors Recruiting API. When a request is received by this service, it will transform the data to the assessment vendor format and create an order by invoking the vendor’s assessment order web service. The web service returns the order ID and unique assessment URL, which is updated on the job application entity in SuccessFactors.

- **PeopleAnswers or SHL to Recruiting – AssessmentOrderStatus process**
  This web service is invoked by the assessment vendor and is supplied with the assessment score and result link. The recommendation and score, along with the detailed results link pointing to the providers’ server, are updated in the corresponding standard fields in SuccessFactors.

**Implementing Packaged Integrations**
When you choose to implement packaged integrations for assessment vendors, the packaged integration content is directly available to install, configure, and run on the supported middleware you choose.

The following sections detail the process steps involved in this integration, as well as key considerations and benefits to keep in mind.

**Integration Process Steps**
The following steps describe the integration process to be undertaken:

1. Select **Enable Assessment Integration (Requires Candidate Workbench)**, under **Company Settings > Recruiting V2 Application**, to access the assessment integration feature.
2. The **Manage Assessment Vendors** permission needs to be assigned to the Role-Based Permissions (RBP) user role—typically, an administrator that would configure assessment vendors in Recruiting.
3. Administrators with permission to manage assessment vendors can then import assessment vendor configurations. The vendor ID for PeopleAnswers and SHL are “PA” and “SHL”, respectively.
4. Administrators should then upload assessment vendor packages using the SuccessFactors Provisioning **Import/Export Assessment Vendor Packages** option.
5. Configure assessment fields in a job requisition template with permissions to view and edit these fields set to be managed similarly to other job requisition fields. These fields will be shown in the job requisition page in the same order as they are configured in the template (see Figure 8.4).
6. The SFAPI user needs to be set up in Admin Tools • Recruiting Permissions with the following options selected for each vendor (see the information on setting up an SFAPI user in Chapter 6):

- SFAPI RETRIEVE ASSESSMENT ORDER PERMISSION
- SFAPI UPDATE ASSESSMENT REPORT PERMISSION

7. When a candidate applies for a job requisition that has assessment set up, an event is generated within SuccessFactors Recruiting and published to listening web services. The packaged integration’s AssessmentOrder process receives the request and will process it as explained previously.

8. If the assessment is created immediately after the candidate applies, then the candidate will see a screen with assessment links (see Figure 8.5).

9. Once the candidate clicks on the assessment link, he or she is taken to the corresponding vendor’s cloud application for assessment delivery.

10. Upon completion of the assessment, the vendor will send the results by sending data to the AssessmentOrderStatus process discussed previously.

11. The candidate summary page can be set up to display the assessment score, recommendation, and status of different assessments packages. All scores and recommendations for assessments will also be available in the assessment portlet in the applicant profile page (see Figure 8.6).

12. There could be scenarios in which job applications can be processed even when assessment scores are not available until the application reaches certain steps in the recruiting workflow. This can be set up by choosing an option under the HARDSTOP STATUS dropdown field to the status value that should hold the application until the assessment results are available (see Figure 8.7).

Key Considerations and Benefits

With this integration, there are a number of key considerations and benefits, including the following:

- All data transmissions occur in real-time immediately after the candidate completes actions on either system.
An email template can be created for assessment in the Admin Tools, and can be associated with a job requisition. This will enable a candidate to receive an email with the information configured in the template when assessment is initiated.

Assessments can be created for candidates in one of two ways: The first is to have the assessment initiated immediately after the candidate submits the application. The second option is to create the assessment later in the recruiting process, usually after some initial application processing steps, and to send an email to the candidate with assessment links embedded in it.

In situations where an error occurred while initiating assessment, an acknowledged assessment can be reinitiated from the applicant profile page by clicking on the **Initiate Assessment** button.

This integration ships with configurable settings for endpoint URLs and status code mappings.

Using externalized settings and mappings enables customization through configuration.

This integration can be deployed on multiple environments easily, and maintenance is seamless, with little to no custom code.

**Prerequisites**

The following prerequisites must be met to implement this integration:

- Appropriate licensing to use the assessment integration
- Dell Boomi AtomSphere or SAP HANA Cloud Integration middleware, procured through SAP
- A separate third-party contract with either PeopleAnswers or SHL for pre-employment assessments solution

### 8.1.2 First Advantage Integration

Employers may want to validate the claims of an applicant by initiating a background check. SuccessFactors Recruiting offers integration with the First Advantage Direct Advantage process.

When the recruiter or hiring manager initiates a background check request, the candidate invitation is initiated from SuccessFactors, and then First Advantage collects candidate data not prepopulated by SuccessFactors. The standard Direct Advantage functionality applies once the invitation is sent.

The following section describes the steps and interactions in both SuccessFactors and First Advantage for this integration and is illustrated in Figure 8.8.

**Integration Process Steps**

The following steps describe the integration process:

1. The candidate applies and progresses through the workflow in SuccessFactors. During this process, the candidate data are collected for the screening request.
2. The hiring manager or recruiter sends an invitation to the candidate via SuccessFactors.
3. First Advantage sends a request for additional information directly to the candidate’s email.
4. The candidate provides consent, populates any missing information, and submits the application.
5. The customer also has the option of placing an instant order at this point or allowing a review by the recruiter.
6. Once the order is submitted, the request progresses through the fulfillment process.
7. First Advantage sends status updates to SuccessFactors as the request progresses through the screening order fulfillment process.
8. SuccessFactors displays the case level status and results for the request. In addition, a link in the application allows the user to access the detailed results in Enterprise Advantage.

