## Interview Appian

Prep for interviews:

details about CDTs

WebServices, RESTFul webservices consumption in SAIL.

JSON data manipulation.

### Brief about your experience

o How was it implemented in your project, were you receiving requirements from architect and was that ADT or something like that design document how it was carried out?

There was a requirements documentation and a rough design was created by the sales person in Analyst view.

We designed the initial architecture

o So the FRD document was telling the higher level requirements or did it give detailed description of how it has to be implemented in your code?

It was giving high level requirements.

o In appian you can do design also, in case you don't want to do development, it allows many people to code at same time so have you come across any such scenario?

o So in case any requirement gets updated , you'll be updating the document or will you be directly updating the appian flow?

### Do you have any experience of creating process model?

Yes, I have developed individual process models. I have developed them while working on my previous project.

### Have you worked on exposing the process model as web service or consuming any web service?

I have worked on consuming web services in a process model. We had created a small POC which involved integrating with JIRA, an issue tracking system. JIRA provides RESTful integration. We consumed JIRAs RESTful web-services using HTTP Request Plugin in Appian Process models. The HTTP request Plugin is similar to HTTP Query

I haven’t worked on exposing a process model as a web-service but I know that it can be done by going to the System Tab in designer mode. Then click on Web services -> Services. Then click on “Add service”. There you can select a process model to expose as a web service.

### Is there any smart service in Appian with which we can consume the web service?

Both RESTful and SOAP based web services can be consumed in Appian.

For consuming SOAP based web services in Appian, a smart service called “Call Web service Node” can be used. It needs parameters like WSDL or it URL, headers and parameters.

On SAIL forms, the function a!webservicequery() can also be used for calling SOAP based web services.

### How to consume the RESTful web service and how to consume the JSON response?

RESTful webservices can be consumed both in the process models as well as SAIL forms.

To consume RESTful webservices in the process model, the “HTTP Query” smart service can be used.

It takes the following parameters: Endpoint, Method, Headers, Parameters, Basic Authentication and Request Body.

To consume RESTful web services in SAIL, the SAIL function a!httpQuery() can be used. It takes the following parameters: URL, method, headers, queryParameters, basicAuthenticationCredentials.

In SAIL, the JSON response can be consumed by using the function a!fromJson() which converts JSON response to Appian values.

### Suppose I'm trying to insert a record in the data base and there is a primary key in the table and I'm not sure about the value, so many times we can just leave the primary key field blank and try to insert an record and it will get inserted, but in this scenario it is not being inserted as in the record is not being saved to the database, in this case what are the possible ways of debugging the issue, how should I track the root cause?

First, login with designer rights to the designer mode. Check the relevant alerts. You will see an error message relevant to the failed write to the database. Note down the error message in the alert.

The database generates an identifier for the record being inserted automatically. If you do not assign a value to it, it will be generated automatically. If you do assign a value to it, that value will be used by the database as the primary key provided that no other row in the DB table has the same Id.

In this case, go to the designer mode. Go to Processes tab, click on the relevant process and open the process history. Check if the CDT has blank value for the primary Key in the process history. If it has value, the value must be coming from some task or script task.

Another cause maybe that the some field in the CDT is NULL. But the corresponding table in the database does not allow NULL value for the corresponding column.

Check the relevant database tables. Note down the properties of the columns, then check if the value in the CDT in process history satisfies all the constraints enforced by the database table. If not, find out which field/fields in the CDT are causing the issue. Take corrective actions so that the CDT contains appropriate values which satisfy DB table constraints.

o What are the triggered sequences?

### There is already one record in the database, customer record, and I want to update the customer name, so how to do this from the process model?

First create a queryRule which takes in an id as a parameter. This queryRule will return a CDT of customer record having the specified id. Then call that rule in a script task in the process model and save the result in a CDT of type customer. Then, Update the “name” filed of the CDT from the form. Write back the changed CDT to the database using the “Write to database” smart service. This will update the customer name in the database also.

### So for updating and for adding new record to the database will you be using same service "write to the database"?

Yes, for updating and adding a new record same smart service is used. But the CDT should have a field designated as a primary Key. Otherwise, new row will be generated each time you write to the database and you will not be able to update the record.

### Have you tried creating data stores and adding CDTs in appian? Can you please briefly describe about it.

### In case there are any changes to the tables, the I have to update the CDTs and update the data store, but the I have to check which are the process models or rules that have been impacted if I change the CDT, so is there any way to find that out?

You can carry out Impact analysis from the System->Data Types tab. Select the CDT. An option for impact analysis (or “dependents” as of Appian 7.9) will be shown. Impact analysis will show all the process models or query rules that have been impacted.

Do you know how to create the batch process in Appian? Can I create a process model that will be run every day at certain time?

There are two approaches:

A timer event can be applied on the start event of the process model. The timer can be configured to run at periodic intervals. Process Instances will be triggered at periodic intervals.

Other approach:

Create a wrapper process model. Add the sub-process model as a node. You can schedule the sub process node to be triggered periodically from the "Scheduling" tab.

### What is the difference between query Rule and a!queryEntity()

A!queryEntity allows you to fetch data from Appian data store using a simple expression rule.

