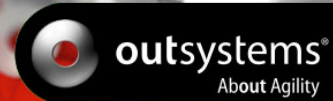


Agile Platform

What's New in Version 5.1



OutSystems' Agile Platform 5.1 delivers a set of new core capabilities:

- **IntelliWarp™ Technology** that lets you quickly create a full web application
- **SEO Friendly URLs** that enables you to change and optimize URLs that appear to your end users
- **Server Side Caching** for your integrations, database access and business logic
- **Multiple Database Catalogs and Schemas** for data security and storage optimization
- **Automated Documentation** to ease knowledge transfer about your application
- **Embedded Tutorials** to bring new Agile Platform users up to speed quickly

In the next few pages we'll give you ideas on how to take full advantage of these new features and drill into the details of each new capability. We're sure that, with this information, you'll be ready to make the new Agile Platform 5.1 work for you!

Turn an Excel spreadsheet into a web application in seconds

With the Agile Platform 5.1 you can now easily centralize and secure data stored in Excel files. Just drag & drop your Excel file into Service Studio and you'll see it translated into database entities and actions ready for you to use.

Behind the scene, the new IntelliWarp™ engine analyses your Excel file, creates a data model based on the file's design, and creates all the logic required to bootstrap your application. What this means is that, the first time you access your Web Application, all the data you provided in your Excel file is now stored and secured in a relational database. Now you are ready to use IntelliWarp™ to create all the elements required, including web pages, access control logic and more, to share and maintain the content.

Create a fully working web application prototype in minutes

With your data model in place - imported from an Excel file, integrated with an external database, or built from scratch - you can now take advantage of 5.1 IntelliWarp™ technology to build a fully working web app in minutes.

A single drag & drop is all you need to create an advanced screen that lists your data. This screen includes pagination, user friendly field formatting, column sorting and search. In the background, the IntelliWarp™ engine builds the entire user interface, all the required application logic and all access to the database.

A few more right clicks and drag & drops, and you have a complete application ready to use - including advanced Ajax patterns like auto-complete and edit windows.

Share your web application using a friendly and recognizable URL

Once your application is ready, you can immediately share it with your friends or colleagues by providing the URL to the web application's home page. But if you want to provide direct access to a location that's a bit deeper into your app, you can easily configure the Agile Platform to use a friendly URL.

Let's say you're building an Online Shop. You can immediately share a link to a specific product by emailing your customer the following URL:

```
http://www.mycompany.com/eCommerce/ShowProduct.aspx?Name=Chatterfish
```

Or, with a bit of Friendly URL configuration, you can send this much friendlier version:

```
http://shop.mycompany.com/buy/Chatterfish
```

Not only are these URLs more human-friendly, but they're also more search engine-friendly. If your web application is available for the world, these simple configurations will make your app easier to find on all major search engines.

Optimize your application for scale

With your web application ready and available to the world, scaling for a huge number of users becomes a concern. In the Agile Platform's management console, Service Center, you can see the areas of your web

application that are slowing things down. After checking the reports to identify slow queries, slow web service calls or slow integrations, all you need to do is set an option in Service Studio to cache the offending elements.

In the Agile Platform 5.1 you can even cache the result of your business logic. If you have an action that needs to do some heavy calculations to present data to your end-users, you can set its cache property and your web application will instantly become more responsive and more usable.

If your application is really data intensive, or if you need to isolate your application's data for security reasons, you'll need more advanced ways to organize your storage. With the Agile Platform 5.1, you can distribute your application's databases across multiple catalogs or schemas. All you have to do is select to which of the configured databases you want to publish your application and the platform takes care of isolating the data for you.

Because you can't always predict how your application will grow, with 5.1 we have you covered. For example, if you need to move your application between databases after it has already been published, Service Center will now let you re-configure the application and move your data between databases. In addition, it will automatically generate the required script to help you move the data.

Get team members on board your application in a flash

As your application grows, both in functionality and users, you might need to grow your team to help you cope with change and new feature requests. In addition to all the advantages the Agile Platform has in terms of knowledge transfer - the visual language, the WYSIWYG web screen editor, the entities diagram

- you'll now also be able to generate application documentation quickly and easily. Simply download the new OutDoc application from the Agile Network and you are on your way!