The following section lays out the key considerations and benefits of using the First Advantage Direct Advantage process with SuccessFactors Recruiting.

Key Considerations and Benefits
When employing this integration, keep the following considerations and benefits in mind:
- Requires public records, education, and employment scope to be predefined and consistent per customer account.
- Requires the package to be defined in SuccessFactors and provided on the request.
- Data collected by First Advantage will not be sent back to update SuccessFactors but will reside in Enterprise Advantage.
- The candidate will be able to modify any of the data sent from SuccessFactors for the background check.
- Allows data to be reviewed and added by the candidate prior to submission.
- Allows signed consent forms and other forms to be provided directly from the candidate.
- For international searches, because the required data can vary by country, the requestor will be able to see any additional required information not provided by the source system.
- Minimal data can be sent from SuccessFactors, and First Advantage can reach out for any required missing information directly.

Prerequisites
First Advantage’s Direct Advantage background check product is required.

8.1.3 eQuest Integration
SuccessFactors Recruiting integration with eQuest provides better board-to-board mapping accuracy and access to eQuest’s continued feature innovations. It reduces the time to post jobs and enables the ability to easily add additional job boards, worldwide job board access, and detailed monthly transaction reports summarizing job posting usage.

As illustrated in Figure 8.9, after a job requisition is approved in SuccessFactors, it can be posted in one language per posting. Under the job board posting section, links are available to send the data to eQuest when the integration is enabled. In eQuest, the recruiter will have the ability to choose which job boards to post to and add specific information related to each board posting.

Figure 8.9 SuccessFactors Recruiting with eQuest Integration

The following sections provide a detailed step-by-step sequence of activities as part of eQuest integration as well as key considerations and benefits to keep in mind.

Integration Process Steps
The following steps describe the integration process:
1. The recruiter creates a job requisition in SuccessFactors Recruiting, providing all of the information required for posting to eQuest along with open position information. The recruiter then submits the requisition for approval.
2. The requisition progresses through the approval process, and the person with permission to post to job boards will see the Add Job Boards option appear.
3. After the job poster clicks on Add Job Boards, SuccessFactors Recruiting validates whether all data required by eQuest is provided, and the user is taken to eQuest.
4. Once in eQuest, the user will see all the boards his or her company has access to post to (see Figure 8.10).
5. The user clicks on the board to which the job needs to be posted and clicks on Post Job. At this point, the information will be passed from eQuest to the individual job boards.

6. After the postings are submitted, the user is brought back to SuccessFactors and presented with the requisition’s Job Postings page. The user should see the lower table populated with the job boards that were selected from eQuest (see Figure 8.11).

### Key Considerations and Benefits

When employing this integration, keep the following considerations and benefits in mind:

- **Classification Type**
  - Permanent
  - Contract
  - Contract to Permanent
  - Intern
- **Classification Time**
  - Full-Time
  - Part-Time
- **Industry**
- **Function**
- **City**
- **State/Province**
- **Postal Code**
- **Country**
- **Recruiter Name**

If information is missing in the job requisition, then the user will be asked to provide the data while posting.

You must request that the eQuest configuration and eQuest job board subscriptions are enable in SuccessFactors.

We recommended that you use one eQuest login ID for all SuccessFactors jobs postings, which will enable multiple users to be able to post and edit the same job.

Multiple eQuest logins can be used, in which case multiple user profiles for eQuest are required for the company’s recruiters. This may be case if only some recruiters have access to post requisitions to certain job boards.

The eQuest Advantage solution to purchase postings a la carte is not supported through this integration. SuccessFactors Marketing Central provides such features and is part of SuccessFactors Talent Management.

### Prerequisites

A separate third-party license with eQuest is required.
8.1.4 LinkedIn Data Integration

When candidates apply for a job through SuccessFactors Recruiting, they can choose to apply either by entering their candidate profile data (typing the individual information into each field) or by using LinkedIn to populate certain data values on their candidate profiles.

External Users

This integration is initiated by external users that set up an account on your SuccessFactors instance. All other integrations discussed in this chapter send and receive data for users that have accounts on their own active SuccessFactors instances.

The LinkedIn integration can only be used as part of the application process; it is not possible to use LinkedIn to populate a candidate profile if the candidate is not presently applying for a job. This integration may only be initiated and authorized by candidates, not recruiting users.

In addition, this integration may only occur on a case-by-case basis, as depicted in Figure 8.12; the candidate’s authorization may not be used to maintain a dynamic link to the LinkedIn data. LinkedIn only makes limited data available via integration, and not all available LinkedIn fields need to be mapped; customers may choose to use fewer fields than LinkedIn makes available.

The following sections provide a detailed step-by-step sequence of activities for the LinkedIn integration and key considerations and benefits to keep in mind.

Integration Process Steps

The following steps describe the integration process:

1. To begin, select the APPLY USING LINKEDIN option from the ACTION list of a job requisition or directly from a job requisition page (see Figure 8.13).

2. On the next screen, enter the LINKEDIN SECURITY CODE to grant access to the LinkedIn account displayed in SuccessFactors (see Figure 8.14).

![Figure 8.12](image1.png)  
Figure 8.12 SuccessFactors Recruiting with LinkedIn Integration

![Figure 8.13](image2.png)  
Figure 8.13 Apply Using LinkedIn from Search Page

![Figure 8.14](image3.png)  
Figure 8.14 Enter LinkedIn Security Code in SuccessFactors
3. If you do not know or have the security code, click on Get a new Security Code, and a popup window will appear to provide account login so that you can obtain your security code. Popup blockers may interfere with LinkedIn’s attempt to open a verification code window and may need to be manually disabled.

4. Once you authenticate your LinkedIn account, LinkedIn will display a security code.

5. Upon entering the code in the screen displayed in step 2, the candidate profile data will populate from LinkedIn, according to the standardized field mapping (see Figure 8.15).

Figure 8.15 Candidate Profile Page after Import from LinkedIn

Key Considerations and Benefits
When employing this integration, keep the following considerations and benefits in mind:

- The standardized mapping supports only the following data structures:
  - BASIC INFORMATION
    - FIRST NAME
    - LAST NAME
    - ADDRESS
    - DATE OF BIRTH
    - CELL PHONE

- WORK INFORMATION
  - CURRENT TITLE
  - CURRENT COMPANY
  - EMPLOYER
  - JOB TITLE
  - PRESENT EMPLOYER
  - EMPLOYMENT STATE DATE
  - EMPLOYMENT END DATE
  - JOB DESCRIPTION

- EDUCATION
  - NAME OF SCHOOL
  - DEGREE OBTAINED
  - FIELD OF STUDY
  - START DATE
  - END DATE

The candidate profile can be populated from LinkedIn during the application process and is not available just to synchronize data to the profile.

- Standard mapping between the candidate profile and LinkedIn data elements needs to be set up in Admin Tools. Standardized field mapping is necessary to define where the values from certain LinkedIn fields should be placed in the SuccessFactors Recruiting Management candidate profile. The values on the right are the values available from LinkedIn. The fields on the left are dropdown menus from which you can select fields you configured in the candidate profile XML. Some fields are limited to match types; for instance, you cannot map a field defined as text to a value that LinkedIn will send over as a date. Picklists in Recruiting cannot be mapped to LinkedIn fields.

Prerequisites
The following prerequisites must be met:
- Configure standardized mapping in Admin Tools
- The Provisioning setting ENHANCED JOB SEARCH UI must be enabled
- The Provisioning setting COMPLETE PROFILE BEFORE APPLICATION must be enabled
8.2 Packaged Integrations for SuccessFactors Onboarding

In this section, we will discuss the packaged integration between SuccessFactors Onboarding and a third-party system. As of the writing of this book (spring 2015), there is one standard integration that is offered through the USCIS E-Verify program. SuccessFactors Onboarding has functionality that can enable creating new forms, which can ultimately generate data through the standard export job, which can also be used to integrate most third-party systems.

E-Verify Integration

US law requires companies to employ only individuals who may legally work in the United States—either US citizens or foreign citizens who have the necessary authorization. E-Verify is an Internet-based system that compares information from an employee’s Form I-9 (Employment Eligibility Verification) to data from the US Department of Homeland Security (DHS) and Social Security Administration (SSA) records to confirm employment eligibility.

E-Verify process consists of the following four steps:

1. **Initial verification**
   The employee identification information is verified and sent to the DHS E-Verify program. An eligibility statement is returned providing confirmation or tentative nonconfirmation of an employee’s eligibility to be employed.

2. **Secondary verification**
   Secondary verification is for employees who contest tentative nonconfirmations and provides final confirmation or nonconfirmation of the employee’s employment eligibility within three federal government workdays from the initial inquiry date.

3. **Third verification**
   Additional processing of the employee’s information occurs in cases in which the DHS tentative nonconfirmation is returned within 10 federal government workdays from the initial inquiry date.

4. **Signature**
   The employer representative and employee sign employment eligibility forms using the e-signature technology. This is the final step in the E-Verify process.

---

SuccessFactors Onboarding E-Verify process begins immediately after all I-9 documents are completed and electronically signed. The following process details how E-Verify works as implemented in the SuccessFactors Onboarding tool (see Figure 8.16).

The following sections provide a detailed step-by-step sequence of activities as part of E-Verify integration as well as key considerations and benefits to keep in mind.

**Figure 8.16 SuccessFactors E-Verify Integration**

**Integration Process Steps**

The following steps describe the integration process:

1. After the Form I-9 is completed, new hire data is transmitted from SuccessFactors Onboarding to the Social Security Administration on behalf of the client. The start date of for E-Verify is determined based on the following criteria (see also Figure 8.17):
   - If the E-Verify request create date is before the start date of the employee, then the hire date is the E-Verify create date.
   - If the E-Verify create date is equal to or after the start date, then the E-Verify hire date is the start date.

---

Legend:

- Process step (mainly manual)
- Process step (mainly automatic)
2. SSA checks the validity of the following information (see Figure 8.17):
   - Social Security Number
   - Date of birth
   - Citizenship

![Figure 8.17 Review I-9 Form Data to Start E-Verify Process](image)

3. SSA confirms the data then refers to DHS to verify work authorization according to the agency’s immigration records.

4. After verification, DHS returns one of the following statements (see Figure 8.18):
   - **Employment Authorized**
   - SSA Tentative Nonconfirmation
   - DHS Tentative Nonconfirmation
   - Case Incomplete
   - Photo Matching Required

5. If work authorization is confirmed, then DHS will return **Employment Authorized**, which will be displayed in SuccessFactors Onboarding, as shown in Figure 8.18.

