The Bodega Content System

A Participant's Manual

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Introduction to Bodega

This document is designed for people who would like to make content available to their target audience using the Bodega content deliver system. Key concepts along with a walk-throughs of the applications you'll use as a Bodega participant are covered in this document. People who wish to extend or customize Bodega itself will also find this document useful as a way to learn about its design.

A quick and useful glossary

The Bodega content system is most easily understood when we are using the same vocabulary consistently. Below is a quick list of key terms and their meanings to get us started.

> **Asset**: An individual digital work, such as a book or an application.

> **Distributor:** A partner that manages stores, and thus *distributes* content.

> **Participant**: A person who uses the Bodega market as a content partner or a consumer.

> **Partners**: Groups of participants (e.g. companies, collectives or online communities) that work with Bodega as publishers and distributors.

> **Publisher:** A partner that manages assets, and thus *publishes* content.

> **Points**: The digital currency, or representation of value, used in Bodega.

> **Store:** A selection of assets from the warehouse that are made available for browsing, purchase and download.

> **Warehouse**: Rather than speaking of servers and networks, we use the term "warehouse" to refer to the computer system that hosts and orchestrates the Bodega market.

A digital content marketplace

Bodega is a digital content marketplace that brings three groups of participants together:

1. Publishers: people who populate the warehouse with content
2. Distributors: people who present and provide access to the content
3. Consumers: people who browse, purchase and access the content

A participant may be in more of these groups. A publisher may also be a distributor, a distributor may also be a consumer, etc.

Publishers upload content to the warehouse for delivery to others via storefronts. That content may be anything which can be represented digitally including:

- applications
- artwork
- data sets (e.g. new levels for a games, or maps of celestial objects for an astronomical atlas)
- documentation
- books

- periodicals
- audio
- video
- account activation for online services

The publisher defines base pricing and maintains a set of metadata that is used to organize their content within stores. Metadata for a book would include such things as the author, title, genre, eBook formats it is available in and ISBN number; an application would include information on the platform(s) it runs on and the genre (e.g. "card games"). Some metadata is standard to all content of a given type (all books have an author, for instance) while other metadata is completely free form.

Stores are operated by distributors who define which content appears in their stores. Using the content metadata, a store can have sections for different types of content and organize content by attributes such as author or genre. They may also limit what content is pulled from the warehouse: a store may decide, for instance, to only distribute content of a specific type (e.g. eBooks), within specific genres, that is appropriate for certain age groups or that runs well on a specific platform. A store may also elect to limit itself only to content which the distributor themselves have curated.

Bodega therefore takes the form of a shared, open warehouse where publishers make content available to distributors who market the content to their respective audiences via storefronts.

This also means that it is not required that the publisher to have an explicit relationship with any of the stores other than via the warehouse, nor do stores need to provide access to all content in the warehouse.

A world of tags

A concept that flows throughout Bodega is that of tagging.

Asset metadata is defined using tags. All content types, maturity ratings, author names, genres, platform targets, external identifiers such as ISBN numbers, curation approvals and more are represented as tags which are then applied to assets. How to create and apply tags can be found in the Publisher chapter.

Stores are defined using sets of these tags. All assets matching those tag sets appear in that given area of a store. More details on how this works can be found in the Stores chapter.

Using tags allows for a consistent, dynamic and highly automated system.

Points and the financial model

Bodega uses a points system for all transactions. Anyone with a Bodega account may have points assigned to them which they can then trade for content. This is a mechanism that has featured in many successful online markets, perhaps most notably some of the largest video game markets.

Using a points system offers a number of advantages:

- It allows using Bodega in environments where money may not be the unit of trade. For instance a school may assign points to teachers or students for the purchase of class materials, or a company may assign points as incentive-based perks to employees.

- Points may be purchased in bulk and used later. This makes microtransactions possible even when access to monetary transaction systems with microtransaction support are not available.

- Communities that do not wish to use a monetary system in conjunction with their content may do so.

Once a participant has points in their account, they may use them in trade for any content in the warehouse from any storefront.

Publishers set a base price on each of their assets and distributors can set a markup on top of that. When someone purchases an asset, the publisher and distributor partners are both credited the correct number of points from the sale. Partners can make withdrawals of their earned points from Bodega, usually by converting them to a monetary currency for transfer to their bank account.

Content licensing

Content licensing is managed by the warehouse, though distributors may add additional refinements and restrictions to these policies.

For the Bodega warehouse operated by Make·Play·Live, content licensing is entirely to the publisher. They may release their content under a copyleft (Free-as-in-freedom) license or a more restrictive proprietary license. The choice of licensing does not impact pricing: free software and other copyleft materials may have a price within the warehouse.

When content is uploaded to the Make·Play·Live warehouse, the Make·Play·Live operators are granted a world-wide, non-exclusive license to redistribute the content via any of the stores run by distribution partners.

Of course, a self-hosted or private instance of Bodega may only allow distribution to a limited audience or only allow for a limited range of content licensing options.

Using Bodega

There are a few key tools for interacting with a Bodega warehouse.

As a consumer, the most important one is the client that lets you browse, purchase, download and update content. Due to Bodega's open design, it is possible to create clients using different toolkits and for different purposes. Currently the most mature client is the Plasma Active Add-ons app which is optimized for devices with touch screens.

Add-Ons app on a tablet PC

There is also a web client, currently in alpha, which can be viewed at https://content.makeplaylive.com. Other client apps may be written using the Bodega web API which can be viewed at https://apidocs.makeplaylive.com.

You can create a participant account using any of the Bodega applications, and this same account can be used to log into any of the Bodega services including the management tools.

Management of assets and storefronts is done using the Bodega management web application. An installation of this management web app be found at https://manager.makeplaylive.com.

Assets

All content in the warehouse is organized into individual Assets. These assets are owned and managed by Publishers, displayed in Stores managed by Distributors and made available for download via the warehouse. As the atom of content, Assets are central to Bodega.

Anatomy of an Asset

Each asset contains exactly one file (which may itself be an archive of files), icons and other images, pricing information and useful metadata. Each asset is owned by exactly one Partner, and only Content Creators with that Partner are allowed to modify or remove it. Every asset consists of:

- The content in a single downloadable file (which may be a compressed file archive)
- Type
- Additional metadata in the form of tags
- Icons for display in stores
- Optional additional images such screenshots or cover images
- Pricing
- The Partner which owns the Asset

The metadata tags are perhaps the most important aspect of an Asset. These tags hold information such as the content rating (e.g. "Everyone", "Teen", "Mature", etc), authorship, genre, categories and more. Tags are divided into these various types, and some types are specific to types of Assets. For instance, wallpapers can have one or more screen resolution tags.

Each Asset has a type, which itself is also a tag. Asset types include application, game, wallpaper and book. This allows a store to know how to present an Asset and the warehouse to know which information is required. Books require a front cover image, for instance.

Assets usually also have a mimetype tag which describes the kind of file the Asset represents. A book may be available in a variety of formats, so while there is one asset type tag for all books there are multiple mimetype tags for books.

The tags that are associated with an Asset determine which Stores the Asset will be displayed in well as where in the Store they will be shown. Therefore it is *critical* that an Asset is accurately and completely tagged. The Asset manager makes this as easy as possible, but the Publisher is still relied on to provide useful tagging.

The Asset life cycle

Assets exist in the following states:

1. *Incoming:* an incoming Assets is one which you have started editing but which are not yet ready for publication. Only people with the Content Creator role can create incoming assets.

2. *Posted:* a posted Asset is ready for publication to the warehouse so that it may be instantly available via stores. Only people in the Validator role can post an incoming asset for publication.

3. *Published:* a published Asset is one that has been moved into the warehouse and is now available via stores. Only the warehouse team can publish a posted application.

Once published, an Asset can be updated via the Asset manager. An update may simply correct some information related to the Asset, or it may be for an entirely new version of the Asset's file. Updating an Asset in the Asset manager automatically puts the Asset into an incoming state. The old file and information for the Asset will still exist in the warehouse as a published asset and be shown to people in stores while the updated information awaits publication. Updates must go through the posting and publishing steps just as a new Asset does.

Only published assets show in Stores. Once published, the warehouse *automatically* associates an Asset with all Stores which the Asset's tags match and calculates at what price the Asset will appear in the store.

Asset purchases

When a person purchases an Asset via a store, the points are automatically deducted from their account. The warehouse then deposits the points the Asset costs to the publishing Partner's account along with the markup defined by the Store to the distributing Partner's account. The remainder is kept by the warehouse.
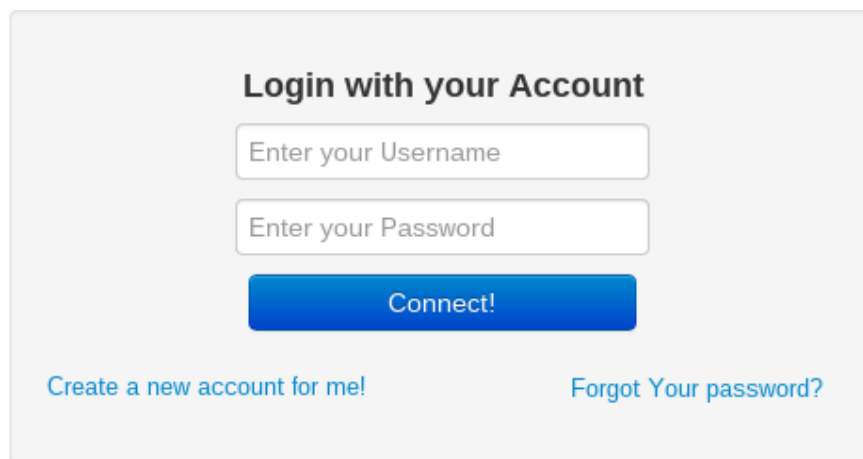
This means that the price of an Asset shown in a Store is a combination of the price put on the Asset by the Publisher, the markup in the Store and the overhead cost of the warehouse. This profit sharing is very similar to traditional retail economies and is completely transparent to the purchaser who only sees a single price in the Store.

All purchases are tracked in the warehouse and both the Publisher and Distributor can see activity relevant to them in the statistics viewer in the manager app.

Getting Started As A Participant

The remainder of this document provides a step-by-step guide to being a Bodega participant. All instructions refer to the warehouse hosted by Make·Play·Live, but are equally applicable to any Bodega warehouse.

The first step to becoming a participant is creating an account. You can do so using a Bodega client, such as the Plasma Active Add-ons app or by visiting https://manager.makeplaylive.com which will bring you to the page shown here:

If already have an account, you can log-in directly at this point. To create a new account, click on the "Create a new account for me!" link and follow the directions that follow to to create a new account. A confirmation email will be sent to you with an activation link. Once activated, you can return to the above login page.

Upon successfully logging in, you will see your management dashboard:
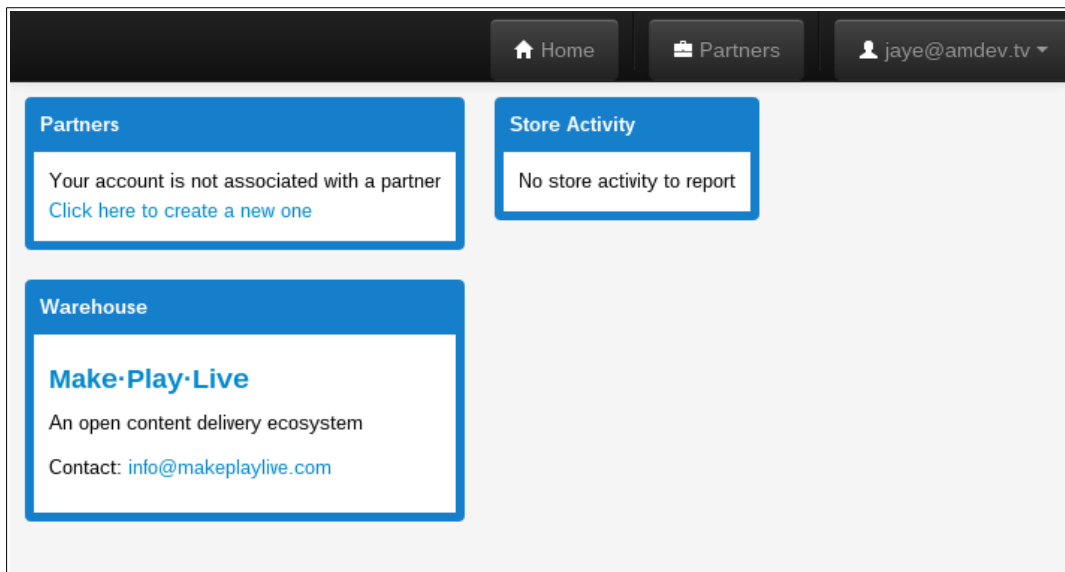
At the top of the page is the navigation bar which allows you to navigate between the various sections of the manager. It also shows which account you are logged in as; clicking on this button will display a menu offering to log out or to edit your account.
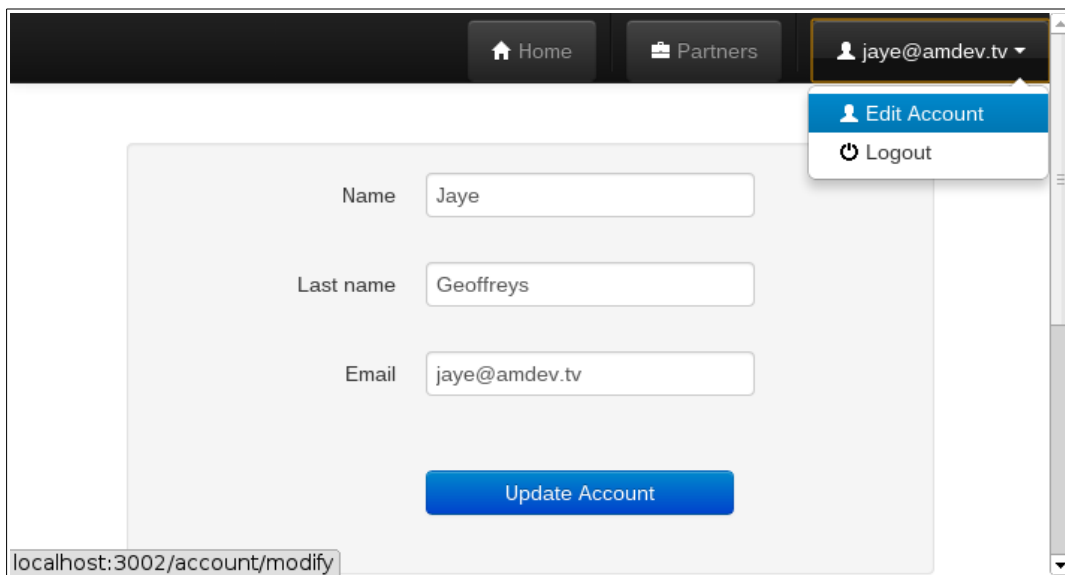
There are also information boxes on the home page that list the partners you are associated with, a summary of activity for assets and stores your partners own and contact information for the warehouse.

At first the dashboard will look rather empty without any partners or assets. Creating a new partner (or being associated with an existing partner) is the next step in preparing your account.

Partners

Every asset and store in Bodega is associated with a *partner*. So to upload content or create stores, your account must be associated with a partner.

A partner represents a group (company, department, community, etc.) or individual that is managing content in the warehouse. Partners can have multiple participants associated with them, and a participant may be associated with multiple partners.
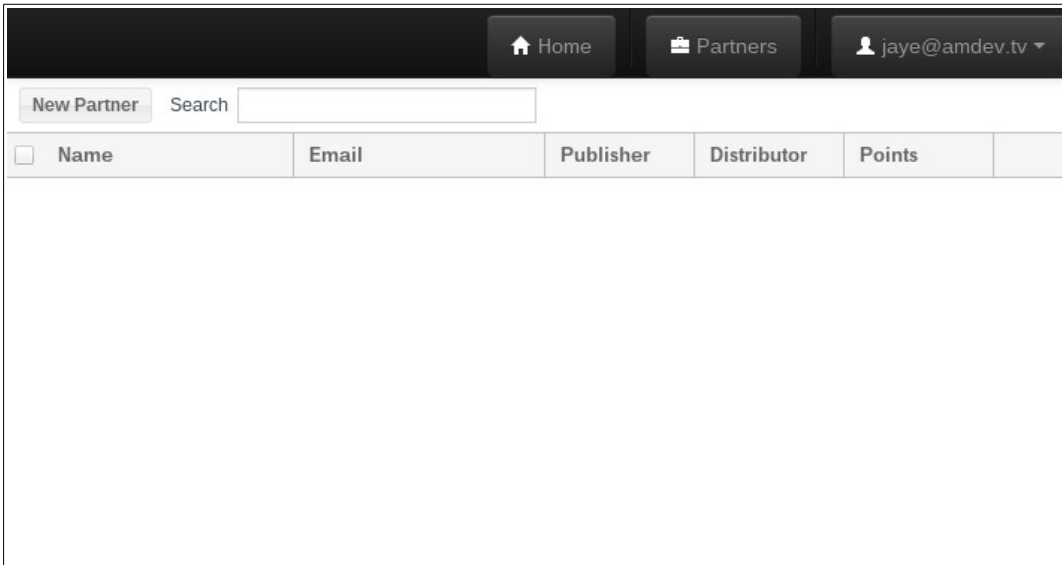
Accounts associated with partners are assigned roles which grants access to different kinds of actions on behalf of the partner. These roles include:

- **Partner Manager**: Partner information, members and role assignment
- **Store Manager**: Creating and managing stores
- **Content Creator**: Creating and managing assets
- **Validator**: Content approval and curation
- **Account Manager**: Managing the financial aspects of the partner (e.g. bank accounts)

A participant may have more than one role with a partner, and any role can be assigned to multiple participants.

In the simple case of a one-person partner, their account will want to have all the roles associated with it. In the case of a larger group of people working together, these roles allow the partner to define who may do what.

To create, manage or see information on partners your account is associated with click on the Partners button in the navigation bar will take you to the partner manager.
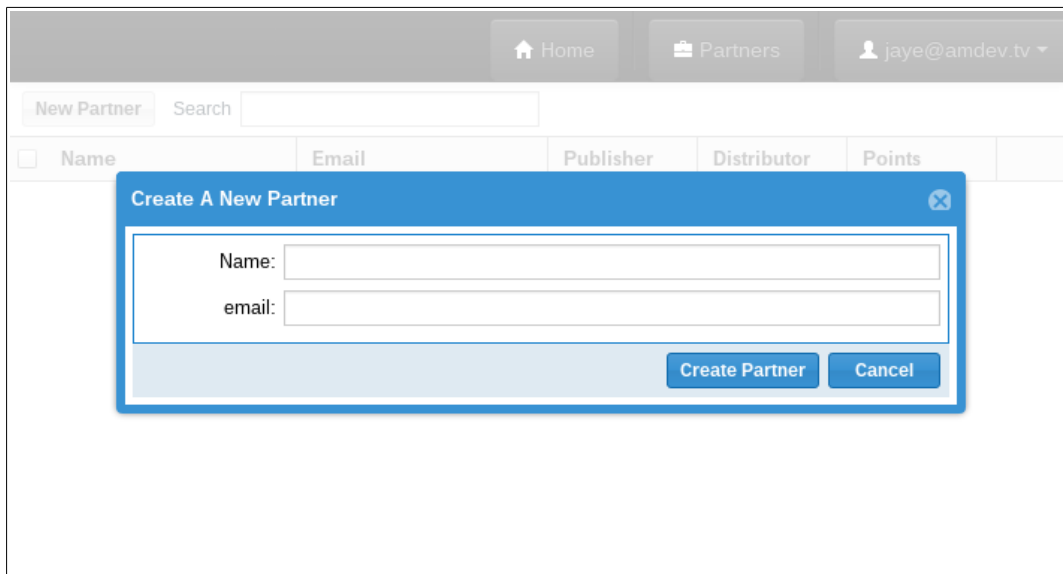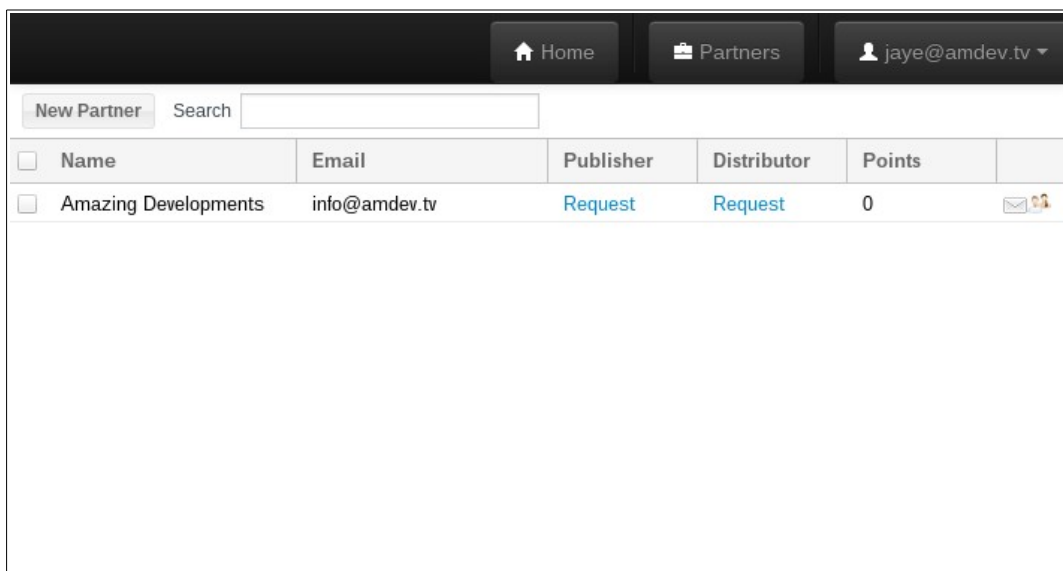
Creating partners

On the partner page there is a "New Partner" button. Clicking on it will bring up a dialog that requests a name and email address for the partner. Partners must have a name that is unique from all other partners, as this is a primary way for people to identify the owner of assets and stores. When done, click "Create Partner" and a new partner will be created which has your account as a Partner Manager.

This new partner will now be listed on the Partners page. Details such as the name and email can be edited inline by clicking on them.

Managing people

Any account that is a Partner Manager may add, remove other accounts to the partner. This is done by clicking on the people icon in the list:
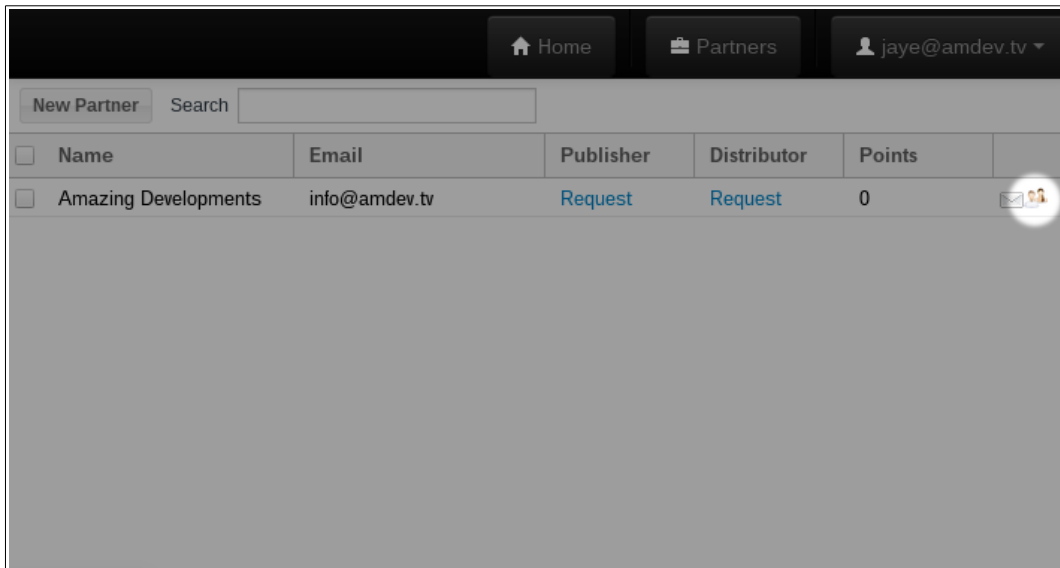
This will show the partner's People editor:
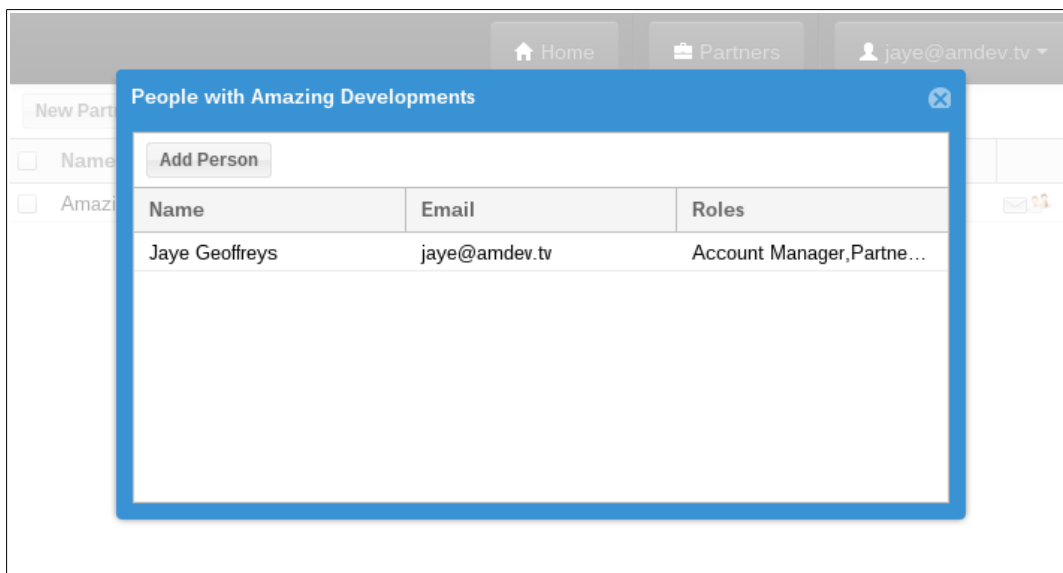
Clicking on a person allows you to edit their associated roles:

Clicking on Add Person shows the same editor, but empty of content. By filling in the email of the desired account and selecting roles for the person, they will be added to the partner. Similarly, selecting a person from the list and clicking on "Remove Person" will remove them from the partner.

Contact information

You may wish to publicize links to websites and social media related to the partner. To open the Contacts dialog, click on the envelope icon in the partner list:

The Contacts dialog will then display as overlay:
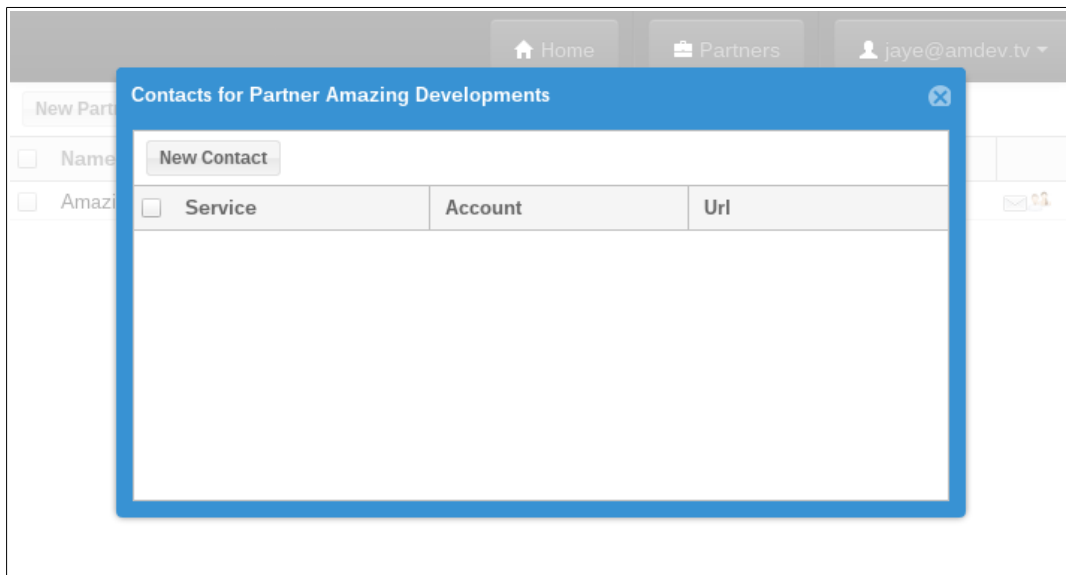
Clicking on "New Contact" will bring up the editor:
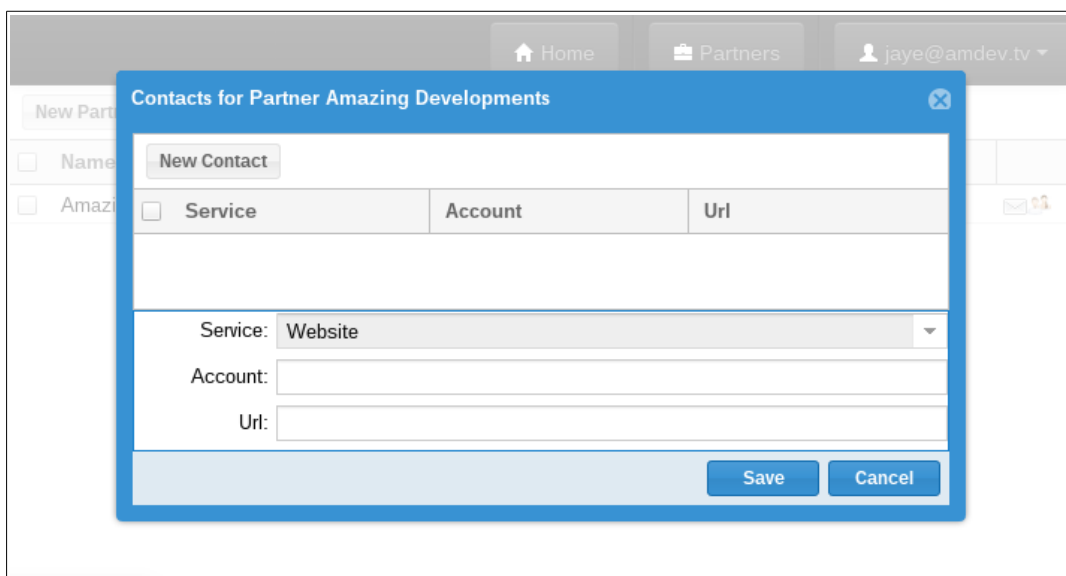
Depending on the service type selected, you must provide an account name or a full URL. The Website and Blog service types require a URL while the social media options require only the name of the account on the social media site. The URL for social media links will be generated automatically based on this account name. Not only does this allow for flexibility in presentation, it also means that if a social media network changes its preferred access URL it will be automatically updated in the warehouse database for you.
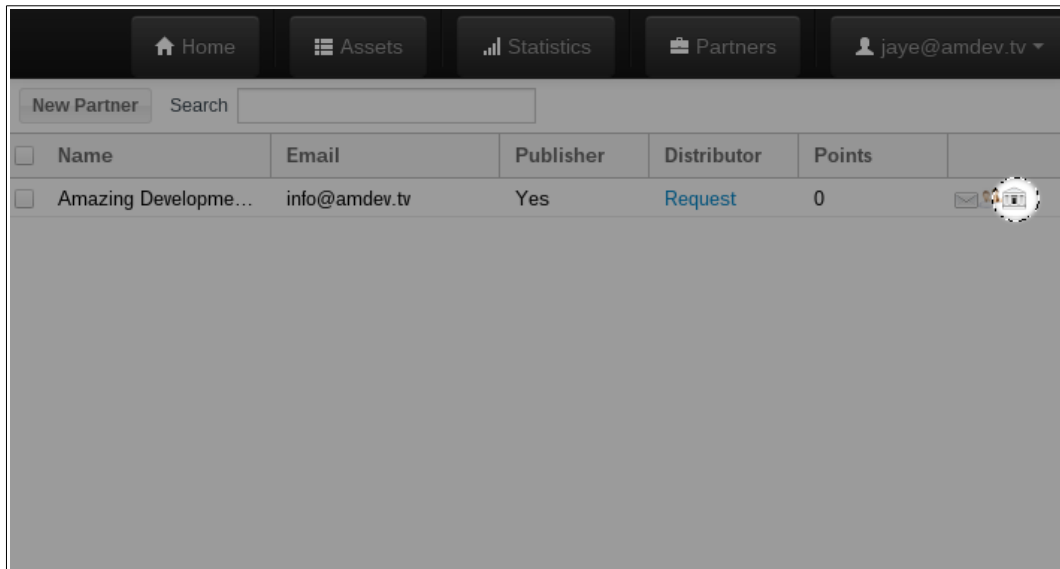
Editing contacts is accomplished by clicking on a contact in the list and editing the details below.

Banking and Points

In the Partner list, there is a Points column. This displays the total number of points that the partner currently has earned (and not yet claimed) from all Stores they either own or have Assets displayed in.
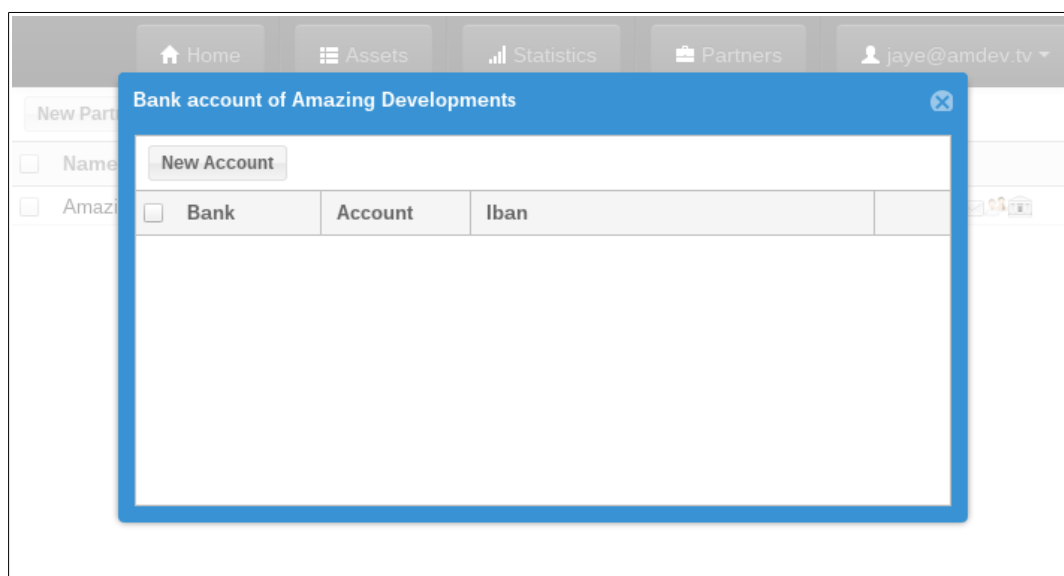
These points are converted by the warehouse owner in a timely manner and the funds sent to your receiving bank account. The schedule upon which this happens can be seen by consulting the Partner Terms of Service in the Manager application.

Banking information is handled by Participants with the Account Manager role. To register your banking information, click on the bank icon in the Partner list.

This will bring up the banking information dialog:

To create a new account, click on the New Account button above the listing. This will bring up the bank account editor which allows you to enter all the banking information required to wire funds to your account. You may have one bank account per *type* of bank account. Currently, the only type recognized by the Management app is "destination". This is the bank account which funds earned by your Partner will be transferred to.

Meanwhile, back at home...

If you now return to the dashboard by clicking on the Home button in the navigation area, we will see our partner is listed in the Partners box:
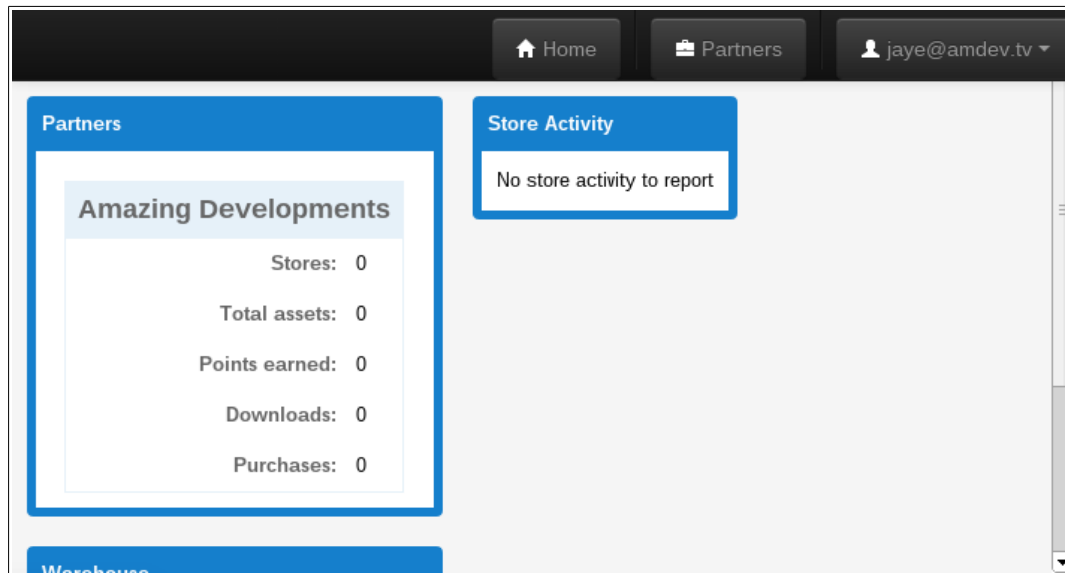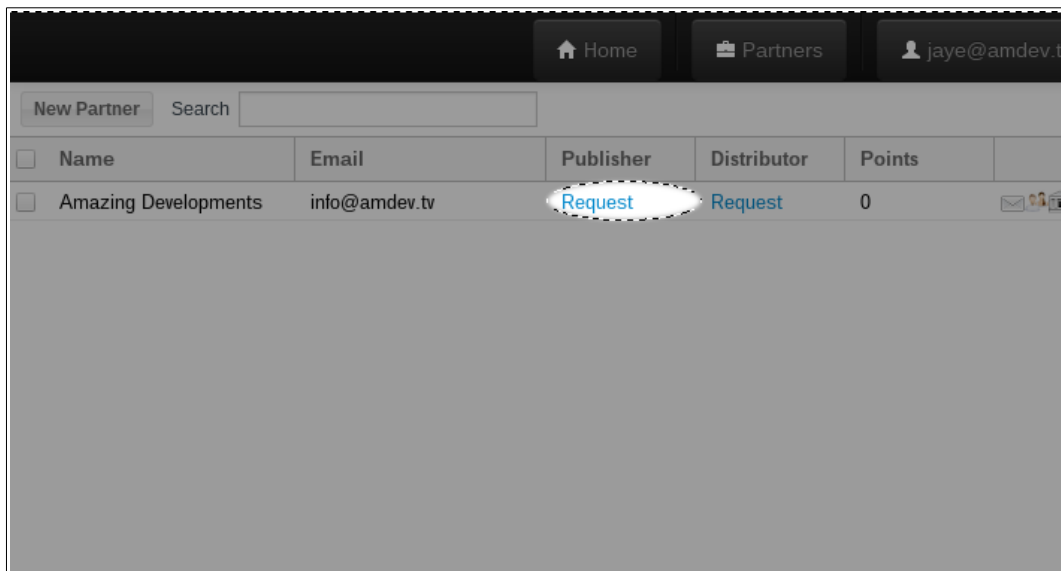
To make the new partner actually useful, it must now become a Publisher, a Distributor or both. This process is covered in the chapters which follow.

Publishers

Partners which are Publishers may upload content to the warehouse for inclusion in stores through which people may purchase and download them.

Becoming a publisher

By default new partners are not able to publish content. To check on your publisher status, go to the Partner listing in the manager app. There is a "Publisher" column in the partner listing. If the partner is not yet a Publisher, a "Request" link will be shown there.

Clicking on the "Request" link will show the Publisher request dialog which contains a text area in which you can add some information as to why you are requesting Partner status.
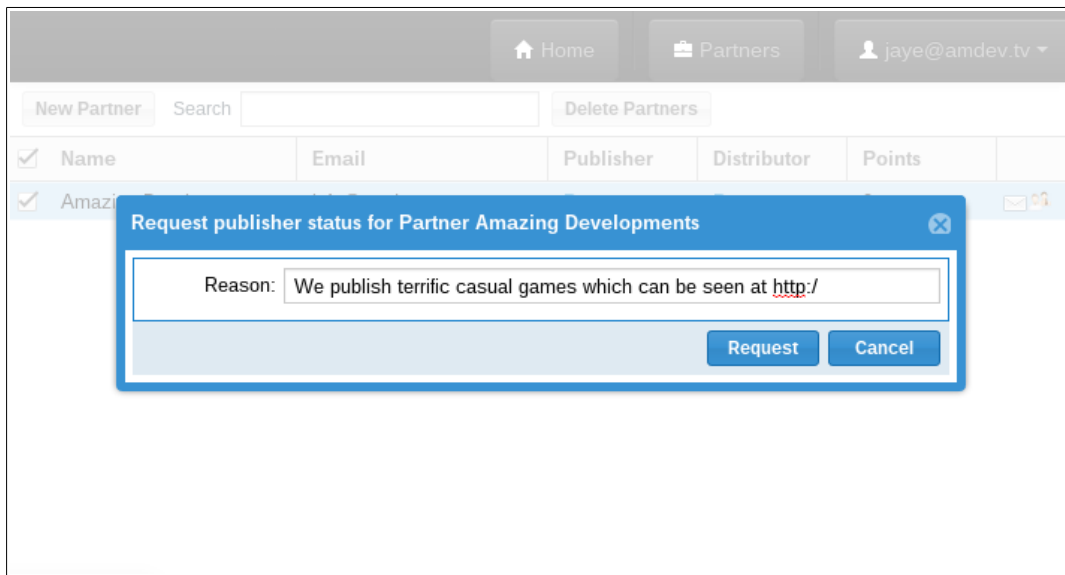
To help the warehouse team in approving the request, you can note what kind of content you plan to be uploading and any other information you feel is relevant. The warehouse team will be automatically notified and handle the request. As soon as the partner has been approved as a Publisher, you will be informed by email.

> *Note:* The request process is primarily a mechanism to prevent people from using the warehouse as a file storage site. Since anyone may create an account with the warehouse, without an approval step abuse would be far too easy. As such, the approval process is more of a formality than active gatekeeping.