OutDoc generates high-level diagrams to give you a bird's eye view of your application - a data model diagram, a references diagram, and a processes diagram - and provides detailed information about all the main elements of your application. Armed with this report, along with the visual code in Service Studio, new developers can get up-to-speed in no time on the details of your application.

Since this documentation is generated on the fly, with OutDoc, you don't need to worry about outdated documentation. Everything is built on-demand, using the latest version of your application.

Grow your team of OutSystems experts

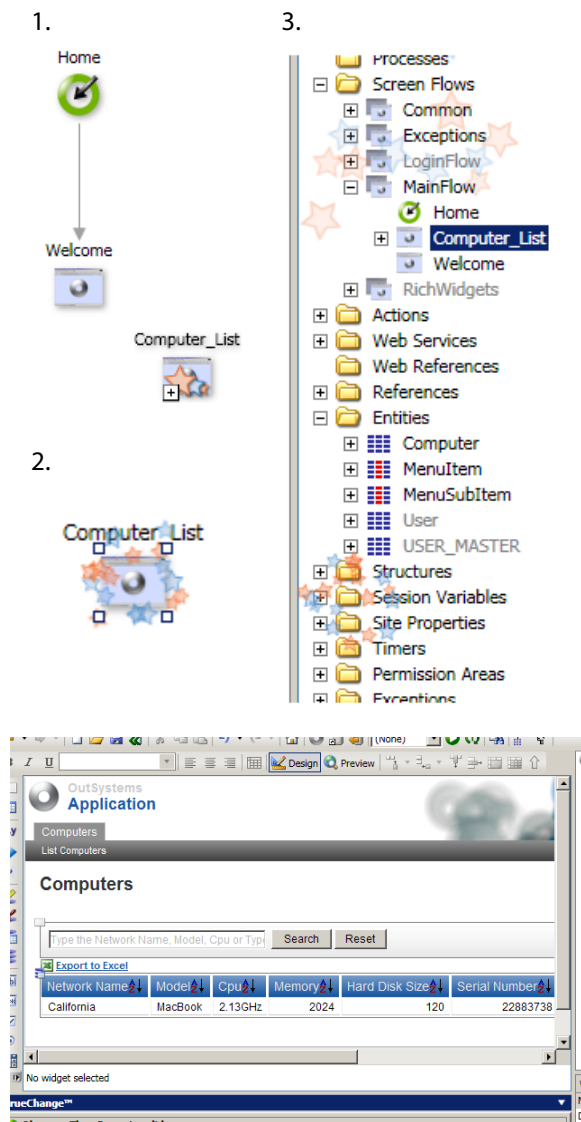
New hires need to get up-to-speed with the technology before they can start being productive and add value to your team. With many technologies this can be a long and frustrating process for both the new hire and the team – but not with the Agile Platform 5.1.

To make this process fast and more fun, the Agile Platform now includes tutorials embedded in Service Studio. These tutorials give newcomers a hands-on learning experience with the platform, by guiding them to build sample applications right inside of Service Studio. After each tutorial, you get a ready to publish application that you can deploy and test on your own. To make things even more fun, the tutorials infrastructure was built around the same concepts used in the gaming world to explain game mechanics.

Even if you're already an experienced OutSystems professional, have a go at the first tutorial. It's a great way to learn and see our new IntelliWarp™ technology in action!

IntelliWarp™ Technology

When designing an application, there are always parts of it that follow standard and repeated design steps. In Service Studio 5.1, some of these common multi-step operations were identified and packaged into the **IntelliWarp™** technology. Now users only have to drag and drop IntelliWarp™ capable elements and let Service Studio do most of the work. You can then perform a few tweaks and you'll achieve your goal.



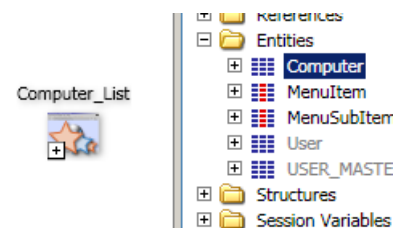
Although most end-user facing applications have very specific design requirements, IntelliWarp™ is a great tool to quickly build your back-office apps and the first running prototypes of the customer-facing parts of the app.

IntelliWarp™ Operations

Check out the details of what you can do with IntelliWarp™ in 5.1.