6. If neither agency can confirm work authorization, then the employer receives a **Tentative Nonconfirmation** message.

7. Upon receiving this nonconfirmation, the employee and employer have the following options:
   - The employee has eight days to contest or resolve.
   - If the employee does not contest, then the employer can terminate without the employer being civilly liable for termination.
   - If the employee contests, then the employer must sign the Notice of Non-confirmation.

8. When the SSA or DHS Tentative Nonconfirmation statement is returned, the new employee must be given an opportunity to contest or not contest the statement. The new employee must also acknowledge an understanding of the next steps associated with his or her decision and sign any notices and referral letters required (see Figure 8.19).

9. The SuccessFactors Onboarding remote employee process features updated language describing the reasons for the SSA tentative nonconfirmation that can be easily understood by both employers and employees and acted upon from different locations.
10. When Photo-Matching Required is returned, SuccessFactors Onboarding accommodates the automatic upload of the photo to the E-Verify program and assists with retaining a copy of the photo for your records.

Key Considerations and Benefits
When employing this integration, keep the following considerations and benefits in mind:

- The E-Verify process is not a substitute for pre-employment screenings and background checks and should not be used as such.
- A tentative nonconfirmation does not mean that the new hire is unauthorized to work, but rather that the data that was submitted cannot be confirmed. For example, the new hire may have a hyphen in his or her last name, but at the SSA there may be no hyphen on record.
- Photo-matching, as defined by the USCIS, is “an automatic part of the initial verification in E-Verify” that prompts employers to compare an employee’s photo ID with a photo displayed on the E-Verify screen. This step helps employers ensure that the documents provided are valid.

User Interface
The UI provides wizards to guide the onboarding specialist through the E-Verify process. Only options that are relevant for each step are visible on the screen, along with helpful instructions pertaining to that step in the workflow.

- The photo-matching step occurs automatically when you perform a verification case for an employee who has presented a United States Passport or Passport Card, a Permanent Resident Card (Form I-551), or an Employment Authorization Document (Form I-766) as their Form I-9 documentation. When the employee presents any of these three documents and the Form I-9 information entered by the employer matches DHS records, the employee’s photo will automatically display in SuccessFactors Onboarding on the E-Verify screen.
- According to the DHS, if an employer participates in the E-Verify program and the employee presents a document used as part of the Photo Screening tool as noted previously, then the employer must retain a photocopy of the document he or she presents when there is a photo nonmatch.

Prerequisites
SuccessFactors Onboarding E-Verify is required.

8.3 Packaged Integrations for SuccessFactors Learning
In this section, we will discuss the packaged integrations for SuccessFactors Learning. SuccessFactors Learning integrates with PayPal for enabling commerce functionality. It also integrates with Questionmark for learning assessments and with virtual learning systems such as Adobe Connect and Cisco WebEx to deliver training remotely. Each of these integrations are enabled with different configurations. This section will detail the required and more commonly used configurations.

Skillsoft
Skillsoft is not covered as a packaged integration, because it employs AICC or SCORM standards and is generic for all content that adopts these standards.
8.3.1 PayPal Payflow Pro Integration

A SuccessFactors Learning customer will train his or her customers, partners, and suppliers by providing curricula and courses available through resources outside the organization. External users pay for this training in multiple ways, including PO, chargebacks, credit card, and so on. When you connect SuccessFactors Learning to PayPal Payflow Pro, Payflow handles the financial transactions when users purchase courses from inside SuccessFactors Learning.

By allowing PayPal Payflow Pro to handle the transactions, you separate learning records from financial records: SuccessFactors does not store any credit card numbers unless you tell it to store the last four digits for auditing purposes. Even when you allow the last four digits to be saved in the database, SuccessFactors Learning encrypts the last four digits.

Because PayPal Payflow Pro handles both the information and the transaction, we recommend that you read the PayPal Payflow Pro documentation as a companion to the SuccessFactors documentation. PayPal publishes a Payflow Developer’s Guide with the most current information about configuring the system. We recommend that you read the guide, particularly sections about testing the system. PayPal built a testing system that allows you to submit test transactions to Payflow without real credit card information. Figure 8.20 shows the steps and interactions between SuccessFactors Learning and PayPal Payflow Pro.

The following sections provide a detailed step-by-step sequence of activities as part of the integration, information on setting up and configuring your PayPal Payflow Pro account once you have established the integration, financial configuration steps to be taken within SuccessFactors Learning for PayPal, and finally key considerations to keep in mind when utilizing the integration.

