

SUSE Studio Onsite

www.novell.com

November 30, 2009

Deployment And Administration Guide



Deployment And Administration Guide

All content is copyright © 2006- 2009 Novell, Inc.

Legal Notice

This manual is protected under Novell intellectual property rights. By reproducing, duplicating or distributing this manual you explicitly agree to conform to the terms and conditions of this license agreement.

This manual may be freely reproduced, duplicated and distributed either as such or as part of a bundled package in electronic and/or printed format, provided however that the following conditions are fulfilled:

That this copyright notice and the names of authors and contributors appear clearly and distinctively on all reproduced, duplicated and distributed copies. That this manual, specifically for the printed format, is reproduced and/or distributed for noncommercial use only. The express authorization of Novell, Inc must be obtained prior to any other use of any manual or part thereof.

For Novell trademarks, see the Novell Trademark and Service Mark list <http://www.novell.com/company/legal/trademarks/tmlist.html>. * Linux is a registered trademark of Linus Torvalds. All other third party trademarks are the property of their respective owners. A trademark symbol (®, ™ etc.) denotes a Novell trademark; an asterisk (*) denotes a third party trademark.

All information found in this book has been compiled with utmost attention to detail. However, this does not guarantee complete accuracy. Neither Novell, Inc., SUSE LINUX Products GmbH, the authors, nor the translators shall be held liable for possible errors or the consequences thereof.

Contents

About this Guide	v
1 Conceptual Overview	1
1.1 Scenarios	2
1.2 Workflow	2
2 Deploying and Installing	5
2.1 System Requirements	5
2.2 Deploying SUSE Studio Onsite	7
2.3 Completing the Installation and Configuring SUSE Studio Onsite	11
2.4 Keeping SUSE Studio Onsite Up-to-Date	13
2.5 Customizing SUSE Studio Onsite	13
3 Administering SUSE Studio Onsite Servers	19
3.1 Logging into SUSE Studio Onsite	19
3.2 Viewing Build Statistics	20
3.3 Getting Diary Information	21
3.4 Inviting New Users	21
3.5 Managing Your Repositories	22
3.6 Managing Builds and Appliances	23
3.7 Adding New Cron Jobs	24

A	SUSE Studio Onsite Repositories	27
B	SUSE Studio Onsite Services	33
C	Administration Panel—Menu Structure	35
C.1	Dashboard	35
C.2	Diary	35
C.3	Advanced	35

About this Guide

SUSE Studio Onsite® is a Web application for building and testing appliances in a Web browser. It supports creation of virtual appliances and live systems based on SUSE Linux operating systems. SUSE Studio Onsite is the SUSE Studio release intended for installation on a server machine behind the firewall. The publicly hosted version is available at <http://susestudio.com>.

This guide contains the following chapters:

Chapter 1, *Conceptual Overview* (page 1)

Introduces this product and gives an overview.

Chapter 2, *Deploying and Installing* (page 5)

Gives you all the necessary information to deploy and install your SUSE Studio Onsite server on your machine.

Chapter 3, *Administering SUSE Studio Onsite Servers* (page 19)

Shows how you can log in to your server, view build statistics, get diary information, manage your repositories, and build your appliances in a Web interface.

Appendix A, *SUSE Studio Onsite Repositories* (page 27)

Provides a quick overview how to set up a SMT server to offer repositories.

Appendix B, *SUSE Studio Onsite Services* (page 33)

Lists all services which are provided by SUSE Studio Onsite.

Appendix C, *Administration Panel—Menu Structure* (page 35)

Describes the menu structure of the SUSE Studio Onsite administration panel.

For an overview of the documentation available for your product and the latest documentation updates, refer to <http://www.novell.com/documentation>.

1 Feedback

Several feedback channels are available:

- To report bugs for a product component or to submit enhancement requests, please use <https://bugzilla.novell.com/>. If you are new to Bugzilla, you might find the *Bug Writing FAQs* helpful, available from the Novell Bugzilla home page.
- We want to hear your comments and suggestions about this manual and the other documentation included with this product. Please use the User Comments feature at the bottom of each page of the online documentation and enter your comments there.