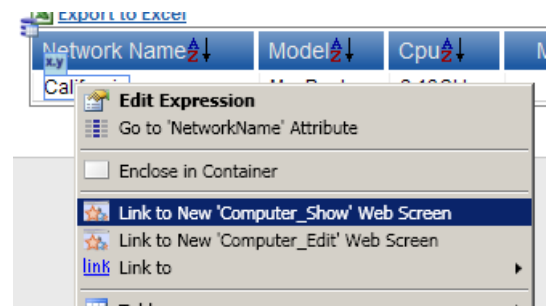
Create Web Screens for List Records

Drag entities into the Screen Flow canvas and a full-fledged List Records Web Screen is created for you.



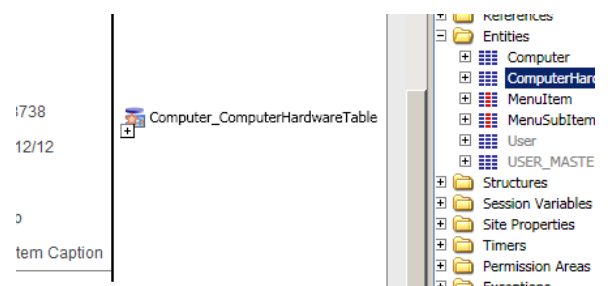
Create Edit and Show Web Screens

Right-click on an element in your Record List and choose one of the link options. An Edit or Show Web Screen is automatically created and linked to the List Records screen.



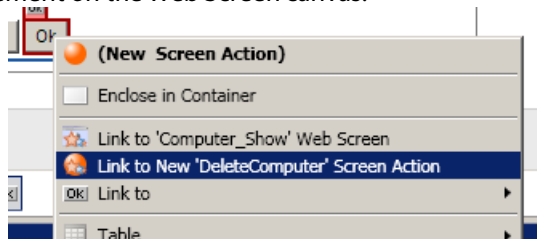
Create Master-Detail Lists

If there's a master-detail relationship between two entities, you can add a Record List of the detail entity to the master entity's Edit or Show Web Screen by dragging the detail entity onto the master entity's Web Screen.



Add a Delete Entity Screen Action

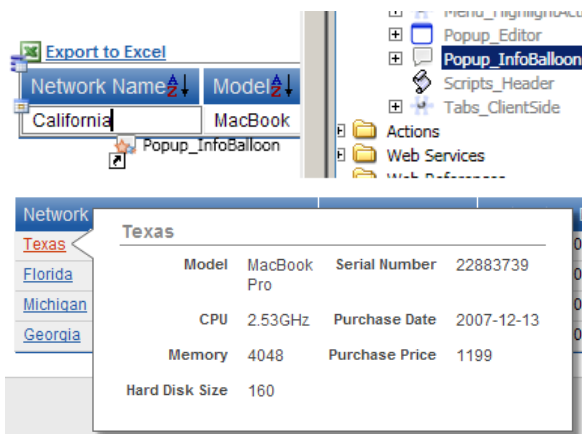
Automatically create a Screen Action to delete an entity record, and have it linked to the selected element on the Web Screen canvas.



Right-click the element and select the corresponding option. The action is automatically created with a delete flow, including all feedback and error handling elements and flows.

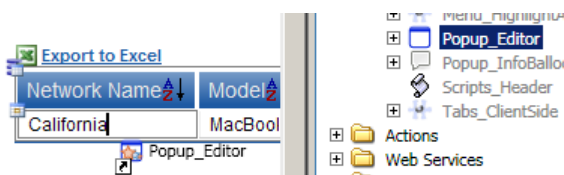
Go RIA! - Create Popup Info Balloons

Show detailed information on popup windows by dragging & dropping a Popup_InfoBalloon widget onto the element where the balloon is triggered.



Create Popup Editors

Edit records on a popup window by dragging & dropping a Popup_Editor widget onto the element where the popup editor is triggered.