Integration Process Steps

Perform the following process steps to successfully implement the integration between SuccessFactors Learning and PayPal:

1. Set up your PayPal Payflow Pro account before you configure the SuccessFactors Learning connection to the account.
2. Work with PayPal to set up your Payflow Pro payment gateway account. This account information is necessary for setting up SuccessFactors Learning to connect to Payflow.
3. Once PayPal account information is available, the following key configurations need to be configured for this integration to work:
   - **Gateway Name**
     The gateway that SuccessFactors Learning communicates with. The value is PayPal for PayPal Payflow Pro gateway.
   - **Gateway Password**
     The password you set up when you created the Payflow Pro account. Contact PayPal support for your password.
   - **Gateway Host Address and Port**
     The host address and port number of the service that is hosting PayPal Payflow Pro.
   - **Partner Name**
     The ID provided to you by either PayPal or the reseller who created your account.
   - **Vendor Name**
     The merchant login ID created with the PayPal account.
   - **User Name**
     The username you created for the PayPal account.
   - **Currency Codes**
     The currency codes are the three-letter currency codes that the Payflow account accepts.
4. Set up the BOOTSTRAP-PAYMENT-GATEWAY in SuccessFactors Learning. The BOOTSTRAP-PAYMENT-GATEWAY file contains the network and logging settings of the PayPal Payflow Pro connection. It appears only to on-premise customers in System Admin • Configuration • System Configuration • BOOTSTRAP-PAYMENT-GATEWAY. For cloud learning, reach out to your SuccessFactors support representative for help. The key settings in this configuration are as follows:

- **hostAddress**
  The hostAddress property contains the URL of the host for the PayPal site hosting your Payflow Pro account. By default, SuccessFactors Learning goes to the test, or “pilot” site (pilot-payflowpro.paypal.com). Read more about the pilot site and find your live transaction site in the PayPal Payflow Pro documentation.

- **hostPort**
  The hostPort property contains the port that SuccessFactors uses and that PayPal Payflow Pro requires. The default is 443.

- **timeout**
  This is the number of seconds SuccessFactors Learning waits for a response before giving up.

5. Set up the financial configuration in SuccessFactors Learning. The financial configuration controls parts of SuccessFactors Learning commerce. It contains the PayPal Payflow Pro login settings and the settings to control the behavior of SuccessFactors Learning when a user provides payment information. This file appears to all customers in System Admin • Configuration • System Configuration • FINANCIAL. Some important configurations to be set are as follows:

- **financialTxApprovalRequired**
  If set to true, then the financial transactions will have to be approved by an administrator before the transactions can be extracted.

- **shoppingAccountTypeStudent**
  This property defines the default shopping account type for newly added users. The shopping account type can be internal or external. A user’s type matters, because external users can be excluded from some transactions.

6. Next, the SuccessFactors Learning administrator needs to set up a catalog with prices and define payment methods, including credit card payment processor configuration. Although SuccessFactors Learning never stores full credit card numbers, you can decide how you want SuccessFactors Learning to handle the credit card at the moment the user enters the information and for auditing purposes. Your company might have a policy concerning these issues. You have the following options when handling credit card information:

- **creditCardAuthorizationEnabled**
  Set creditCardAuthorizationEnabled to true to enable transactions through PayPal Payflow Pro.

- **creditCardSecurityCodeRequired**
  Set creditCardSecurityCodeRequired to true to require users to enter their credit card security code (for example, the three digits on the back of a Visa card). Check PayPal Payflow Pro documentation and your PayPal Payflow Pro configuration before setting this property.

- **paymentGatewayCurrencies[USD]**
  The paymentGatewayCurrencies sets the currencies accepted by PayPal Payflow Pro. By default, it is set to US Dollars (USD). For each currency you want to add, copy paymentGatewayCurrencies[USD] and change USD to the correct three-letter currency code, then set the property to true. To disable the currency while leaving its entry in the file, set it to false.

- **financialTxApprovalRequired**
  If set to true, then the financial transactions will have to be approved by an administrator before the transactions can be extracted.

- **shoppingAccountTypeOrganization**
  Defines the default shopping account type for newly added organizations. The shopping account type can be internal or external. An organization’s type matters, because users in external organizations can be excluded from some transactions.
You can validate the credit card number for simple errors before it is sent. For example, validation checks that Visa and MasterCard numbers are 16 digits.

You can require the credit card security code.

You can mask the security code when the user types it into text boxes.

You can set how you want the system to handle the expiration year— that is, how many years into the future to show in the dropdown list.

After the successful completion of these steps, users will now be able to perform payment transactions for SuccessFactors Learning courses.

Users will be able to browse the catalogs they have access to and see the price of each item. Users can add items to a shopping cart and click on CHECKOUT once they are done with selection. When a user clicks on CHECKOUT, he or she is shown a shopping cart summary and address information. After confirmation, the user will see payment method options and, if credit card is selected, will be shown a screen to enter credit card details. Upon entering credit card information and clicking on SUBMIT, connection with PayPal payment processor is established and order details (including price, address, and credit card information) are sent.

Once PayPal successfully charges the credit card, a transaction ID and status is supplied to SuccessFactors Learning. The user is shown the order details and transaction status in SuccessFactors Learning.

Key Considerations and Benefits

When employing this integration, keep the following considerations and benefits in mind:

- Credit card information is not stored in SuccessFactors, but (based on the configuration) the last four digits of the credit card number can be stored for tracking purposes.
- The order ID is associated with the PayPal transaction ID in SuccessFactors Learning. This will enable tracking an order and its fulfillment details.
- User and organization shopping account types influence the payment options available in commerce functionality.
- The currency PayPal Payflow Pro accepts must have the matching currency code in SuccessFactors Learning.

**8.3.2 Virtual Learning Systems Integration**

Virtual Learning Systems (VLS) enables e-learning over the web and mimics an in-person training delivery. VLS creates a classroom-type environment, allowing an instructor to deliver training through video, presentation, chatting, or phone. They enable discussions between participants through chat, phone, or a computer’s speaker and microphone. Figure 8.21 details the interactions between SuccessFactors Learning and VLS, along with the steps performed in each system.