2 Documentation Conventions

The following typographical conventions are used in this manual:

- `/etc/passwd`: directory names and filenames
- *placeholder*: replace *placeholder* with the actual value
- `PATH`: the environment variable `PATH`
- `ls, --help`: commands, options, and parameters
- `user`: users or groups
- `Alt, Alt + F1`: a key to press or a key combination; keys are shown in uppercase as on a keyboard
- *File, File > Save As*: menu items, buttons
- **► amd64 em64t**: This paragraph is only relevant for the specified architectures. The arrows mark the beginning and the end of the text block. **◄**
- *Dancing Penguins* (Chapter *Penguins*, ↑Another Manual): This is a reference to a chapter in another manual.

Conceptual Overview

SUSE Studio Onsite is a Web application for building and testing appliances in a Web browser. A software appliance is a pre-configured set of an application (for example, a Web server), its configuration and an operating system (for example, SUSE® Linux Enterprise Server). All these parts are integrated into a single image, deployable on industry standard hardware. Generally this image can be an ISO image, a Live CD/DVD, a VMware image, or a Xen image.

Depending on the intended deployment, appliances can be categorized as follows:

Software Appliances

Intended for deployment on a server.

Virtual Appliances

Intended for deployment on a hypervisor or in a cloud computing environment.

SUSE Studio Onsite has a lot of advantages: You can easily deploy and build appliances with a user-friendly Web interface that also lets you administer your repositories and manage your builds. You do not need any additional software: you can boot, configure and test your appliance in a browser window (without download).

Find more information about appliances and the SUSE Appliance Program at <http://www.novell.com/linux/appliance/>.

1.1 Scenarios

The following list provides some common use cases for SUSE Studio Onsite. For additional information visit <http://www.novell.com/linux/appliance/>.

- SUSE Studio Onsite may be used to create images for common departmental machine configurations for easy deployment when new hardware is commissioned.
- Build an appliance with your proprietary code without uploading the code to a server on the Internet. You may distribute the appliance to your customers as you see fit.
- You may configure SUSE Studio Onsite such that no external repositories are accessed.

1.2 Workflow

After you have deployed and installed SUSE Studio Onsite on your server, you can build and distribute appliances following these basic steps:

1. Decide which of the available *base templates* is applicable to your needs. A template is a pre-configured selection of packages for a specific purpose. For example, choose from templates based on SUSE Linux Enterprise Server, SUSE Linux Enterprise Desktop, or openSUSE.
2. Add or remove packages, configure system options and personalize your appliance to your desired look and feel.
3. Build your appliance using one of the following image types: hard disk image, LIVE CD/DVD image, or an image for deployment on VMware/VirtualBox, or Xen.
4. To debug and test your appliance without leaving your browser, launch the testdrive. Change or add files *inside* your running appliance that can later be added as *overlay files*.
5. Add your *overlay files* to your configuration and rebuild your appliance. Repeat these steps until you are satisfied.

6. Distribute the resulting appliances to your customers.

Find a screen cast of this summary at <http://susestudio.com>.

Deploying and Installing

To deploy and install SUSE Studio Onsite you just need to dump a raw image on your server and proceed with the installation in a Web browser. This chapter provides step-by-step instruction to successfully complete deployment and installation of SUSE Studio Onsite on your designated server.

SUSE Studio Onsite is delivered in two variants, a compressed raw image and a CD. The raw image is a bitwise copy of a complete hard disk and contains a full Linux operating system including a boot sector and partition information. The CD is bootable and will deploy the SUSE Studio Onsite image.

WARNING: Erasing Your Disk

Installing SUSE Studio Onsite will erase your disk *completely*. If you have any important data on this disk, make a backup before you proceed.

2.1 System Requirements

Before you install SUSE Studio Onsite on your server, boot a Live CD and check if your machine fulfills the following system requirements:

CPU: 64-Bit and Virtualization Support

The CPU must support 64-bit and full virtualization. Check if your CPU supports 64-bit by executing the following command:

```
grep lm /proc/cpuinfo
```

The `grep` command will only provide output if the processor supports long mode, indicated by the `lm` flag. If the `grep` command returns no output your selected system only supports 32-bit addressing and does not meet the SUSE Studio Onsite requirements.

Virtualization support is needed for building appliances and using the `testdrive`. Test the capabilities of your CPU by executing the following command in the text console or shell (the `vmx` flag is used by Intel, `svm` by AMD):

```
egrep '(vmx|svm)' /proc/cpuinfo
```

If there is no output from the `egrep` command your processor does not support full virtualization or the feature has been disabled in the BIOS. Enable the setting in your BIOS and try again. Depending on your BIOS the entry can be named differently: *Virtualization Technology*, *VT* or something similar. Consult your main-board manual.

RAM

A minimum of 8 GB of RAM should be installed on the server machine. RAM in addition to the 8 GB minimum is recommended. SUSE Studio Onsite requires 2 GB of RAM for the user interface, 4 GB of RAM for each logged in appliance creator, and 2 GB of RAM for the `testdrive`.

Free Disk Space

The available disk space on the server should at least be 100 GB. Additional disk space is recommended. The following table provides an overview of the size requirements for ISO based repositories for the various distributions (only binary, no source or updates):

Table 2.1 *Minimal Amount of Disk Space for Different Products (Approximate Values)*

Product	Size
SLES 10	~6GB
SLED 10	~11GB
SDK 10	~8GB

Product	Size
SLES 11	~7GB
SLED 11	~10GB
SDK 11	~8GB
openSUSE 11.1 DVD	~4.3GB
openSUSE 11.2 DVD	~4.4GB

2.2 Deploying SUSE Studio Onsite

The following sections describe two methods for the installation of SUSE Studio Onsite using the installation from the installation CD and the raw disk image. Using the raw image requires network access and a second machine on your network to store the raw image.

TIP: SUSE Studio Onsite Release Notes

The SUSE Studio Onsite Release Notes are contained in the file `/srv/studio/README.onsite_user` after the installation is completed. The Release Notes contain important information regarding SUSE Studio Onsite as well as updates not reflected in this manual.

2.2.1 Deploying The Image From The Boot CD

To deploy the raw image from the CD on your server, proceed as follows:

Procedure 2.1 *Deploying a Raw Image from CD*

- 1 Boot your future SUSE Studio Onsite server with the CD. Select *Install/Restore SUSE Studio Onsite*.

- 2 Answer the question *This will destroy ALL data on /dev/sda, continue?* with *Yes* to proceed. The deployment process is taking over.
- 3 Remove the CD and reboot your server. The boot loader GRUB is started and the firstboot system takes over.

This completes the installation of SUSE Studio Onsite using the install CD. Proceed with Section 2.3, “Completing the Installation and Configuring SUSE Studio Onsite” (page 11).

2.2.2 Installing Over a Network

This method is useful if your server does not have a CD/DVD drive or you prefer installation over a network. You need two machines: the first machine contains the raw image, the second machine is your future SUSE Studio Onsite server. Installing over a network usually takes these steps:

- 1 Procedure 2.2, “Preparing Your Future SUSE Studio Onsite Server” (page 8).
- 2 Procedure 2.3, “Decompressing the Image on the Client” (page 9)
- 3 Procedure 2.4, “Deploying The Raw Image” (page 10)

Procedure 2.2 *Preparing Your Future SUSE Studio Onsite Server*

- 1 Boot your future SUSE Studio Onsite server with a rescue system. Such systems are available on all SUSE installation CDs or DVDs. Alternatively boot from a Live CD.
- 2 Log in as `root`. Do not enter a password.
- 3 If the network in the rescue image has not been configured automatically via DHCP it must be configured. Check for an IP address with the following command:

```
ifconfig
```

If you only get one item with an 127.0.0.1 address you must configure your network. To configure a DHCP-based network setup simply use:

```
ifup-dhcp eth0
```

Remember the IP address of your system, it is needed in a later step.

- 4 Set up a listener on an unused port (1234 in our example) and dump the incoming data to the system disk. Generally this is the first hard drive, `/dev/sda` in our example. To use the example parameters enter the following command:

```
netcat -l -v -p1234 | dd of=/dev/sda
```

- 5 Make sure you do not clean the screen as you need the output of the last step to compare it with the output of another command later.

Procedure 2.3 *Decompressing the Image on the Client*

- 1 Check the file type of your image with `file IMAGENAME`:

- If you get the following output (as one line), skip this procedure and proceed with Procedure 2.4, “Deploying The Raw Image” (page 10):

```
...raw: x86 boot sector; GRand Unified Bootloader,  
stage1 version 0x3, stage2 address 0x2000, stage2 segment 0x200,  
GRUB version 0.97; partition 1: ID=0x83, active, starthead 1,  
startsector 63, 4192902 sectors
```

- If you get one of the following outputs, your raw image is compressed:

```
gzip compressed data, extra field, from Unix, last modified: ...
```

or

```
bzip2 compressed data, block size = 900k
```

- 2 Decompress the raw image with one of the following commands, depending on the file extension of the image:

- For an image compressed with `gzip` (file extension `.gz`), use:

```
gunzip IMAGENAME
```

- For an image compressed with `bzip2` (file extension `.bz2`), use:

```
bunzip2 IMAGENAME
```

- For an image compressed with `tar` and `gzip` (file extension `.tar.gz`), use:

```
tar xzvf IMAGENAME
```

At the end of decompression you will have a raw image with the `.raw` extension.

Procedure 2.4 *Deploying The Raw Image*

- 1 Send the raw image to the machine designated as the SUSE Studio Onsite server using the following command. Replace the `RAW_IMAGE` with the path to your image and `IP_of_Client` with the IP address from Step 3 (page 8) of Procedure 2.2, “Preparing Your Future SUSE Studio Onsite Server” (page 8):

```
dd if=RAW_IMAGE | netcat IP_of_Client 1234
```

- 2 Compare the output from the last step with the output from Step 5 (page 9) of Procedure 2.2, “Preparing Your Future SUSE Studio Onsite Server” (page 8). The following shows an example of the output:

```
2625536+0 records in
2625536+0 records out
1344274432 bytes (1.3 GB) copied, 113.989 s, 11.8 MB/s
```

The time (113.989 s), the throughput (11.8 MB/s), the number of records (2625536+0), and the total size (1.3 GB) may be different in your case.

However, the `records in` and `records out` as well as the size must match between the two machines. If you see any discrepancies repeat the previous steps.

- 3 Reboot the server and remove the rescue medium from your CD or DVD drive. The boot loader GRUB is started and the firstboot system takes over.

This completes the deployment of SUSE Studio Onsite using the raw disk image. Proceed with Section 2.3, “Completing the Installation and Configuring SUSE Studio Onsite” (page 11).

2.3 Completing the Installation and Configuring SUSE Studio Onsite

It is assumed you successfully completed one of the two methods in Section 2.2, “Deploying SUSE Studio Onsite” (page 7). After the reboot, the firstboot system is started. Complete the installation:

Procedure 2.5 *Completing the SUSE Studio Onsite Installation*

- 1** During the boot process, press the Esc key to enter verbose boot mode. Follow the boot messages and assure that the message `Loading KVM for intel` or `Loading KVM for amd` is displayed. Should you receive an error message check Section 2.1, “System Requirements” (page 5).
- 2** Accept the license agreement.
- 3** Register your product in the Novell Customer Center, otherwise you cannot proceed. SUSE Studio Onsite will not work without registration. It is possible to use an SMT server for registration. To access this option, click the *Advanced* button.
- 4** Log in as `root` (with password `linux`) and determine the IP address of your SUSE Studio Onsite server. For example:

```
ifconfig
```

Usually your network device is `eth0`:

```
eth0  Link encap:Ethernet  HWaddr 00:11:22:33:44:55  
      inet addr:192.168.1.1  Bcast:192.168.1.255  Mask:255.255.255.0
```

- 5** Change your `root` password with the `passwd` command.

IMPORTANT: Security Risk

It is necessary to change the `root` password to protect your server from unauthorized access. Leaving the default `root` password in place creates a great security risk to your system.

This completes the installation process. Proceed with the configuration of SUSE Studio Onsite using a Web browser as described in Procedure 2.6.

Procedure 2.6 *Configuring Your SUSE Studio Onsite Server*

NOTE: Repository URLs

SUSE Studio Onsite needs access to various repositories that are used to build appliances. To proceed with the configuration, make sure you have the repository URLs at hand. A short description of setting up local mirror can be found in Appendix A, *SUSE Studio Onsite Repositories* (page 27).