Generate Auto-complete for Inputs

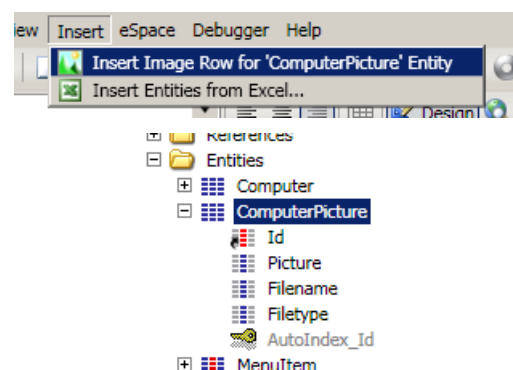
When your entity has a foreign key associated to an entity with a significant range of values you should use an auto-complete pattern to avoid overwhelming your users with endless combo box content.



Add this functionality to Input widgets by dragging & dropping the Input_AutoComplete widget onto them.

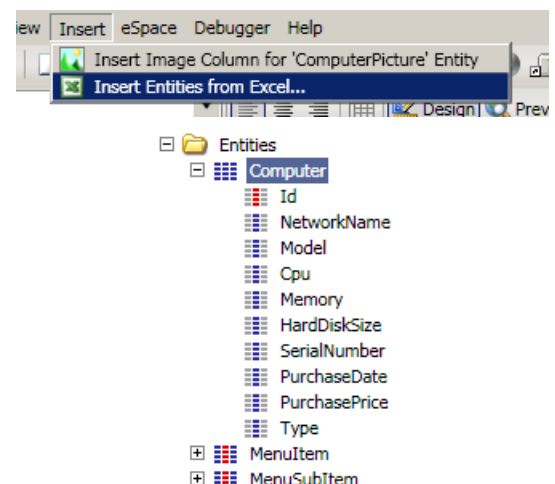
Create Entities for Database Pictures

Automatically create entities for database images and associate them on a one-to-one relationship with a master entity.



Create Entities from an Excel File

Automatically create entities with the columns found in the Excel file.



SEO-Friendly URLs

When the URLs of an application become too complex, they have impact on usability. In addition, this can lead to a lack of focus on main keywords resulting in your online business not performing well in search engine rankings. The Agile Platform 5.1 now helps you **make your URLs friendlier** and **improve your page ranks** by applying techniques for Search Engine Optimization (SEO).

The rules you can specify in Service Center to attain the ideal URL are described below.

Page Rules

Transform your URLs trailing information such as, page names and page parameters, into relevant keywords for search engines to rank in a way that clearly describes the page content.

For example, the URL

```
http://www.starbus.com/InsterstateBuses.aspx?From=Lisbon&To=Faro
```

can be transformed into

```
http://www.starbus.com/InterstateBuses/From-Lisbon-To-Faro
```

eSpace Alias

An alias is an alternative name to the real eSpace name to be used in the URL. Use it to obtain simpler, friendlier and keyword-relevant names in the URL.

For example, the following URLs

```
http://www.taxianywhere.com/AssetsManager
http://www.taxianywhere.com/EmailCampaign
```

could be used as

```
http://www.taxianywhere.com/Assets
http://www.taxianywhere.com/Emails
```

Site Rules

Site Rules simplify and organize the site structure that is shown in URLs. Additionally, the application's language can be automatically set depending on the URL.

For example, the URLs

```
www.myCompany.com/Site
www.myGallery.com/GallerySite
```

can be simplified to

```
www.myCompany.com
www.myGallery.com
```

As for the application's language, the URLs

```
www.taxianywhere.com/fr
www.taxianywhere.com/uk
www.taxianywhere.com/us
```

can automatically set the application working language to French, English (GB), and English (US).

Redirect Rules

When domain name changes occur, make old URLs point to the new ones by using Redirect Rules. These allow for old URL references to keep working, and for search engines to have a way of knowing that a replacement took place, thus not affecting their previous ranking.

For example, when navigating to the URL

```
http://uk.taxianywhere.com/Home.aspx
```

the browser can be redirected to

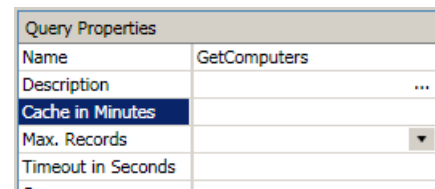
```
http://www.taxianywhere.com/uk/Home.aspx
```

Another important SEO technique, which is now also supported with 5.1, is the ability to specify content-specific page titles. In 5.1 page titles have become Expressions in Service Studio.

