Views

This capability is currently under development.

Ambari Views offer a systematic way to plug-in UI capabilities to surface custom visualization, management and monitoring features in Ambari Web. A "**vie**
" is a way of extending Ambari that allows 3rd parties to plug in new resource types along with the APIs, providers and UI to support them. In other words, a view is an application that is deployed into the Ambari container.

Useful Resources

Resource	Link
Views Overview	http://www.slideshare.net/hortonworks/ambari-views-overview
Views Framework API Docs	https://github.com/apache/ambari/blob/trunk/ambari-views/docs/index.md
Views Framework Examples	https://github.com/apache/ambari/tree/trunk/ambari-views/examples

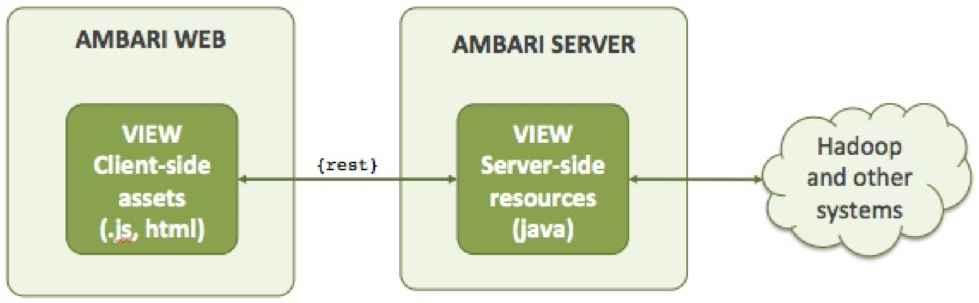
Terminology

The following section describes the basic terminology associated with views.

Term	Description
View Name	The name of the view. The view name identifies the view to Ambari.
View Version	The version of the view. A unique view name can have multiple versions deployed in Ambari.
View Package	This is the JAR package that contains the **view definition** and all view resources (server-side resources and client-side assets) for a given view version. See View Package for more information on the contents and structure of the package.
View Definition	This defines the view name, version, resources and required/optional configuration parameters for a view. The **view definition file** is included in the view package. See View Definition for more information on the view definition file syntax and features.
View Instance	An unique instance of a view, that is based on a view definition and specific version that is configured. See Versions and Instances for more information.
View API	The REST API for viewing the list of deployed views and creating view instances. See View API for more information.
Framework Services	The server-side of the view framework exposes certain services for use with your views. This includes persistence of view instance data and view eventing. See Framework Services for more information.

Components of a View

A view can consist of **client-side assets** (i.e. the UI that is exposed in Ambari Web) and **server-side resources** (i.e. the classes that expose REST end points). When the view loads into Ambari Web, the view UI can use the view server-side resources as necessary to deliver the view functionality.



Client-side Assets

The view does not limit or restrict what client-side technologies a view uses. You can package client-side dependencies (such as JavaScript and CSS frameworks) with your view.

Server-side Resources

A view can expose resources as REST end points to be used in conjunction with the client-side to deliver the functionality of your view application. Thees resources are written in Java and can be anything from a servlet to a regular REST service to an Ambari ResourceProvider (i.e. a special type of REST service that handles some REST capabilities such as partial response and pagination – if you adhere to the Ambari ResourceProvider interface). See Framework Services for more information on capabilities that the framework exposes on the server-side for views.

Checkout the **Weather View** as an example of a view that exposes servlet and REST endpoints.

https://github.com/apache/ambari/tree/trunk/ambari-views/examples/weather-view

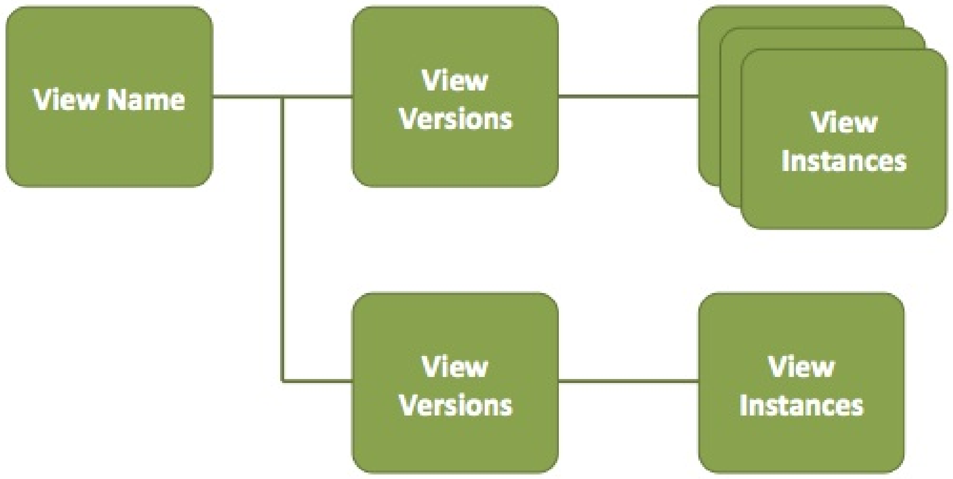
View Package

The assets associated with a view are delivered as a JAR package. The **view definition file** must be at the root of the package. UI assets and server-side classes are served from the root. Dependent Java libraries are placed in the `WEB-INF/lib` directory.

```
view.jar
|
|- view.xml
|
|- <server packages + classes>
|
|- index.html
|  |
|  |_ <supporting UI assets>
|
|_ WEB-INF
   |
   |_ lib/*.jar
```

Versions and Instances

Multiple versions of a given view can be deployed into Ambari and multiple instances of each view can be created for each version. For example, I can have a view named FILES and deploy versions 0.1.0 and 0.2.0. I can then create instances of each version FILES{0.1.0} and FILES{0.2.0} allowing some Ambari users to have an older version of FILES (0.1.0), and other users to have the newer FILES version (0.2.0). I can also create multiple instances for each version, configuring each differently.



Instance Configuration Parameters

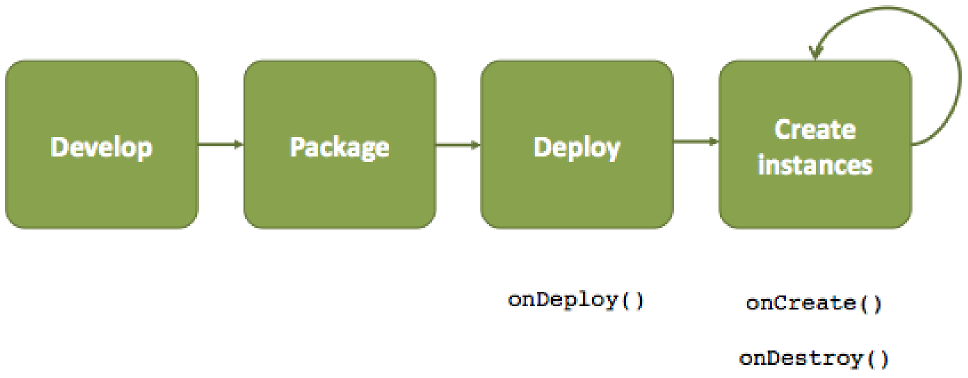
As part of a view definition, the instance configuration parameters are specified (i.e. "these parameters are needed to configure an instance of this view"). When you create a view instance, you specify the configuration parameters specific to that instance. Since parameters are scoped to a particular view instance, you can have multiple instances of a view, each instance configured differently.

Using the example above, I can create two instances of the FILES{0.2.0} version, one instance that is configured a certain way and the second that is configured differently. This allows some Ambari users to use FILES one way, and other users a different way.

See Framework Services for more information on instance configuration properties.

View Lifecycle

The lifecycle of a view is shown below. As you deploy a view and create instances of a view, server-side framework events are invoked. See Framework Services for more information on capabilities that the framework exposes on the server-side for views.


Develop
Package
Deploy
Create instances
onDeploy()
onCreate()
onDestroy()