Visiting the Partner list in the manager app will now show the Partner as being a Publisher. You will also notice some new buttons in the navigation area of the management app the next time you log in which allow you to access the Assets manager and the Statistics viewer.
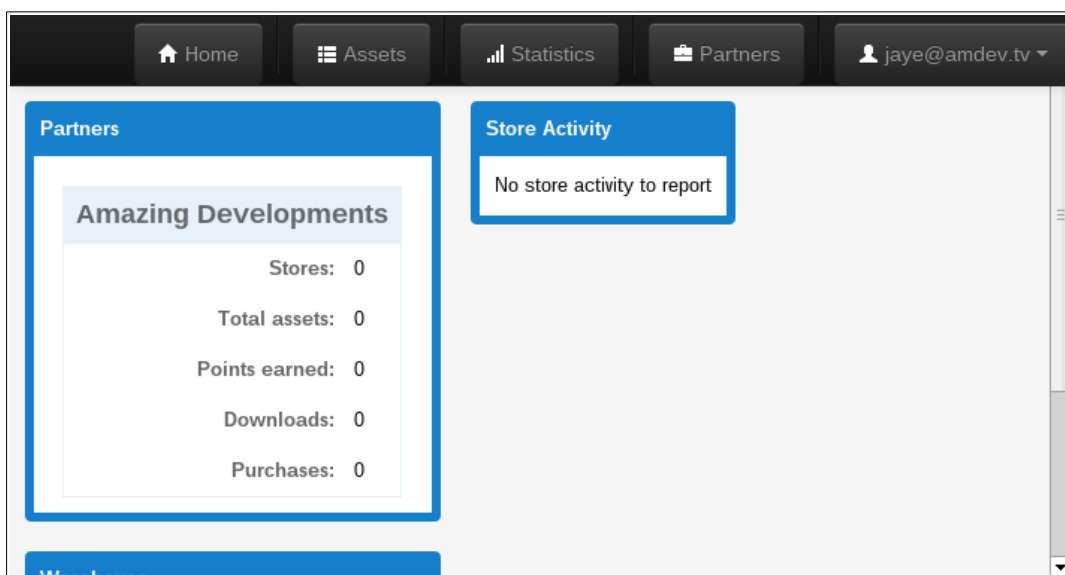
The Asset manager

Clicking on the Assets button in the navigation area opens the Asset manager:
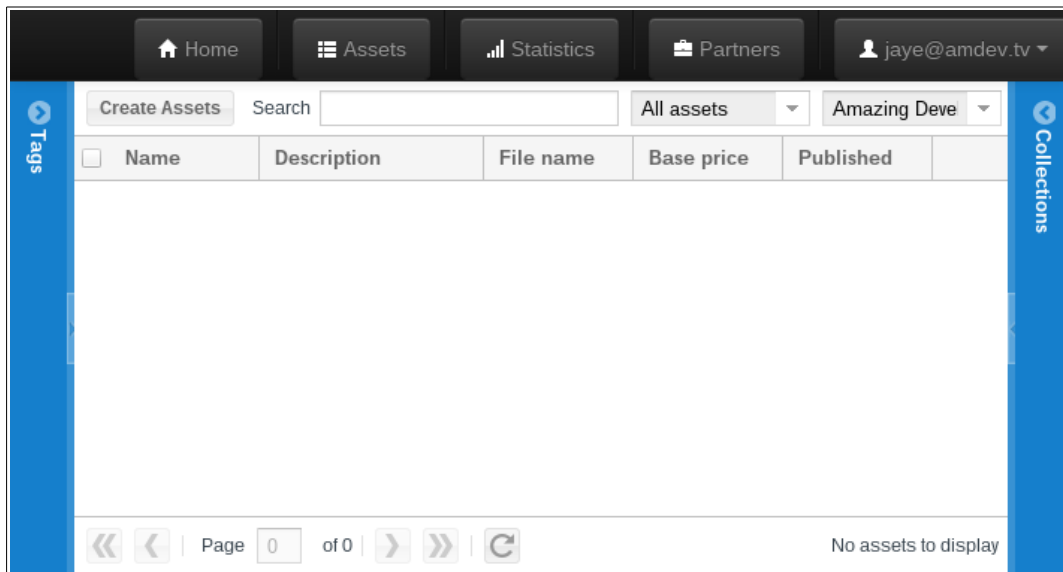
The Asset manager displays a list of all of your assets. Above the Asset list is a control bar which contains the Create Assets button, a search field to quickly locate a specific asset and two drop downs. The first one allows you limit the list to Assets which are already published or those waiting to be reviewed for publication; it defaults to showing both. The last drop down allows you to select which Partner to show Assets for.

Below the Asset list is a navigation bar which makes paging through the list easier. To the left is a slide-out drawer that shows tags, and on the right is a slide-out drawer that allows managing collections. Both of these slide-out drawers are covered in detail later in this document.

Creating a new asset

Clicking on the "Create Assets" button in the Asset manager will take you to the Asset editor.

At the top are three buttons: Single Asset, App from OBS and Mass Create. Single Asset is the default and is shown immediately when visiting the Asset editor. "App from OBS" simplifies the process of creating an Asset for an application that is built and packaged using the Mer Open Build Service at http://build.merproject.org. "Mass create" opens a large drop zone in which you can drop multiple files to create multiple assets at once. We will focus on Single Asset for now as it demonstrates all the key concepts and is the interface one is most likely to use.

> *Note:* By using the Bodega Web API directly, one can also perform automated creations of Assets but uploading text documents containing JSON with all the necessary data along with the Asset file and images for icons, previews, covers, etc. While out of scope for this document, this mechanism is useful for mass importations or for integration Bodega with 3rd party tools.

The first input in the Single Asset form is for the type of Asset you are going to create. Once a type is selected, additional fields specific to that asset type will be shown. Select "wallpaper" will show a set of screen resolutions to select from, for instance.

Below that is a drop down containing a list of all the Partners you are a member of. The selected Partner is the on that will own this Asset.

The remaining fields are self-explanatory: name, license, version, the file to upload, description, etc. Once everything is filled in to your satisfaction, click the Create button at the bottom of the form. You can always edit the Asset further before posting it for publication, so if you make an error or wish to change something you can do so after this step.

The Asset file will be uploaded and a new Asset entry will be created and show up in the Asset manager list.
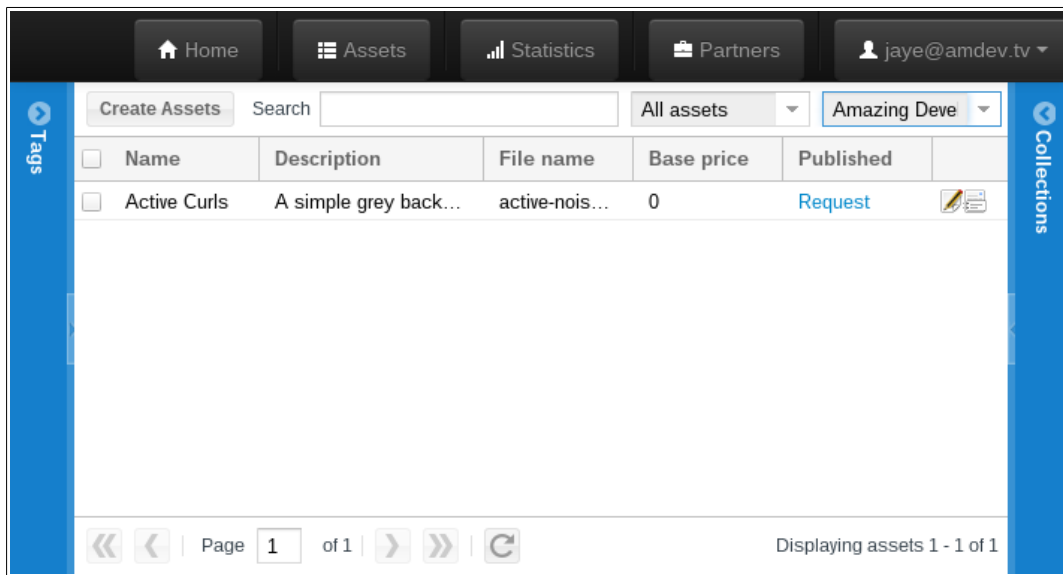
The two icons to the right are for editing the Asset information, including uploading a different file or new images (screenshots, etc), and for seeing which tags are currently associated with the Asset.

Tagging

Clicking on the tag icon for an Asset in the Asset manager listing shows a dialog similar to this:
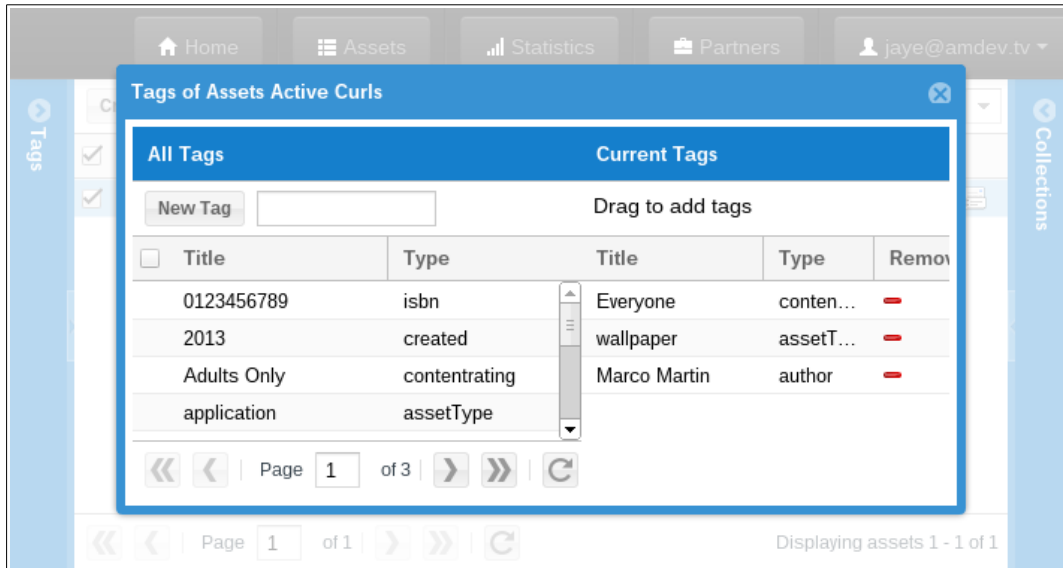
The tags on the left are all the tags known to the Bodega warehouse, and the ones on the right are the tags currently associated with the Asset. One can drag tags to add them to the asset. To remove remove tags, click on the '-' icon next to the tag. New tags can also be created using the New Tag button. This dialog is not usually needed as most tagging is done for you by the Asset editor, but it can be useful to see exactly what is happening behind the scenes and if necessary make manual adjustments.

You can also tag assets by clicking on the Tags sidebar which will slide out to show all known tags.
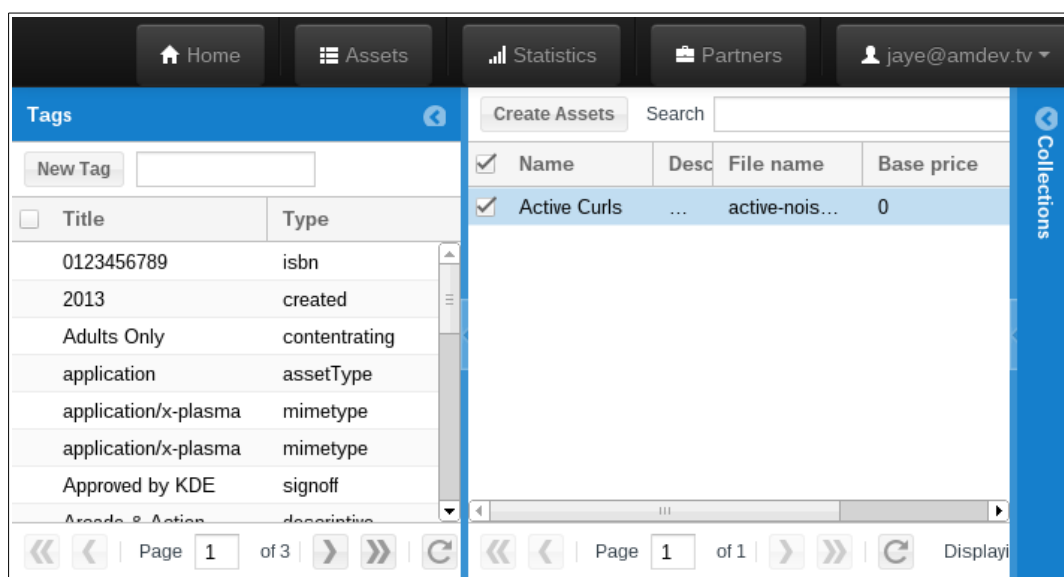
Assets can be dragged to tags in the list, allowing for mass tagging of Assets. For instance, if you have several assets and you wish to set the Author tag on all of them, you could slide open the Tags drawer, select all the Assets you wish to tag and then drag those assets on to the correct author tag in the list.

Updating an asset

To update an Asset, click on the edit icon for the Asset you wish to change in the Asset manager list. This will show the Asset editor and allow you to make any adjustments you wish.

If you upload a new file, you should also change the version field and add a changelog. Even if you do not do so, however, the asset will be marked as having an update and people who have downloaded that Asset will see that an update is available.

If you only edit information such as the name or tags, then no update will be shown to people who have downloaded the Asset previously. The edit will simply alter how the Asset is displayed in Stores.

Publishing an asset

After creating a new Asset or updating an existing one, if your account has the Validator role for the Parnter who owns the Asset, you can click on the "Request" link in the Published column. If there are any errors, such as missing required information, you will be notified with an error message and given the opportunity to correct it before it is posted for publication.

Once successfully posted, the warehouse team will check the Asset to ensure it contains what is described in the information and that it is accurately tagged. At this point, it will be published to the warehouse and immediately display in all matching Stores. You will be notified by email when the Asset is published or, in the case of rejection, why the publication request was rejected. If the request is rejected, the Asset will remain in the Asset manager listing where you can make adjustments and then request publication again.

This approval process does not include any curation of the content. The approval process is simply there to ensure that Assets are accurately described by the publisher so that Stores are as useful to their customers are possible.

Curation of content is done by Store owners at their own discretion, using tags to record the results of that process. Any such curation happens separately from and after publication. This means that an Asset may be successfully published to the warehouse but not appear in a given Store until curation is complete.

Collections

It also possible to create sets of Assets, called "collections". A collection can contain multiple Assets that have some relation to each other. For instance, you may wish to gather all the puzzle games you have published into a collection separate from other games Assets you may have created. Or you may chose to create a "favorites" or "featured" collection. Such collections can be used by Stores as well as their customers to more easily find your content. In future, you will also be able to assign special pricing to collections allowing people to purchase an entire collection of Assets for a single bundle price defined by you.

To manage your Asset collections, click on the Collections sidebar tab. This will show the Collections manager next to the Asset listing.
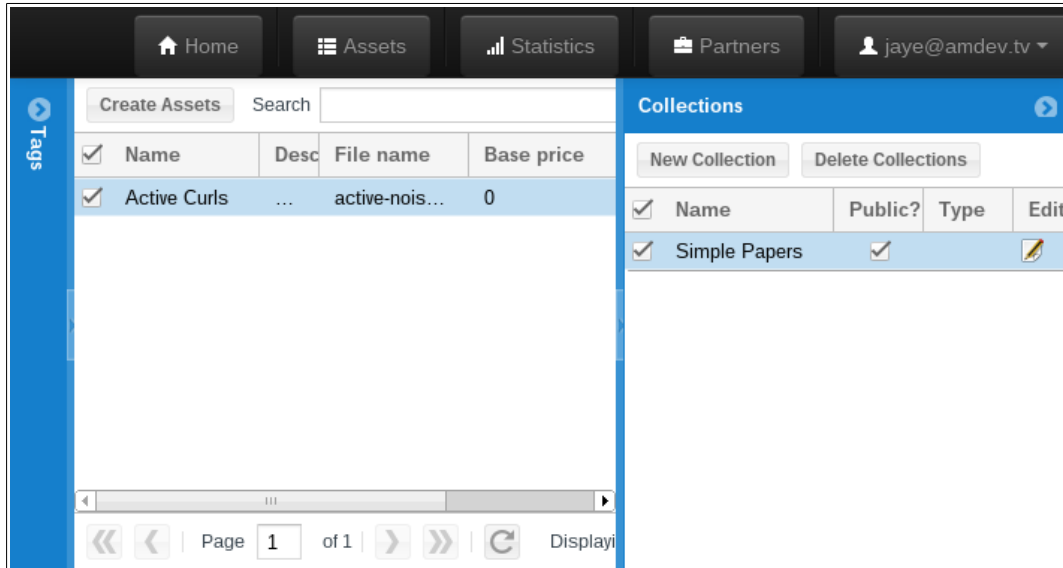
To create a new collection, click on the "New Collection" button. To remove collections, select one or more collections and click on "Delete Collections". To add Assets to a collection, simply select them in the Asset list and drag them to the collection you wish to add them to.

created but still pending publication.
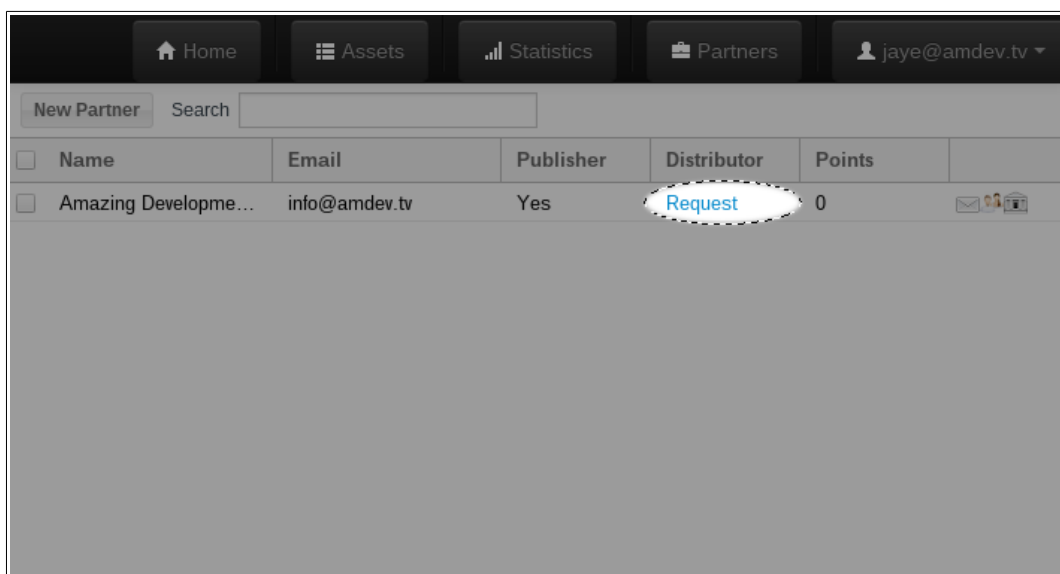
Distributors

Distributors are Partners who are able to create and managed Stores, including defining which Assets should appear in them.

Becoming a distributor

Partners are not Distributors until marked as such. Typically, having a Partner made a Distributor is less common than becoming a Publisher as ensuring Stores are well managed is extremely critical to the success of a warehouse.

The process for having a Partner become a Distributor is much the same as for becoming a Partner. In the Partner list under the Distributor column is a Request link.

Clicking on it will bring up a dialog that allows you to provide some information as to what your Partner organization plans to do as a Distributor.
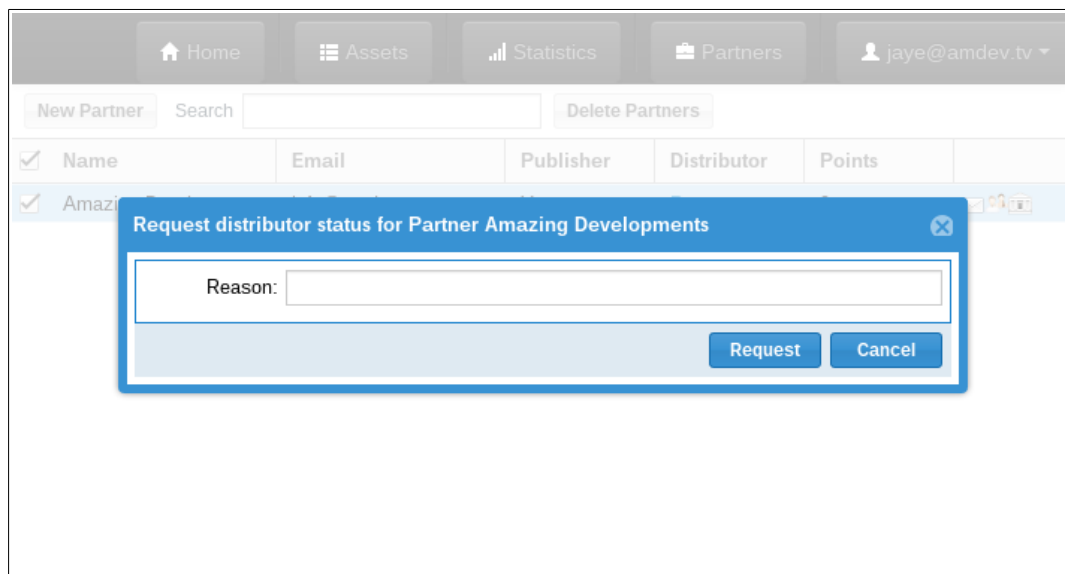
Once the warehouse team has approved (or rejected) your request, you will receive an email noting the result. On success, the Partner listing will reflect that the Partner is now a Distributor. You will also notice some new buttons in the navigation area of the management app the next time you log in which allow you to access the Stores manager and the Statistics viewer.

Clicking on the Stores button in the navigation area will take you to the list of Stores owned by your Partners. At first it will, of course, be blank.
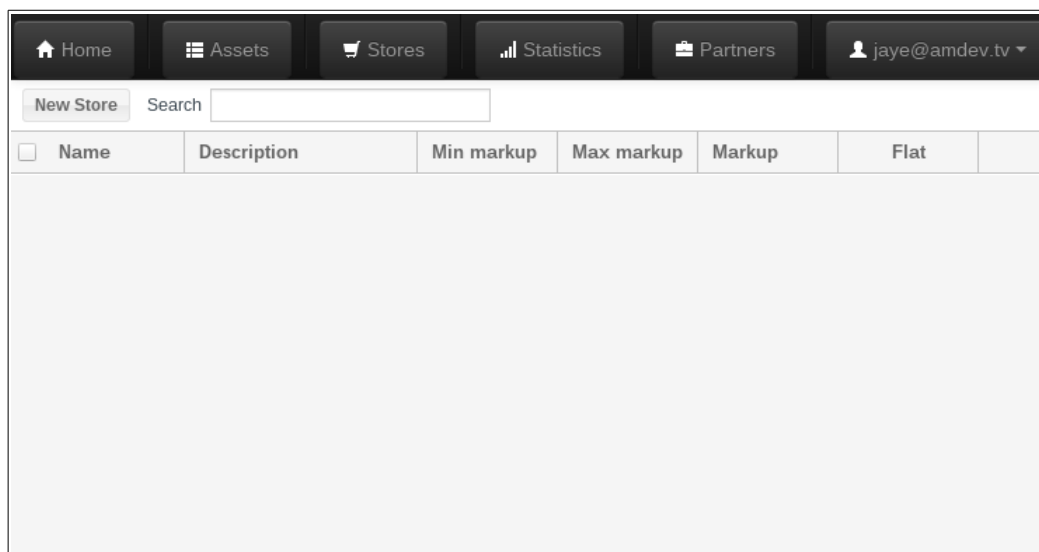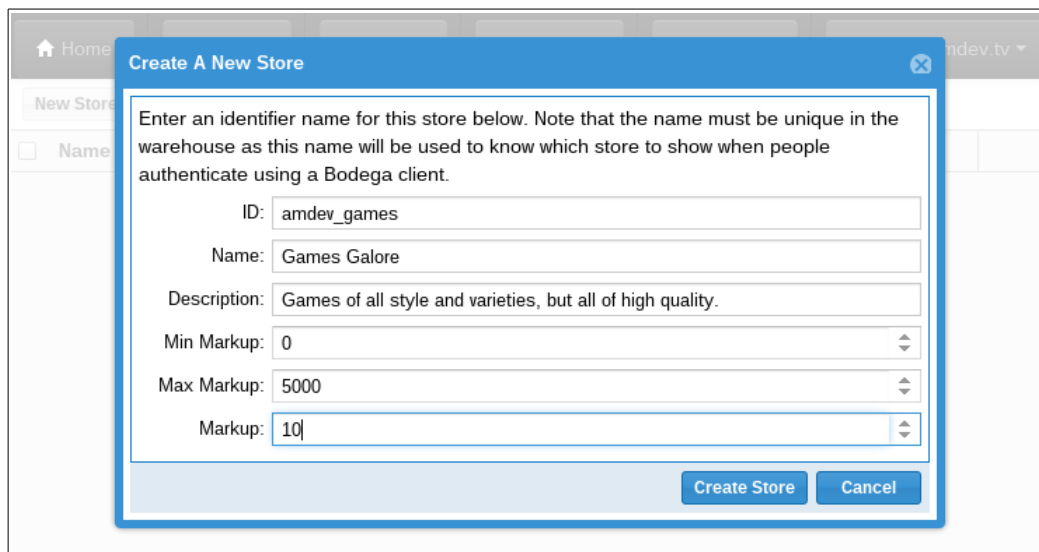
Participant accounts with the Store Manager role can create and Manage stores.

Creating a store

To create a new store, click on the New Store button to show the new store button. You will be

prompted to provide information in setting up the store.

The store ID never changes, and must be unique within the warehouse. It is used to identify your store when people authenticate with the warehouse. The store name and description is what will be shown to people who connect to the store and the markup fields allow you define pricing. For details on how pricing works, see the next session on this topic.

> *Note:* This identifier is the store value passed to the authentication API used by Bodega clients. Since it must be known to the client prior to authentication, a manually defined text ID is used rather than the usual internal-only numeric ID used with all other objects in the warehouse database.

After successfully creating the store, it will show up in the Stores list. Click on any of the columns to edit them.

Pricing

Every Asset that appears in the store has an optional markup defined by you. This markup is controled by three values:

- **Markup**: A percentage applied to the Asset base price. If the Markup is 10%, then an Asset that has been valued by the Publisher at 100 points will appear in that store for 110 points.

- **Maximum Markup**: This defines the maximum number of points to markup an Asset. This allows preventing Assets above a certain price from having a disproportionate end price.

- **Minimum Markup**: This defines the minimum number of points to markup an Asset. This applies to all Assets, even if they have a value of 0 points.

Using these three values a Store can regulate overall pricing of items. A value of zero is allowed for any of the three values. The minimum and maximum markup values override the markup percentage as needed. For instance, defining a markup of 0% and a minimum markup of 100 points will result in *every* asset being marked up exactly 100 points in the Store.

Store structure and contents

The Assets that appear in a Store, and the arrangement they appear in, is defined using tags. Using this definition, matching Assets are arranged into groups or "channels". Channels may be nested to form a hierarchical structure. Each channel in the hierarchy may have its own group of tags which Assets must match to be included in. To create the store structure, click on the edit icon for the Store in the Store list.
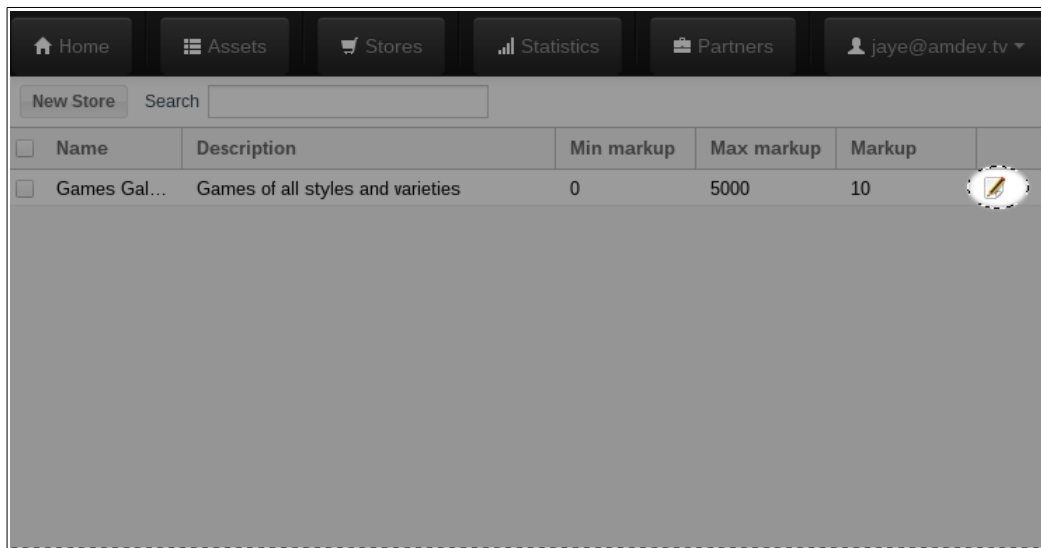
The Store editor will appear offering the option to create a new channel as well the ability to edit existing channels. As usual, clicking in the columns will allow direct editing of things such as the name or description.
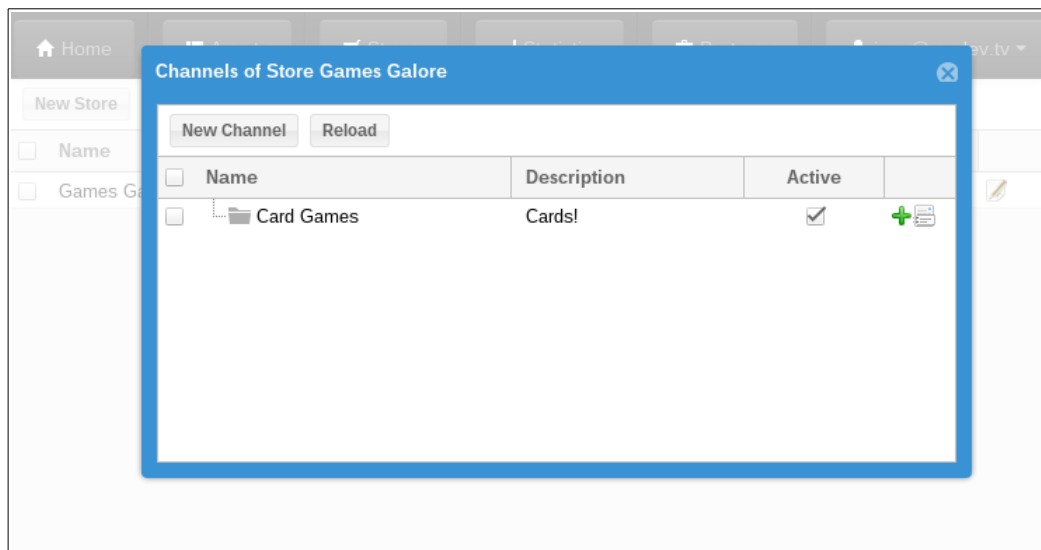
There are two action icons on the right side of the store list: add channel and add tags. The add channel icon will create a sub-channel. This channel will have its own set of tags, name and description. Building a hierarchy within your store is made possible with these sub-channels.

The tags icon opens up the tagging window shown below.
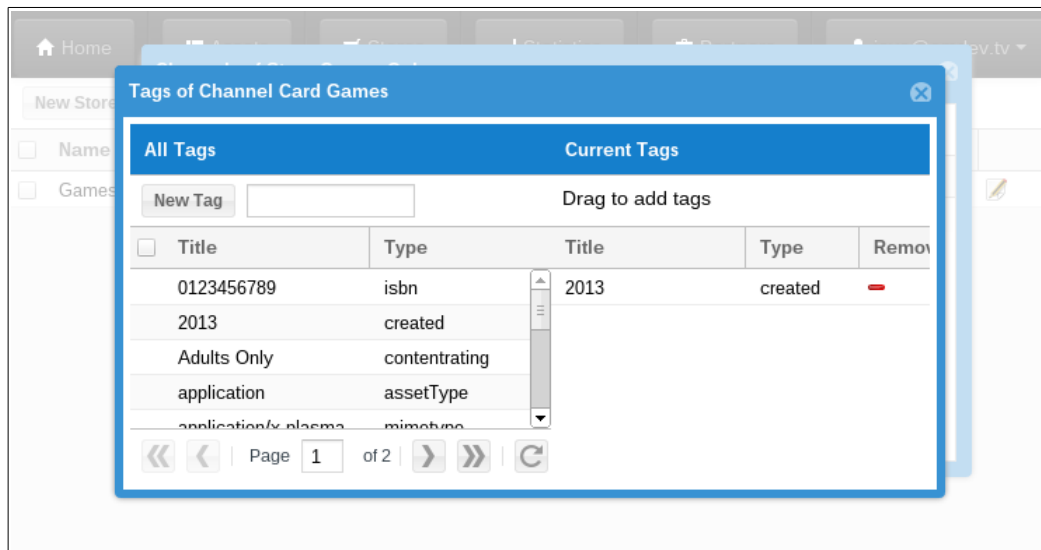
By typing in the search bar you can filter tags by name and quickly find the tags you need.
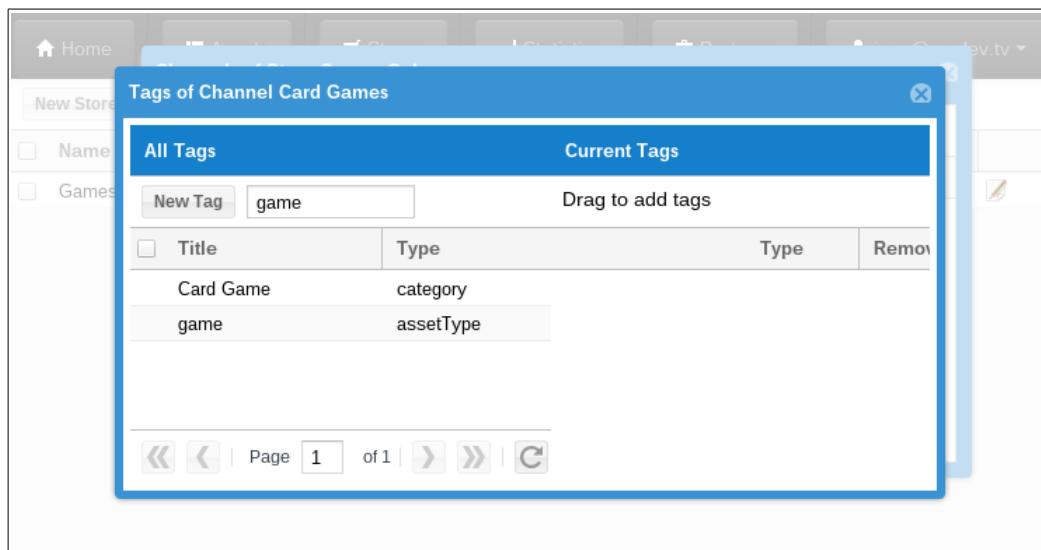
By dragging tags from the left list to the right, tags will be associated with the channel. To remove a tag, click on the remove icon to the right of the tag. When you are done, just close the window.
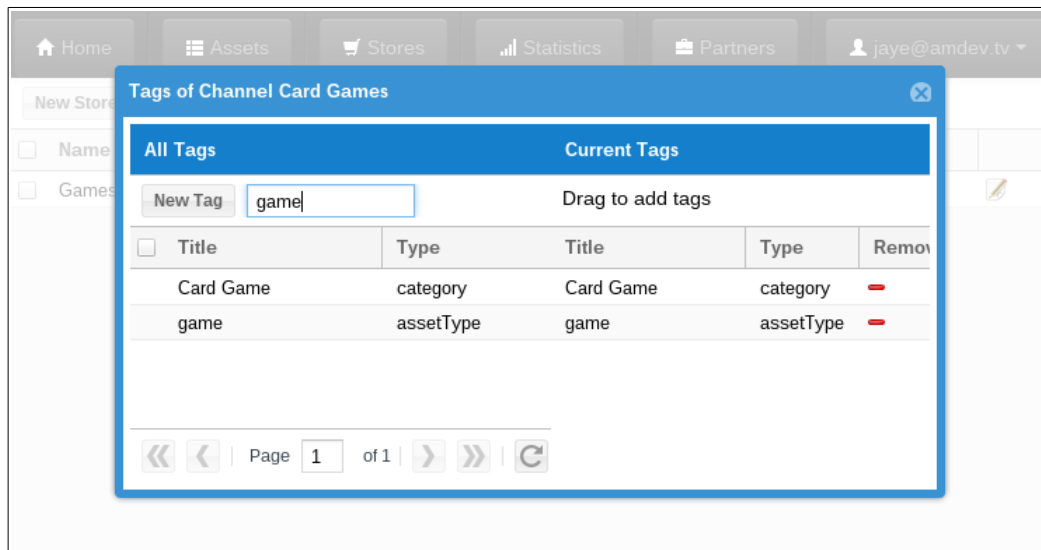
All Assets that match those tags will automatically appear in that channel. You do not need to do anything further for that to happen.

Curating content

When a Partner is marked as a Distributor a "signoff" tag is automatically created with the title "Signed off by <Partner name>". This tag is owned by your partner and can be applied to assets which you approve. This tag can then be used in conjunction with your Store channels to filter content by your curation tag. You may also rely on others to curate your content by using their curation tag.

> *Note:* An interface in the Manager application to curate sets of Assets which would otherwise match your store's channels has not been deployed in the Management app. It will appear in a future version.

Customer activity and interaction

Publishing Assets and curating Stores is really just the beginning. Interacting with people who use your Assets and Stores is critical to understanding how to improve your efforts and to understand what people are actually doing.

Bodega provides three kinds of tools to aid you in your efforts: statistic, ratings and discussion forums.

Statistics

Statistics are gathered for both downloads and purchases made of your Assets or from your Stores. You can access this information by clicking on the Statistics button in the manager application. Doing so will show you an interface from which you can generate useful graphs.
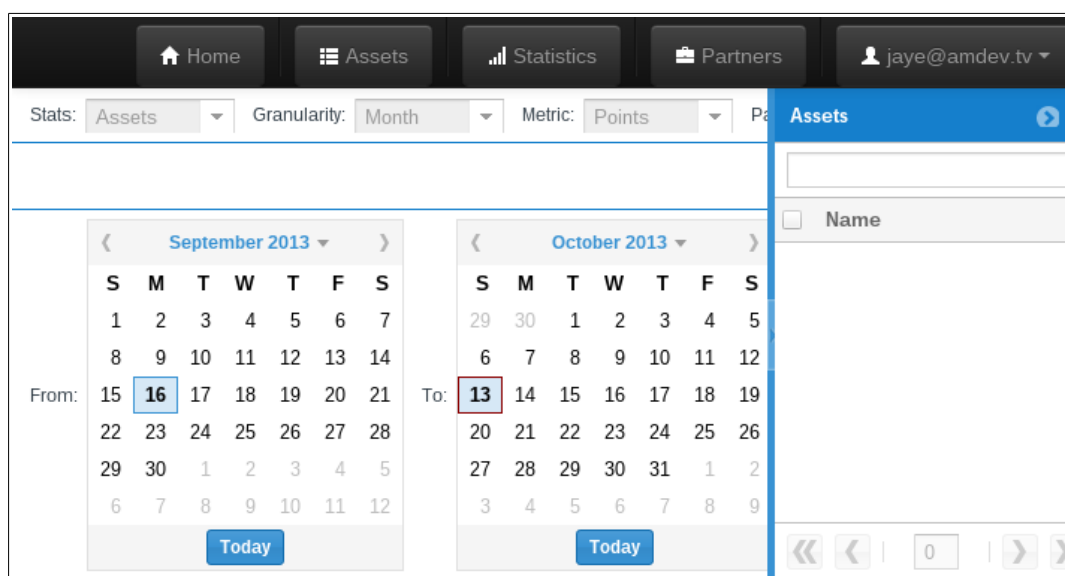
The two calendars allow you to select the date range to show information for, and the Assets to show information for are listed on the right-hand side. The drop-down menus at the top allow you to customize the report. The first drop-down, labeled "Stats", allows you to switch between showing statistics for Assets you own and Stores you run. The "Granularity" drop-down controls the size of the time units the data is summarized into: years, months or days. The "Metric" drop-down switches between showing the number of purchases, the total points earned and the number of downloads. Finally, the "Partner" drop-down allows you to show statistics for different Partners if you are a member of more than one Partner.

The list on the right shows all your Assets or Stores, depending on what the "Stats" drop-down is set to. You can select which of these thes graph should show statistics for.

The graphs that are generated are interactive. You can mouse over them for more detailed information as well as click on graph lines to focus on them or hide others.

Ratings

Participants may rate your Assets using a Bodega client. These ratings can also be viewed via a Bodega client. However, in future versions of the Manager application you will be able to get an overview of all ratings made to your Assets.

Forums

Each Asset you create has a forum automatically created in the discussion forums area so that people may interact with you online. These forums are quite modern, supporting multiple topics per asset, threading, replies, responses directed to specific people, private messaging and much more.

Make·Play·Live hosts an instance of the forums at https://discuss.makeplaylive.com. Your Bodega account is used to log in to the forums.

What Bodega can be used for

Bodega was originally implemented to fill a need exposed during the development of [KDE Plasma Active](#) for mobile devices. As such, it can be used in the usual, obvious ways: as an app store, as a music store, etc. There are, however, a wide number of additional use cases for which Bodega is uniquely positioned to support due to its design. A few are listed below, though you may be able to come up with many more on your own.

Application Add-ons

These days, applications often support add-on content or extensions. Bodega makes it easy to publish and curate such content, allowing both the application developers as well as their community of users to share content with each other. Asset listings and downloads can be facilitated directly within the application using the JSON API.

Electronic Appliances

With the Bodega Web App, an electronic appliance such as a home router or an office printer could come with Bodega integration allowing users to access and install add-ons, updates and other content on the appliance itself from a web browser running on any machine on the same network. Imagine being able to add an advanced Quality of Service or a connection sharing add-on to your home Wi-Fi router right from a web browser.

Independent Book Authors

Authors of books and periodicals often find it difficult to find profitable sales channels for their materials. Most online options take a significant percentage of each sale, even when driven purely by author self-promotion. With Bodega, an independent author can have their own book store up and running in minutes with the majority of the proceeds staying in their own pockets. Other authors can co-promote their materials via the Bodega warehouse and their titles can appear on all manner of computer devices with the various Bodega clients.

Schools

A school can offer text books, learning materials and institution-specific items such as class schedules to students and faculty using Bodega. The content would remain within the school's facility, allowing both for content that would not be accepted in a general public market as well as content they have licensed for use specifically by their students and faculty.

Online content creation communities

The number of online communities creating content together on the Internet has exploded in the last decade. From artwork to game content to software, these communities have been at the forefront of the collaborative creation phenomenon. What they often lack, however, is a good way to distribute that content. Bodega would make providing user provided content in a video game easy, for instance. Bodega is also Free-as-in-freedom content and Free software friendly, making it a perfect fit for

communities engaged in free culture creation.

The technology behind Bodega

When selecting a technology to rely on, it is important to know what drives it. The choices made by the creators of any software has a direct impact on the future availability, reliability and social contracts of the software.

Free as in freedom

Bodega is (and will always be) Free software, as defined by the Free Software Foundation and the Debian Free Software Guidelines.

The source code is hosted on the KDE Community's project hosting infrastructure at http://projects.kde.org where it is licensed under the GNU GPL v2+. Mailing lists and an open bug tracker for Bodega are also hosted on the KDE infrastructure.

This means that no matter what happens in the future, you and others can:

- rely on Bodega being available forever
- improve Bodega to meet your needs
- audit the code to ensure it works as we say it does
- know that Bodega is respectful of your human rights and freedoms

Server software

Bodega is built entirely on top of high quality Free software technology. It uses the following server-side technologies:

- node.js (and several dozen node modules)
- PostgreSQL
- Redis (session management)
- Discourse (discussion forums)
- ImageMagick (for generating book covers, application previews, etc)

The instance of Bodega hosted by Make·Play·Live also relies on:

- OpenSuse Linux
- haproxy (a high availability proxy server)
- forever (a node process manager)

Client software

While there are no restrictions on the licensing of software that connects to a Bodega warehouse, we encourage the development and use of Free software clients. To that end, we maintain and support the following Bodega client side software all of which is released under Free software licenses:

- libbodega: a C++ / Qt library licensed under the LGPL for accessing Bodega storefronts. It works well with QtQuick applications, but may be used from any application using Qt..

- Active Addons: an application for accessing Bodega stores that is optimized for use on touch screens of varying resolutions and sizes. It is written with QtQuick and libbodega

- Bodega Web Client: a web application for accessing Bodega stores written with node.js

- Bodega Manager: a web application for publishers and distributors to manage assets and stores

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