Server Side Caching

In an application, there are often elements that return the same result over and over again. To avoid useless executions and have **immediate response** times, 5.1 allows the caching of results with the new Server Side Caching feature.

This capability was added to Queries, User Actions, and Web Reference Methods elements and was already available for Web Screens and Web Blocks.



| Query Properties | |
|--------------------|--------------|
| Name | GetComputers |
| Description | ... |
| Cache in Minutes | |
| Max. Records | ▼ |
| Timeout in Seconds | |

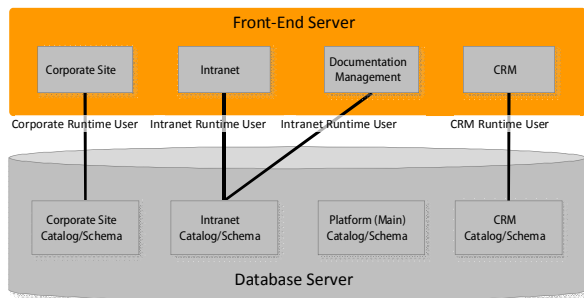
This is really important when your application relies on external systems where data doesn't change often or takes too long to respond, or simply cannot keep up with all the incoming requests.

Server side caching will also allow your application to support a much larger load e.g. when it is getting hit by millions of users and some parts of the UI, business logic or database queries are pretty much the same for every one of your users.

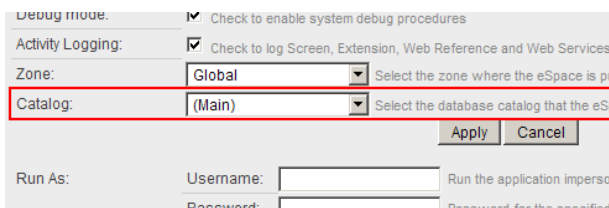
By analyzing Service Center logs you can identify which portions of your app have optimization potential. Then all you need to do to is set up the 'Cache in minutes' property of the appropriate element. Make sure the elements you choose do have results which are stable over time (for the same parameters) and that the number of minutes is representative of the frequency of change for that data.

Multiple Database Catalogs and Schemas

Application design often requires data segregation up to the database level. This is usually required to enable **stricter control of user access** to critical or sensitive data, and to allow for **more granular storage management and database maintenance plans**.



With 5.1 it is now possible to bind an eSpace to a specific database catalog or schema (depending on whether it Microsoft SQL Server or Oracle respectively).

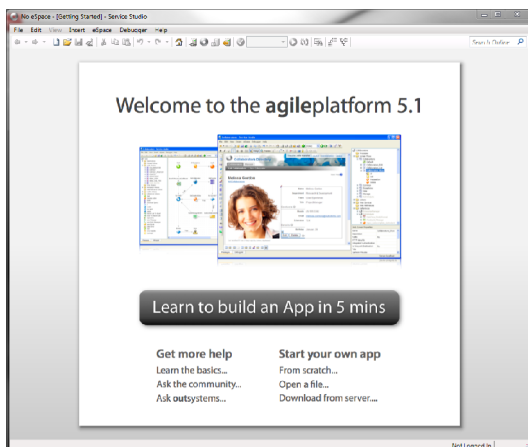


It might look like a simple setting (and it is!) but it's powerful enough to enable meeting any of the previously described database design requirements.

The rest is managed by the Platform; from setting up runtime user access permissions, to the production of the necessary scripts to support a DBA who needs to move data from one database to another.

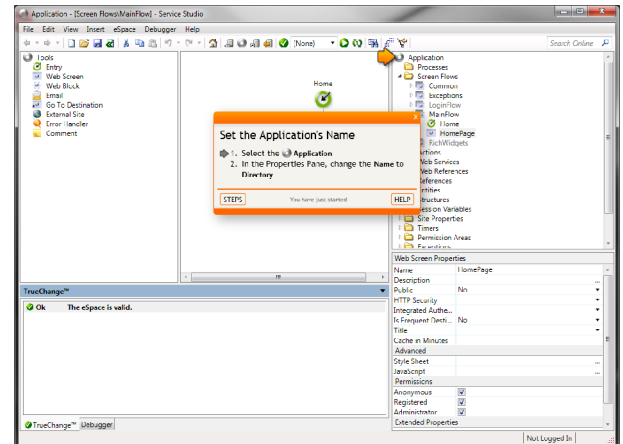
Embedded Tutorials

A major goal of 5.1 was to help newcomers learn Service Studio so they can quickly become productive and catch up with more experienced developers. With this goal in mind **Embedded Tutorials** were created.



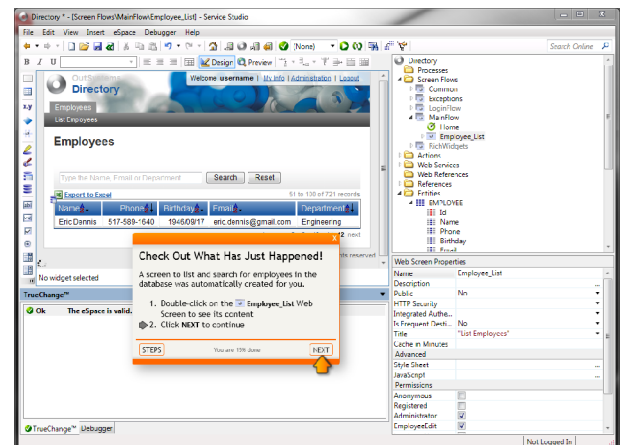
How It Works

Tutorials were designed and built using a game-based approach that is completely integrated in the Service Studio environment. It aims to provide an easy and fun way of learning the Agile Platform.



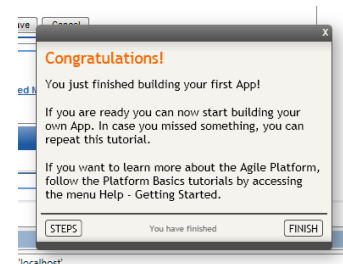
Users just have to read and act on simple instructions with the permanent guidance of an ever present orange arrow; it lets you know where in Service Studio you have to focus to accomplish your task.

Sometimes, users may not be completely aware of what was performed in complex operations. In these situations tutorials provide context through a short explanation of what has just happened.



Each tutorial introduces a well-defined part of the Agile Platform and the material is taught step by step. Each new step is only started when the previous one is completed.

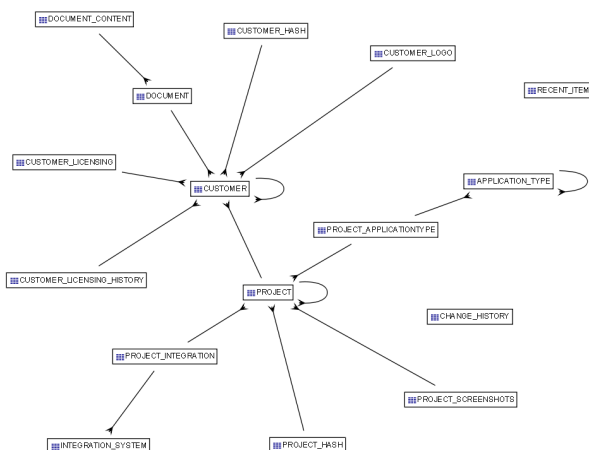
When a tutorial is finished, users are informed of what they've just learned and what comes next.



Automated Documentation

[illegible]

This means always having up-to-date documentation which you will find useful when you need to revise your application's architecture before extending it with new elements; onboard a new team member or simply provide your customer with complete system-level documentation.



Develop and Deploy on the Cloud

the Agile Platform is now 100% cloud-ready. Specifically we've extensively tested the Agile Platform in the Amazon EC2 infrastructure and made some tweaks to make sure it performs flawlessly.

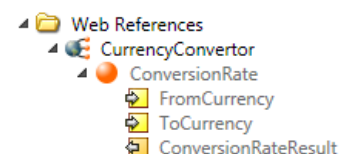


| | | | |
|---|--|--|---|
| <p>Community For Development & Prod</p> <p>\$0.12 per hour</p> <p>For Getting Started or Seeding a Business</p> | <p>Basic For Development</p> <p>\$0.99 per hour</p> <p>For a Small Company or Department</p> | <p>Professional For Development</p> <p>\$1.99 per hour</p> <p>For Intranets, Web Sites and Portals</p> | <p>Enterprise For Development</p> <p>\$2.99 per hour</p> <p>To Have All Your Apps by Multiple Dev Teams</p> |
|---|--|--|---|

Web Service Improvements

Specifically, web service methods with the following characteristics are now supported:

- In addition to these, we have conducted extensive testing in this area and have taken the opportunity to improve our support for the GUID data type and make a number of small bug fixes that occurred in less common scenarios.



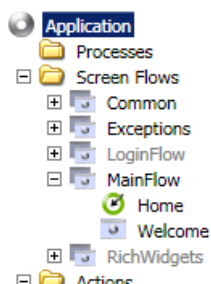
© 2001-2009 OutSystems - All rights reserved

Productivity & Usability Improvements

Service Studio also received a number of small improvements targeted at improving overall developer productivity and at providing a better user experience. Some of these were motivated by the introduction of the IntelliWarp™ technology, while others were implemented to address requests by our developer community.

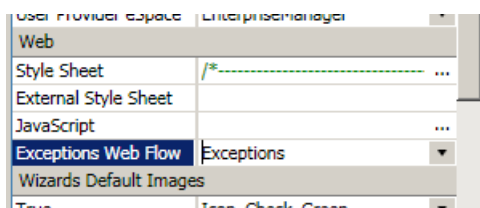
Default Design in New eSpaces

New eSpaces now include pre-prepared design elements to help and speed up the design of common Web Flows, Web Screens, and Web Screen Actions.

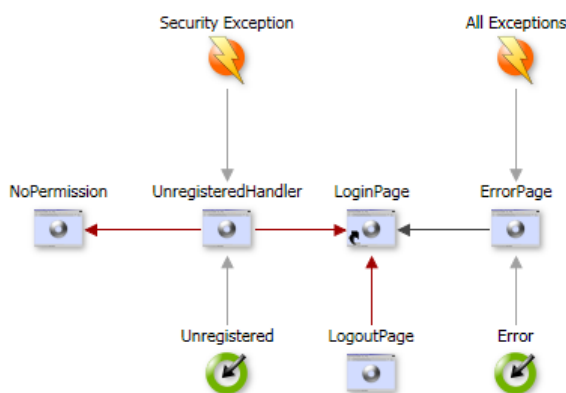


Exceptions Web Flow

The eSpace has a new 'Exceptions Web Flow' property for designing exception handling flows.

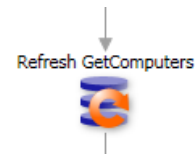


An exception Web Flow is used for handling any exception which is not explicitly handled by the current Web Flow. This means that you can define generic and global exception handling flows for the eSpace context.



Refresh Query Element

Re-execute existing queries using the Refresh Query element and avoid having repeated queries.



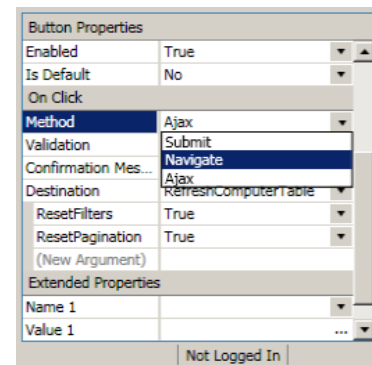
In the flow, use the Refresh Query element output as it is done with a "normal" Query element.

Horizontal Merging of Cells in Edit & Show Records

Improve your Show and Edit Records elements with the new capability of merging cells horizontally.

Navigate method in Buttons

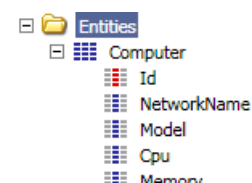
When designing Button elements they can be set to ignore the input elements and navigate to another Web Screen. This is now possible because Button Properties were extended to allow setting their 'Method' property to 'Navigate'.



Enhanced Excel to Record List

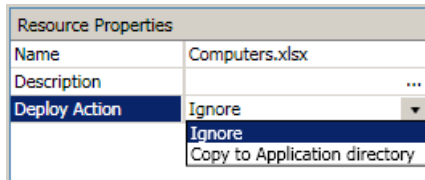
In previous versions, whenever an Excel file was loaded and the number of columns was different from the number of entity attributes, an error was flagged. In version 5.1, that is no longer true. As the file is loaded each Excel column is mapped into the attribute that matches its name.

| | A | B | C | |
|---|-------------|-------------|---------|----|
| 1 | NetworkName | Model | Cpu | Me |
| 2 | California | MacBook | 2.13GHz | |
| 3 | Texas | MacBook Pro | 2.53GHz | |
| 4 | New York | MacBook Air | 2.13GHz | |
| 5 | Florida | Mac mini | 2.0GHz | |
| 6 | Illinois | iMac | 2.66GHz | |



Resources Deployment

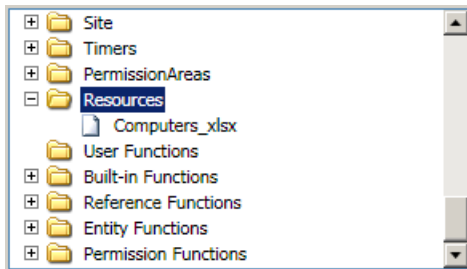
Choose how the resources are to be deployed with the new 'Deploy Action' property.



When defined to 'Ignore', the resource will only be accessible by using it in an expression. When you select 'Copy to Application Directory' you will be able to access the resource through a public URL.

Resources in the Expression Editor

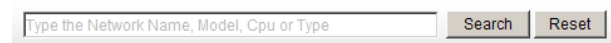
In 5.1, resources are available in the expression editor.



This allows using Resources directly without requiring the use of Extensions or other indirect techniques.

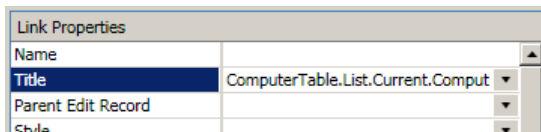
'Prompt' Property on Inputs

Set 'grayed' out text to appear in Input elements to provide your application users with a hint as to what should be input into the field. Once the end-user starts typing the 'gray' text disappears and is replaced by what is being input.



Labels and Titles Defined by Expressions

The Button 'Label' property, Link and Web Screen 'Title' property were extended from static text to be defined by Expressions, allowing them to be dynamic at runtime.



This can be very relevant for SEO optimization as you should make sure the page's title and all labels properly reflect the actual content they refer to.

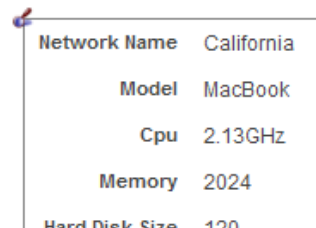
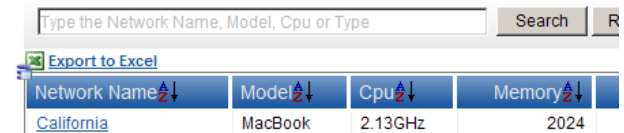
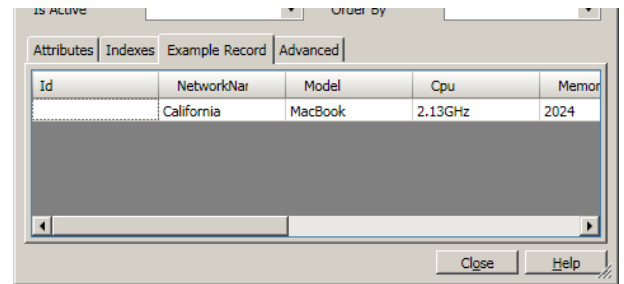
Default Image for Database Images

When working with database images, the one image set at design time is displayed at runtime in case none is fetched from the database.

Previewed Records at Design Time

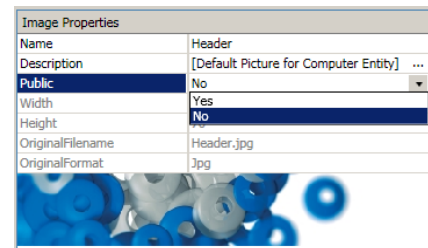
For a better WYSIWYG at design time, Web Screens containing Expression elements bound to entities attributes in: Show Records, Edit Records, Table

Records, or List Records, will display the entity's record values set in the Example Record of the Entity Editor.



Public Images

Image elements can now be exposed and used by consumer eSpaces.



Download the new Agile Platform 5.1 today and check it out for yourself!