We can specify which columns we need to retrieve rather than retrieving all the columns.

Custom filters can also be specified.

On the other hand, in a query rule this cannot be done.

Also query rule has a slower performance than queryEntity

It is recommended to use queryEntity.

### So I have a query entity added in the expression rule, I’m passing the customer Id and it is giving me the customer name, but in case I pass the wrong ID, it will break my rule and it will throw an exception and when I'm calling it through the SAIL form it will throw the exception on the SAIL form, so I want to handle it gracefully, it should show some nice error message to the use so how it should be done? Should I handle this in UI or query rule?

Have the rule return null, when the corresponding Id does not exist in the database. Then on the UI, check if the rule has returned null. If the returned value is null, show an error message to the user, stating that the corresponding record does not exist.

On the UI, one of my field gets updated based on the web service response so, user just inputs the customer name and it is validated from the web service and I'll show the response if the name is valid if not show the error message, so how to call the web service from UI and how to handle its response in UI itself?

If the web service is RESTful, you can use the a!httpQuery function to call the web service from the UI.

The RESTful webservice will return a JSON response. Use the a!fromJSON function to convert it to Appian data type. You can then validate the username.

If the web service is SOAP based, use the a!webservicequery() function to call the web service from the UI. Webservicequery() returns a result of type WsResult. It contains a field called “value” which is a dictionary containing the value returned by the web service. You can then validate the username using that value.

### What is the latest version of Appian you have worked on?

7.8

What was the version of Appian when you gave L1 certification?

7.8

### What is the procedure to create a plugin and add it to Appian?

In the process model there is the user input node, I can attach the SAIL form to it, can I attach a JSP page to it?

A JSP form can also be used for a user input node form. But Appian recommends using SAIL forms.

### What is difference between load() and with() functions?

Load() and with() differ in the way the expressions are reevaluated.

In Load() , variables are bound to the values only once i.e when the form loads. When the expression re-evaluates it does not take the updated values of the load variables. It uses the same values for the local variables which were used in the previous evaluation.

In with(), the variables are re-initialized or reset during each evaluation. When the expression re-evaluates, the expression evaluates with the updated values of the local variables.

### What is difference between apply() and filter()

Apply() function applies the given function to each element of the given array and returns the transformed array.

Filter() function takes in a predicate function and an array. It evaluates the predicate function for each array. It returns back only those elements for which the predicate function returned true.

### What are different annotations we use in XSD file while creating CDT

@Id – for Primary Key

@GeneratedValue – for specifying that the value for the primary key column will be generated automatically by the database.

@Column – for specifying the column name, and its data type and size.

@Table – for specifying the table name

@OneToMany – for specifying relationship between parent and child entities.

@JoinColumn – for specifying the column of child entity which will act as a foreign key.

### What is use of script Task in process model

Intermediate computations which do not require user intervention can be done using Script Tasks.

### What are reports? Any example? How to show it in pie-charts

Reports are used for visualizing an aggregation of data. Example: you can track the customer ratings for a product across different regions, or across years using a Tempo Report.

To show data in a pie-chart, you need to have the data converted into a chartseries. The SAIL function a!chartseries() can be used for converting the data to a chart series.

This chartSeries variable can then be used in a Report to show the data in a!piechart component.

### What are records? What are different types of Records?

A Tempo Record is a collection of associated data which belongs to an instance of an entity.

For example: Employee is a business entity. An employee may have associated data like name, age, designation.

Types of records:

1. Entity backed Record – the data source is the database.
2. Process backed record – the data source are the process instances of a process model
3. Service backed record – the data source is an expression. The expression should

### If I have array of entity for eg.(Employee) having Emp ID, Emp Name, Emp Address. By passing Emo ID how can i get Entity from that CDT. Which function we can use?

### I have 500 lines of code, if there is comma missing somewhere, how we can find that?

### If one task is assigned to group and it is not completed by any user, how we can re-assign that task.

Any user who has a Manager, editor or admin access to the process can reassign the task even if it is not accepted/completed by any user.

If task reassignment is disabled, users with editor and Admin access to the process can reassign the task.

### If I trigger process model from Email. Where i can get Email-Id in process model.

Go to the Start Node of the process model. Go to “Triggers” tab. A Receive Message event must have been configured with type “Process to Email”. Open that Event. Go to the “Data” tab of the Event.

Click on “New Mapping”. Select an expression from the drop-down. In the expression editor select, “Message Properties”. Click on “FromEmail”. Save it into a text PV.

In this way you can get the Email Id of the email which triggered the process model.

Agile methodology involves software development in “sprints”. A sprint is a predefined periodic interval. Each Sprint is planned in advance. The planning includes things like what will be delivered in that sprint, who will work on which task etc. A daily-standup meeting for a short duration is also held every day.

Waterfall methodology involves software development in a phase-by-phase manner. The phases are Requirements gathering, Design, Implementation, Testing and Maintenance. Each phase is dependent on the previous step and you cannot proceed to the next phase unless the current phase is completed.

In waterfall model, you cannot revisit the previous phase. So, waterfall is best suited for projects where the requirements are clearly well-defined and stable.

BPM in telecom industry: