

created in  
London

## Hob 1.2 'Settings' dialogue

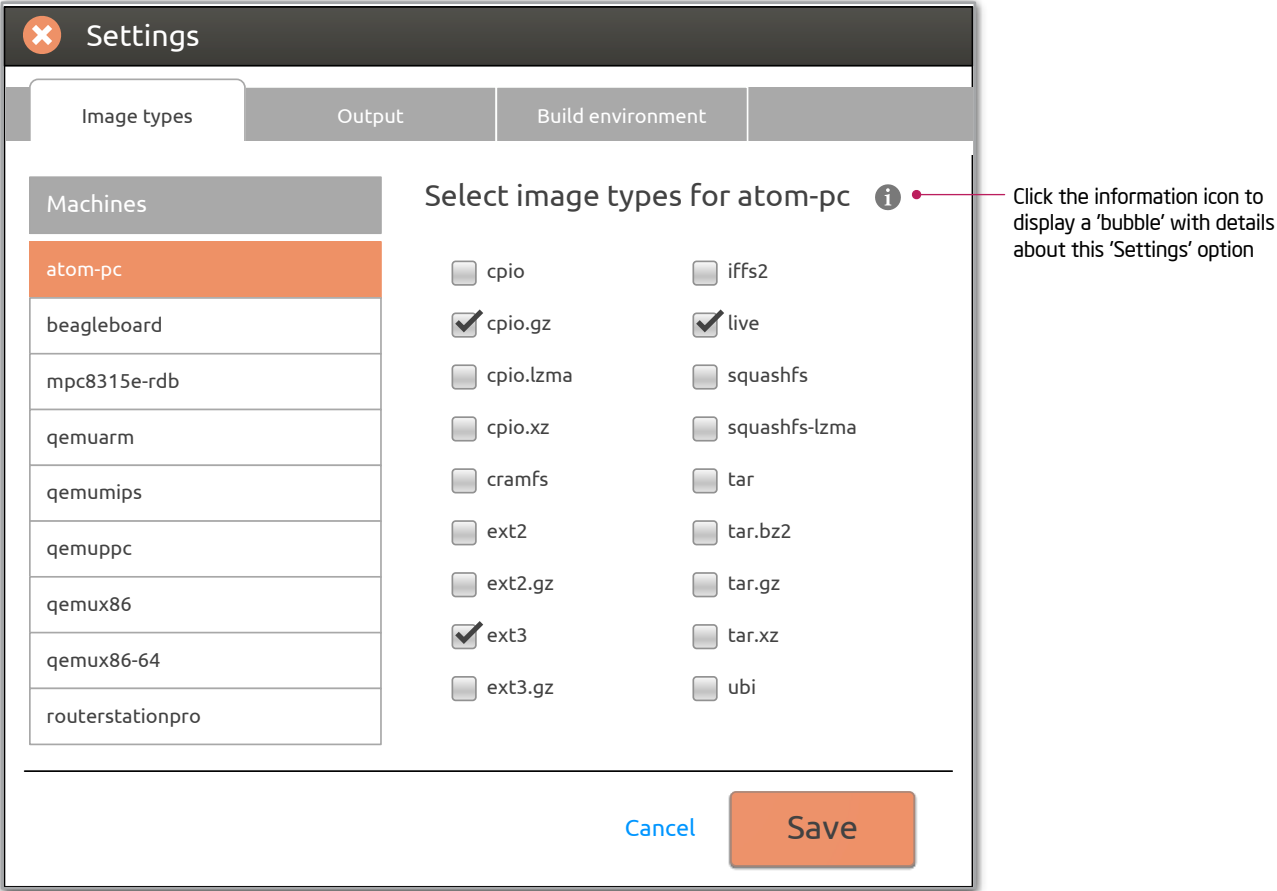
Designers  
Belén Barros Pena

Date	Page number	Description
2.02.12	n/a	Document created
7.02.12	11, 13	Following Joshua Lock's suggestion, an option to restore directory default values was added to the 'Build environment' tab

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# Hob 1.2 'Settings' dialogue

## Settings groups



I've organised settings into 3 groups:

- Image types
- Output
- Build environment

Each group is represented by a tab.

Each option in the Settings dialogue comes with an information bubble, represented by an information icon. On clicking the icon, the bubble displays a brief description of the option. The information is dismissed on clicking a close button in the bubble (note that, currently, the information bubbles work on hover, like tooltips).

