



Appian Development

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Introduction

- Appian Plug Ins
 - OSGi
 - Smart Nodes
 - Custom Functions
- Appian API
- Appian Expressions
- JSPs
 - Inside Appian Application
 - Inside our Custom Application
- Javascript in Forms

Appian plugins

- Appian Plugins https://forum.appian.com/suite/wiki/73/Appian_Plug-ins
 - OSGi
 - Hot-deploy to <appian>/admin/_plugins
 - Plugin-manifest (appian-plugin.xml)
 - key: Namespaced
 - name: Just a description
- Plugin Creator https://forum.appian.com/suite/wiki/73/Appian_Plug-in_Creator_for_Eclipse
 - Eclipse Helios 3.6 compatible
 - Installation https://forum.appian.com/extras/developer_edition/site.xml
 - Create new Appian-Plugin
 - Create new Smart Service
 - Create new Custom Function
 - Import types

Quick Introduction to eclipse

- Workspaces
- Perspectives / Views
- Build Path

The appian java API

- <https://forum.appian.com/suite/wiki/73/api/>
- ServiceLocator returns the various Appian Services
- It needs a ServiceContext (sc)
 - AnonymousServiceContext
 - AdministrationServiceContext
 - WebServiceContext (logged in user)
- For Instance // DO NOT USE THIS EXAMPLE
 - `ServiceContext sc = ServiceLocator.getAdministrationServiceContext();`
 - `UserService us = ServiceLocator.getUserService(sc);`
 - `User u = us.getUser("a062");`
 - `u.setFirstName("test");`

All appian services

- <https://forum.appian.com/suite/wiki/73/api/>
- **Implementing the `com.appiancorp.services.Service` Interface**
- [AdministrationService](#), [AdministrationService](#), [AdministrationService](#), [ApplicationService](#), [CalendarService](#), [CollaborationSearchService](#), [CollaborationUserService](#), [CommunityService](#), [ContentService](#), [ContentStatisticsService](#), [ContextSensitiveService](#), [ContextSensitiveSingletonService](#), [DiscussionMetadataConvenienceService](#), [DiscussionMetadataCoreService](#), [DiscussionPortletService](#), [DocumentService](#), [EmailNotificationService](#), [ExceptionHandlerService](#), [ExpressionService](#), [FolderService](#), [ForumsSearchService](#), [GlobalizationService](#), [GroupMessageService](#), [GroupService](#), [GroupTypeService](#), [KnowledgeCenterService](#), [LeaderMessageService](#), [LinksService](#), [MessagePublisherService](#), [MetadataAdministrationService](#), [MetadataService](#), [MiniMetadataService](#), [NavigationService](#), [NotificationService](#), [PageNavigationService](#), [PageService](#), [PersonalizationSearchService](#), [PortalNotificationService](#), [PortalSearchService](#), [PortletService](#), [ProcessAdministrationService](#), [ProcessAnalyticsService](#), [ProcessDesignService](#), [ProcessExecutionService](#), [ProcessPortService](#), [ReportingService](#), [StatisticsService](#), [SynchronizationService](#), [TypeService](#), [UserProfileService](#), [UserService](#)

Custom Smart Services

- https://forum.appian.com/suite/wiki/73/Custom_Smart_Service_Plug-ins
- Inputs: @Input annotation at a setter
- Outputs: getters without setters
- @Name("ParameterName")
- @Type (namespace="http://example.org", name="MyCustomType")
- Inject required services as constructor parameters

Custom Functions

- `@Category("category.name.ConversionFunctions")`
- `@AppianScriptingFunctionsCategory`
- `@Function`
- `@Parameter`
- `@Type`
- Only one output (can be multiple - just return java array)
- Easier to use than Smart Nodes

Example

```
@com.appiancorp.suiteapi.expression.annotations.AppianScriptingFunctionsCategory
public class TestQueryCDT {

    private static final Logger LOG = Logger.getLogger(TestQueryCDT.class);

    @Function
    @Type(name = "SALES_Product", namespace = "urn:com:appian:types:REFAPP")
    public SALESProduct[] TestQueryCDT(
        UserService us,
        @Parameter @Type(name = "SALES_Product", namespace = "urn:com:appian:types:REFAPP") SALESProduct
salesProduct1,
        @Parameter @Type(name = "SALES_Product", namespace = "urn:com:appian:types:REFAPP") SALESProduct
salesProduct2

    ) {

        ArrayList<SALESProduct> sps = new ArrayList<SALESProduct>();
        sps.add(salesProduct1);
        sps.add(salesProduct2);
        User user = us.getUser("serafeim");
        salesProduct1.setColor(user.getFirstName());
        salesProduct2.setDescription(user.getLastName());
        return sps.toArray(new SALESProduct[0]);

    }

}
```

Advanced Expressions

- `if()`
- `type!xyz()`
- `apply()` / `reduce ()`
- `filter()` / `reject ()`
- `with()` / `load ()`
- Example:
 - Get Custom Groups
 - Get Group Members
 - Get More details for Group Members (username, fullname)
 - Get Non-imported Users

Appian Scripting Functions

- **Don't do it**
- `var field_value = window.FormAPI.getValue("field").id;`
- `window.FormAPI.setValue("field", field_value);`
- Debug javascript from a form
- Ajax with JSPs
 - JSPs inside suite.ear application
 - JSPs inside our custom application