**Figure 8.21 SuccessFactors Learning Integration with Virtual Learning Systems**

SuccessFactors Learning VLS integration is designed to work when the user connects directly from SuccessFactors Learning to the listed virtual VLS classrooms. Therefore, users should always connect to virtual classrooms through SuccessFactors Learning. We recommend that you plan your use of the VLS server to match the options available to you through SuccessFactors Learning:
Create User
Accounts need to be created for instructors on VLS.

Update User
Update instructor accounts on VLS.

Create Event
Create an online meeting or training session on VLS.

Update Event
Update online meeting or training session on VLS.

Delete Event
Remove online meeting or training session on VLS.

Enroll Students
Register learners for a training session.

Withdraw Students
Remove learners from a training session.

Get Meeting Info
Retrieve training session information from VLS.

Get User Info
Retrieve learner information from VLS.

Get EventHost URL
Retrieve the URL for instructor to start training session.

Get EventJoin URL
Retrieve the URL for learners to join the training session.

Get Host Attendance
Retrieve the total duration of the session.

Get Student Attendance
Retrieve the duration of attendance for each learner.

The following sections provide a detailed step-by-step sequence of activities for VLS integration and key considerations and benefits to keep in mind.

Integration Process Steps
The following steps describe the integration process:

1. The administrator should set up VLS configuration in SuccessFactors Learning, as documented in the Virtual Meeting Rooms guide available at http://help.sap.com/cloud4hr. Figure 8.22 shows the configuration screen.

2. When you sign up with a VLS vendor, the vendor should provide the following configuration information (if you already have a VLS provider, reach out to that provider for configuration information):
   - **XML API Address**
   - **URL API Address**
   - **Username**
   - **Password**
   - **Meeting Type**
   - **Site Name**

   ![VLS Configuration](image)

   Figure 8.22 SuccessFactors Learning VLS Configuration

3. There may be additional configuration settings for your virtual learning server, but the settings in the previous step are the basic requirements for SuccessFactors VLS environment settings. SuccessFactors Learning can be configured with multiple VLS providers if your organization uses different ones based on different types of sessions.
4. VLS configuration is disabled by default. Therefore, you’ll have to enable it. Go to System Admin • Configuration • System Configuration. From here, edit the LMS_ADMIN configuration page.

5. Find the vleEnabled setting, and change its value to true. Click on Apply Changes.

6. The SuccessFactors VLS connection configuration can be added or edited from SuccessFactors Learning Administration. To do so, log in to SuccessFactors Learning Administration, and then go to System Admin • Configuration • VLS Configuration.

7. Click on the Add New link, and then add a unique VLS ID, a description, and the XML configuration file provided by SuccessFactors in the Configuration box. Add a new VLS configuration for every VLS provider you want to connect to.

8. Click on Add.


<connector> and <connector_class>

Do not modify the <connector> and <connector_class> elements for any of these files. To edit the files, you should have an understanding of XML and technical knowledge of the VLS server to which you are integrating. The values you put in each of the XML elements are supplied by the vendor or the server you are integrating with.

Time zone mappings are contained in the VLS configuration files, in the timezone element. In almost every case, you can use the default time zone mappings. However, if participants in your meetings describe time zone issues, then you can check the map for their time zones to make sure that they are correct.

Set Up Instructors and Courses

Once the primary configurations for the integration are complete, the instructors that will deliver virtual courses should have their accounts set up with VLS credentials. VLS IDs can be created through SuccessFactors Learning, or existing ones can be associated with the instructor’s account.

For an item’s scheduled offerings, one or more segments can be set up as Virtual. When a segment is marked Virtual, the VLS server to be used should be selected from the dropdown; optionally, you can provide a password in case you want attendees to both access the meeting URL and enter a password to join (see Figure 8.23).

Once the session is created, the instructor is sent a VLS link that enables him or her to start the virtual meeting room. As users register and enroll in the course, emails with unique attendee URLs will be sent to them. The URLs include information to enable tracking for attendance. Users can attend the virtual sessions either by clicking on the URL or logging into SuccessFactors Learning and clicking on the launch link on the Learning Assignments dashboard. The link will be enabled prior to the session start based on VLS configuration.

Figure 8.23 Scheduled Offering with Virtual Segment

Data Synchronization with VLS

VLS synchronization is the process that transfers information from SuccessFactors Learning Administration to your VLS server. For example, if you add an instructor in SuccessFactors Learning Administration, then the instructor record is synchronized from SuccessFactors Learning Administration through VLS so that the instructor is recognized in both systems. The systems can be synchronized when you save the instructor record, or SuccessFactors Learning can synchronize changes in a batch.

To synchronize immediately: Set the sync element in your VLS configuration XML file to true. By default, the sync element is set to true, because we recommend that you synchronize immediately unless you have a slow connection. As soon as you add, update, or delete a record that needs to be synchronized with VLS, SuccessFactors Learning Administration sends the information through VLS. This setting is recommended for most customers.
To synchronize at an interval: Set the `sync` element to `false`, and then configure the synchronization frequency in **System Admin > Configuration > Global Variables**. When you synchronize at an interval, the synchronization process runs in the background at an interval. Any changes you make in SuccessFactors Learning do not appear immediately on the VLS server.

Once all the sessions in the scheduled offering are completed, the VLS Attendance Processing automatic process will run if enabled, retrieving information about the user and the duration for which he or she attended virtual sessions. If this duration meets or exceeds the attendance percentage that was set up, then the user is marked as having attended the course.

**Key Considerations and Benefits**

When employing this integration, keep the following considerations and benefits in mind:

- The course item should be classified as instructor-led or blended to be able to create scheduled offerings in SuccessFactors Learning.
- If you need to resend the email notifications to registered users, then you can send do so from the **Scheduled Offering Segment** screen.
- When a user drops and rejoins a virtual session, typically multiple attendance records are sent by VLS. All attendance records of a user are added to determine if they met the attendance percentage.

**Prerequisites**

The following prerequisites must be met to implement this integration:

- SuccessFactors Learning VLS license
- SuccessFactors Learning VLS configuration XML for your provider
- VLS account with Cisco WebEx or Adobe Connect

### 8.3.3 Questionmark Integration

Questionmark is a provider of online assessment software for learning, certification, compliance, and channel expertise. The software allows you to create, deliver, and report on assessments.

After the assessments are authored in Questionmark, the SuccessFactors Learning administrator should copy the public URL for delivery of the assessment and configure a content object entity of type AICC or SCORM based on the specification provided by its author in SuccessFactors. The administrator should then associate the content object to a SuccessFactors Learning item and add it to one or more catalogs based on business need.

When the user launches the learning item, the SSO handshake is initiated between SuccessFactors and Questionmark, and the user is securely logged in and assessment information sent. Questionmark will display the assessment screens to the user. Upon completion of the assessment, the score is sent back and stored in SuccessFactors. The learning administrator can run Questionmark reports from SuccessFactors Learning. Figure 8.24 provides a sequence of events that would need to occur in each system for this integration to work and to return the score to SuccessFactors Learning.

**Figure 8.24  SuccessFactors Integration with Questionmark**

The following sections provide a detailed step-by-step sequence of activities as part of Questionmark integration and key considerations and benefits to keep in mind.
Integration Process Steps

The following steps describe the integration process:

1. The following key configurations need to be set up for this integration to work:
   - **endPointAddress**: Questionmark SOAP endpoint URL
   - **apiClientID**: The client ID assigned by Questionmark
   - **apiChecksum**: Checksum value provided by Questionmark

2. Once the necessary configurations have been completed, the SuccessFactors Learning administrator should create a content object with the **Launch Method** set as either AICC or SCORM, based on how the content was authored, and should also provide the Questionmark URL to launch for assessment delivery (see Figure 8.25).

3. The administrator should then create an item and classify it as **Online Only**, providing all relevant information, and associate the content object created in the previous step (see Figure 8.26).

4. The item created in the previous step can be assigned to users as part of a curriculum or as a standalone course.

5. The item then appears on an assigned user’s **My Learning Assignments** screen. The user clicks on the assessment to launch it and then completes it (see Figure 8.27).

The assessment results are simultaneously sent back to SuccessFactors Learning and recorded in the user’s learning history. The same information is also available for the administrator in the **User Administration** section.
Key Considerations and Benefits

When employing this integration, keep the following considerations and benefits in mind:

- The content object’s file name should contain the full URL for the Questionmark assessment, including the domain name.
- When the score is available in SuccessFactors Learning, the success or failure based on the value specified can be determined in the Mastery Score field.
- Refer to the SuccessFactors Learning help documentation for associating content to an item and enabling it to be available for users.

Prerequisites

A separate third-party contract with Questionmark for its learning assessments solution is required.

8.4 Standard Data Imports

Standard data imports are another way to integrate SuccessFactors with third-party vendors. The previous sections discussed the business process-based integrations. In this section, we will look at the data integrations.

Data is imported into SuccessFactors through standard import jobs. These data imports accept flat files (mostly in CSV format) and send out notifications when they complete processing data. This section discusses the high-level design and function of these standard import processes.

The next two sections look at the import process for the SuccessFactors HCM platform and data imports in SuccessFactors Learning.

8.4.1 SuccessFactors HCM Platform

The import process starts with the preparation of the file in SuccessFactors-defined format. The template files can be downloaded directly from the application in Admin Tools. The file format supported is a comma-delimited file. The first line contains the column technical name, and the second line includes the user-friendly column name. Figure 8.28 shows the steps performed by the import process to consume files and add data to the SuccessFactors platform.

The data from the file is updated as is, but if specific data in SuccessFactors needs to be retained for a column, then &NO_OVERWRITE& needs to be specified in the file for the corresponding column. The file generated can be encrypted and is to be placed on the SuccessFactors-provided secure FTP server or the customer’s FTP server. The file name can include the current date to not overwrite files that are still on the FTP server.

The file will be picked up at the scheduled time, decrypted, and validated for format and data consistency. Once these checks pass, the data in each row is validated against the data in the database, and actions that need to be taken on the record are determined and executed. Once all records are processed, an email is sent out to all users or groups specified at the time of scheduling the job. The email contains a summary of information, including counts of new and updated records, along with error counts and error messages.

8.4.2 SuccessFactors Learning

Data imports to SuccessFactors are also known as connectors. There are connectors for users, admins, organizations, domains, learning history, jobs, item domains, positions, scheduled offerings, and registration data. Connector workbooks defining the specifications are released along with product releases by SuccessFactors. Each of the following sections provide details on connector features.
File Format
SuccessFactors supports only the UTF-8 character set in the input file. Because many connectors have description fields that span multiple rows, it is recommended to use `##` as a row delimiter. The column delimiter is always a pipe (`|`) character. The connector will be set to the header method for processing the input file. This means that the order of the headers can vary, because the connector reads the header row and uses it to map data to the connector fields. All columns indicated in the header row must be supplied in the input file data. Two consecutive pipes indicate a null value.

Configuration Options
The System Admin • Configuration • System Configuration • Connectors configuration menu contains both global settings applicable to all connectors and those that are specific to each connector. Properties starting with the `connector` prefix apply to all connectors. These can be overridden for a specific connector by adding a prefix to the property. If this needs to be changed only for a specific connector, then add a new property prefixing the property for that connector.

Example
The connector configuration ships with `connector.pgp.enabled=false`, indicating that file encryption is disabled. It can be enabled for a connector by adding a new property, `xyz.connector.pgp.enabled=true`, where `xyz` is the connector prefix.

Table 8.1 provides a list of connectors and their corresponding prefixes.

<table>
<thead>
<tr>
<th>Connector Name</th>
<th>Connector Prefix</th>
</tr>
</thead>
<tbody>
<tr>
<td>User Connector</td>
<td>user</td>
</tr>
<tr>
<td>Federal User Connector</td>
<td>federaluser</td>
</tr>
<tr>
<td>Organization Connector</td>
<td>organization</td>
</tr>
<tr>
<td>Domain Connector</td>
<td>domain</td>
</tr>
<tr>
<td>Item Connector</td>
<td>item</td>
</tr>
<tr>
<td>Learning History Connector</td>
<td>learninghistory</td>
</tr>
<tr>
<td>Schedule Offering Connector</td>
<td>scheduleoffering</td>
</tr>
<tr>
<td>Registration Connector</td>
<td>enrollment</td>
</tr>
</tbody>
</table>

Table 8.1 SuccessFactors Learning Connector Prefixes (Cont.)

<table>
<thead>
<tr>
<th>Connector Name</th>
<th>Usage</th>
</tr>
</thead>
<tbody>
<tr>
<td>User Connector</td>
<td>Add, update, or inactive users.</td>
</tr>
<tr>
<td>Federal User Connector</td>
<td>Add, update, or inactive users for customers that need to store PII data in SuccessFactors Learning.</td>
</tr>
<tr>
<td>Organization Connector</td>
<td>Add, update, and maintain organization hierarchy.</td>
</tr>
<tr>
<td>Domain Connector</td>
<td>Add, update, and maintain domain hierarchy.</td>
</tr>
<tr>
<td>Item Connector</td>
<td>Add, update, revise, and inactive SuccessFactors Learning items and content objects.</td>
</tr>
<tr>
<td></td>
<td>Maintain associations between items and content objects.</td>
</tr>
<tr>
<td></td>
<td>SuccessFactors Learning item localization and competency mappings.</td>
</tr>
<tr>
<td>Learning History Connector</td>
<td>Add items based on training history for users.</td>
</tr>
<tr>
<td>Schedule Offering Connector</td>
<td>Add or update scheduled offerings.</td>
</tr>
<tr>
<td>Registration Connector</td>
<td>Enroll users for existing scheduled offerings.</td>
</tr>
<tr>
<td>Position Connector</td>
<td>Add or update positions.</td>
</tr>
<tr>
<td>Job Code Connector</td>
<td>Add or update job codes.</td>
</tr>
<tr>
<td>Curriculum Connector</td>
<td>Add or update curricula.</td>
</tr>
<tr>
<td></td>
<td>Maintain curricula parent/child relationships localization.</td>
</tr>
<tr>
<td></td>
<td>Maintain item and requirement mappings to curricula.</td>
</tr>
</tbody>
</table>

Table 8.2 SuccessFactors Learning Connectors
Scheduling
A connector scheduler resembles Windows Scheduler options, and each of the connector menus available at System Admin • Connectors displays the connector scheduler (see Figure 8.29).

Data Processing
Data from input files are loaded into staging tables. After comparing them with the target data, delta data is determined along with the type of operation that needs to be performed on each of the target records. Records determined as unchanged are ignored, and changed records are processed by the connector.

Figure 8.29 SuccessFactors Learning Connector—Schedule and Status

Reports and Error Logs
Once the connector completes processing all records, it generates two reports and emails them to the email address(es) specified on the scheduling screen. The summary report contains record counts for operations performed and aggregated information. The connector has the ability to archive processed files (see Figure 8.30).

8.5 Summary
In this chapter, we discussed how to integrate SuccessFactors talent modules with third-party applications using delivered integrations. Some of these integrations do not require a middleware platform, whereas others (such as assessment integrations with SuccessFactors Recruiting) do need one. When middleware is needed, SuccessFactors and SAP deliver packaged integration content via both Dell Boomi AtomSphere and SAP HANA Cloud Integration. All of the integrations described in this chapter are with SuccessFactors partners that are in the cloud, with no further network configurations needed.

Moving on from business process-oriented integrations, we also touched on the various data imports and integrations involved with talent modules. A large number of SuccessFactors customers use flat file imports to add data to the talent suite. The data templates for standard imports to talent modules are available in Admin Tools.

The next chapter will showcase a few case studies for the Full Cloud HCM deployment model. This will provide real-world application to the concepts discussed throughout the book.
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