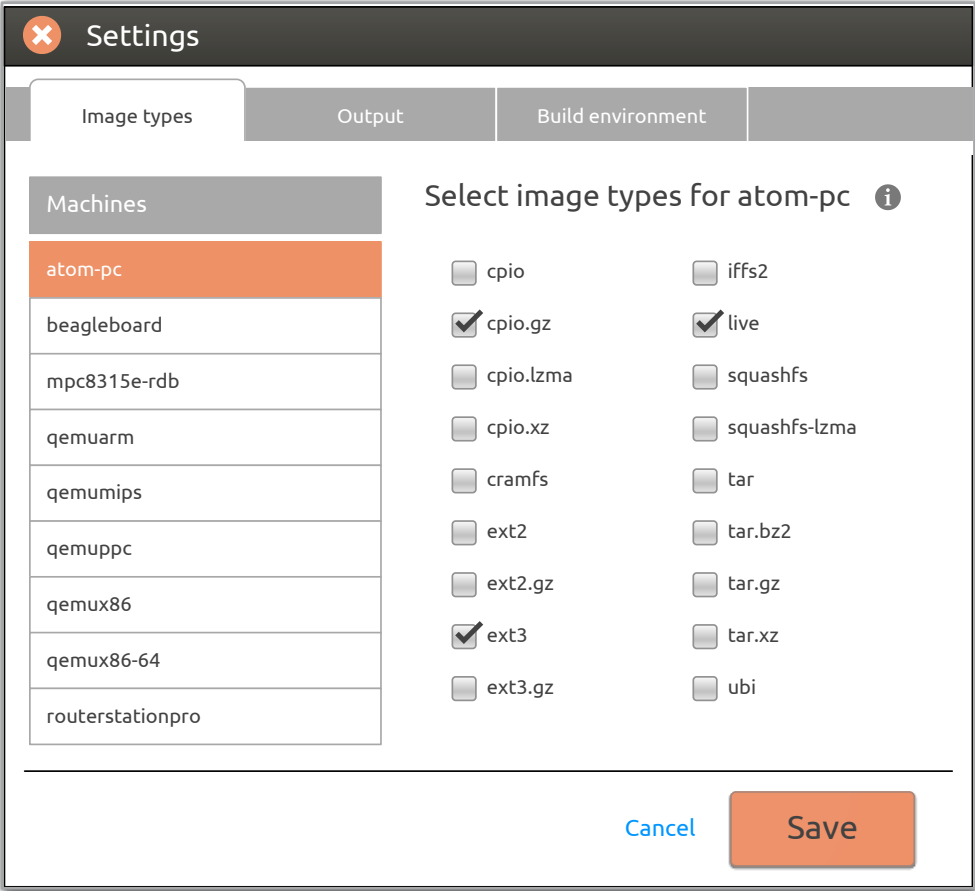
This document includes the content of the information bubbles, which has been mainly sourced from the Yocto reference manual and the ref-variables.xml document. I would recommend get all content and labels in the Hob 1.2 design reviewed by the expert eye of Scott Rifenbark.

### NOTES:

- Shane Wang has mentioned they'd like to add proxy settings to the Settings dialogue. I'll follow up with him to understand what information is required.
- I've removed the existing "Add your own variables" option. If the team considers this functionality necessary, I would recommend to include a list of the variables that can be set as part of the control.

# Hob 1.2 'Settings' dialogue

## 'Image types' tab



It appears to be some relationship between machines and image types, i.e. some image types do not make sense when applied to certain machines. For example, no live image will be generated for a qemu machine.

What this means for the interface is that image types must be set for each different machine listed within the 'Select a machine' combo box in the 'Image configuration' screen. Setting of image types takes place in the 'Image types' tab of the 'Settings' dialogue.

Each machine is represented by a vertical tab. Each image type is represented by a checkbox. For each machine, only "sensible" image types will be listed (e.g. the 'live' checkbox will not display for the qemu machines).

By default, selected image types for each machine will match the IMAGE\_FSTYPES values specified in the machine.conf file.

### Information bubble content

"Set the root file system formats you want to create during the build process"

## Hob 1.2 'Settings' dialogue 'Output' tab

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The screenshot shows the 'Settings' dialogue box with the 'Output' tab selected. The dialogue has a title bar with a close button and the word 'Settings'. Below the title bar are four tabs: 'Image types', 'Output', 'Build environment', and an unlabeled tab. The 'Output' tab contains the following settings:

- Root file system package format** (with an information icon): A dropdown menu showing 'rpm'.
- Additional package formats** (with an information icon): Two checkboxes, 'deb' and 'ipk', both of which are unchecked.
- Image basic size (in MB)** (with an information icon): A spinner box showing '64'.
- Additional free space (in MB)** (with an information icon): A spinner box showing '20'.
- Exclude GPLv3 packages** (with an information icon): An unchecked checkbox.
- Build external development toolchain** (with an information icon): An unchecked checkbox.

At the bottom right of the dialogue are two buttons: 'Cancel' and 'Save'.

The 'Output' tab includes the following options:

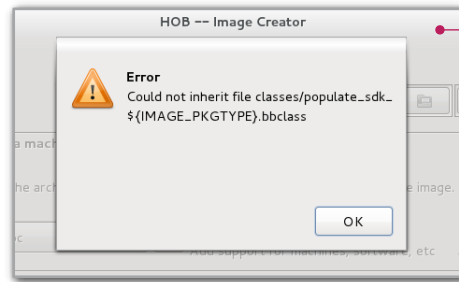
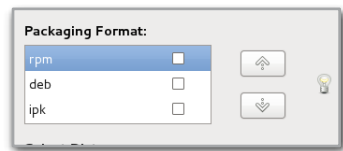
- Select package formats
- Set IMAGE\_ROOTFS\_SIZE and IMAGE-ROOTFS\_EXTRA\_SPACE
- Exclude GPLv3 packages
- Build external development toolchain

See next pages for a detailed description of each option.

## Hob 1.2 'Settings' dialogue

### Select package formats

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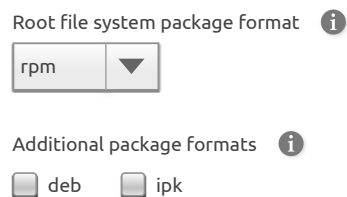
The existing settings controls let me deselect all packaging formats, which causes errors.

The PACKAGE\_CLASSES variable takes "one or more arguments with the first argument being the package manager used to create images". The existing controls allow users to set no arguments by deselecting all packaging formats, which causes errors. Also, the fact that the order of packages determines the format used to create the image is not explained.

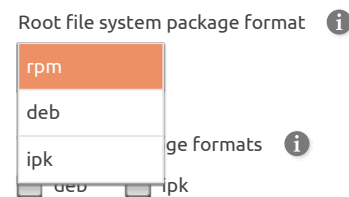
The interface must ensure that:

- the PACKAGE\_CLASSES variable is always set to one or more valid arguments
- users can explicitly indicate which packaging format they want to use to create the image

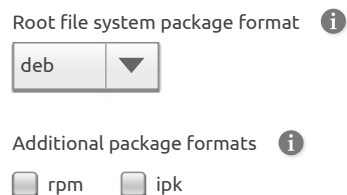
#### 1 Default state: rpm selected for root file system



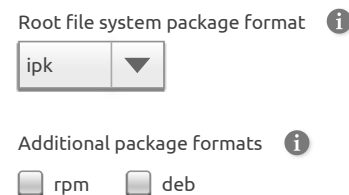
#### 2 Combo box elements



#### 3 deb selected for root file system



#### 4 ipk selected for root file system



In order to do so, I've split up the package format selection into 2 steps:

**Step 1** - Select the package format for the root file system. This step uses a combo box with 3 elements: rpm, deb and ipk, with rpm as default value.

**Step 2** - Select additional package formats. This step uses 2 checkboxes, each of them set to the 2 package formats not selected in the combo box. This means the checkbox labels change depending on the value selected in the root file system combo box. Default state is both checkboxes not selected, with labels 'deb' and 'ipk'.

#### Information bubbles content

Information bubble content for 'Root file system package format': "Sets the package manager used to create your images"

Information bubble content for 'Additional package formats': "Sets which other package formats are generated as build output"

## Hob 1.2 'Settings' dialogue

### Set IMAGE\_ROOTFS\_SIZE and IMAGE\_ROOTFS\_EXTRA\_SPACE

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#### 1 IMAGE\_ROOTFS\_SIZE default state

Image basic size (in MB) 



#### 2 IMAGE\_ROOTFS\_SIZE set to 0

Image basic size (in MB) 



#### 3 IMAGE\_ROOTFS\_EXTRA\_SPACE default state

Additional free space (in MB) 



#### 4 IMAGE\_ROOTFS\_EXTRA\_SPACE value > 0

Additional free space (in MB) 



**UI control:** both settings use the GTK spin button.

**Valid input:** numeric only. If invalid input is entered, the controls should revert to their default values.

**Maximum values:** do we need a maximum value for these settings?

**Minimum values:** '0' for both settings. When the value is set to '0', the down arrow of the spin button become inactive.

**Default values:**

- '0' for IMAGE\_ROOTFS\_EXTRA\_SPACE.
- I am not sure what the default value should be for IMAGE\_ROOTFS\_SIZE (in the last version of Hob 1.2 it seems to be '64')

**Information bubbles content**

Information bubble content for 'Image basic size (in MB)': "Sets your requested size for images. It's taken into account by the build system when determining the image size"

Information bubble content for 'Additional free space (in MB)': "Sets how much free disk space will be added to the image size determined by the build system"

## Hob 1.2 'Settings' dialogue

### Exclude GPLv3 packages

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Just a checkbox set to not selected as default.

#### Information bubble content

"If you check this box, packages with a GPLv3 license will not be included in your images"

## Hob 1.2 'Settings' dialogue

### Build external development toolchain

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#### 1 Default state

☐ Build external development toolchain 

A checkbox set to not selected as default. When selected, a combo box displays for toolchain selection. The combo box has as items 'i586', 'i686' and 'x86\_64'. The default value of the combo box is determined by tcmode-default.inc

#### Information bubble content

"Check this box to select a external toolchain to build"

#### 2 Selecting the checkbox displays the 'Toolchain' combo box

☒ Build external development toolchain 

#### Toolchain

 ▼

#### 3 'Toolchain' combo box items

#### Toolchain

i586
i686
x86_64

## Hob 1.2 'Settings' dialogue

### 'Build environment' tab

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The screenshot shows the 'Settings' dialogue box with the 'Build environment' tab selected. The dialogue has three tabs: 'Image types', 'Output', and 'Build environment'. The 'Build environment' tab contains the following options:

- BitBake parallel threads**: A spinner control set to 5.
- Make parallel threads**: A spinner control set to 5.
- Download directory**: A text field containing '/home/belen/Desktop/poky/poky-contrib/build/downloads' and a folder selection icon.
- Shared state directory**: A text field containing '/home/belen/Desktop/poky/poky-contrib/build/sstate-cache' and a folder selection icon.
- Shared mirror directory**: An empty text field and a folder selection icon.
- Restore directory defaults**: A blue link text with an information icon.

At the bottom of the dialogue are 'Cancel' and 'Save' buttons.

The 'Build environment' tab includes the following options:

- BitBake threads
- Make threads
- Download directory
- Shared state directory
- Shared mirror directory
- Restore directory defaults

See next pages for a detailed description of each option.

## Hob 1.2 'Settings' dialogue

### BitBake and Make parallel threads

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#### 1 Default state

BitBake parallel threads ⓘ

Make parallel threads ⓘ

#### 2 Minimum value

BitBake parallel threads ⓘ

Make parallel threads ⓘ

#### 3 Maximum value

BitBake parallel threads ⓘ

Make parallel threads ⓘ

**UI control:** both settings use the GTK spin button.

**Valid input:** 2 digits only (the controls should not allow typing more than 2 characters). If invalid input is entered, the controls should revert to their minimum values. This approach should avoid problems when building in less powerful hosts.

**Maximum value:** 32. When the value is set to 32, the up arrow of the spin button becomes inactive.

**Minimum value:** 1. When the value is set to 1, the down arrow of the spin button becomes inactive.

**Default values:** it seems to be 2 in the existing version of Hob 1.2

#### Information bubbles content

Information bubble content for 'BitBake parallel threads': "Sets the maximum number of parallel threads BitBake can run"


Information bubble content for 'Make parallel threads': "Sets the maximum number of parallel threads make can run"


## Hob 1.2 'Settings' dialogue


### Download, shared state and mirror directories


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#### 1 Default states


Download directory 




Shared state directory 



Shared mirror directory 



Restore directory defaults 

**UI control - directories:** text field plus a file chooser button. The file chooser opened by this button should default to the Yocto root directory.

**UI control - restore defaults:** secondary action button.

**Default values:**

- The download directory is set to 'downloads'
- The shared state directory is set to 'sstate-cache'
- The shared mirror directory is blank

Clicking the 'Restore directory defaults' button sets all directory properties to the above values.

**Information bubbles content**

Information bubble content for 'Download directory': "Sets the folder where all fetched sources will be stored"

Information bubble content for 'Shared state directory': "Sets the folder used for the shared state cache"

Information bubble content for 'Shared mirror directory': "Sets a prebuilt mirror for faster build speed. Enter the path to a local directory or a URI for a remote location"

Information bubble content for 'Restore directory defaults': "Sets the download, shared state and mirror directories to their default values"