There are two types of required repositories:

- **Installation Repositories** For installation repositories, use the YaST Installation Server module. See the SUSE Linux Enterprise Server 11 *Administration Guide* for details: http://www.novell.com/documentation/sles11/book_sle_deployment/?page=/documentation/sles11/book_sle_deployment/data/sec_deployment_remoteinst_bootinst.html
 - **Update Repository** We suggest using the Subscription Management Tool for SUSE Linux Enterprise 11 to mirror the update repositories from Novell Customer Center. The product is provided free of charge for SUSE Linux Enterprise Server customers and is available for download at <http://download.novell.com/Download?buildid=5qJ9eEidDzs~>. Find the complete product documentation at <http://www.novell.com/documentation/smt11/>.
- 1** Start a browser on a different machine and enter the IP address from Step 4 (page 11). In our example it is `http://192.168.1.1`.
 - 2** Create the administrator account and enter the login name, password and email address. Proceed with *Create my account*.
 - 3** In the *Repositories & Templates Setup* enter the URL of your local mirror server. This will populate all necessary URLs. The local mirror consists of two parts: YaST Installation Server and Subscription Management Tool, known as SMT. For more information, refer to Appendix A, *SUSE Studio Onsite Repositories* (page 27).

It is also possible to manually insert your URLs or to configure your repositories later as described in Section 3.5, “Managing Your Repositories” (page 22).

4 Proceed with *Save changes*.

5 If necessary, change your display name, e-mail address, or password.

This completes the configuration of SUSE Studio Onsite. Prior to building your first appliance you will need to wait a few minutes to let the server initialize all the repositories and complete automated setup tasks.

2.4 Keeping SUSE Studio Onsite Up-to-Date

Previously you registered SUSE Studio Onsite with the Novell Customer Center as described in Section 2.3, “Completing the Installation and Configuring SUSE Studio Onsite” (page 11). This registration enables the system to check for updates relating to bug fixes, improvements, and security fixes. Apply available updates with `zypper` by executing:

```
zypper patch
```

Find more information about `zypper` at http://www.novell.com/documentation/sles11/book_sle_admin/?page=/documentation/sles11/book_sle_admin/data/sec_zypper.html.

2.5 Customizing SUSE Studio Onsite

This section introduces the SUSE Studio Onsite configuration file and two system and network monitoring tools that are part of the standard installation.

2.5.1 The SUSE Studio Onsite Configuration File

The file `/srv/studio/options.yml` serves as the SUSE Studio Onsite configuration file. Certain aspects of the SUSE Studio Onsite application behavior can be controlled with the settings in this file, for example, restricting access to users or setting feedback options, repository notifications, or announcements. When modifying this configuration file, you need to restart the Apache Web server to apply your changes. Restart Apache as user `root` with the `rcapache2 restart` command.

NOTE: Avoiding Syntax Errors

When modifying the configuration file, do not change the indentation and leave one or more spaces after the colon contained in each option. Find more information about the syntax at <http://www.yaml.org>.

Example 2.1 Central Configuration File

```
default:
  ### Invitation mode settings
  #invitation_required: true      # default: true ❶
  #invitation_expires: false     # default: false ❷
  #invitation_from: "studio@example.com" ❸

  ### Email Settings ❹
  #feedback_to:
  #feedback_to_name: 'The SUSE Studio Team'
  #feedback_from: '"SUSE Studio Feedback" <feedback@example.com>'

  ### Notification Settings ❺
  #repo_added_default_and_fallback_from: 'studio-status@example.com'
  #repo_added_to:
  #repo_added_host: 'studio.example.com'

  ### Announcement Settings ❻
  #announcement_enabled: false
  #announcement_message:
```

- ❶ As SUSE Studio Onsite administrator you can either choose to let users apply for accounts on the SUSE Studio Onsite login screen or you can restrict the access

to SUSE Studio Onsite to certain users. For more information, refer to Section 3.4, “Inviting New Users” (page 21).

If this option is set to `true`, users can request an account by entering their e-mail address on the SUSE Studio Onsite login screen. After the administrator has approved the request, users will receive an e-mail invitation to activate the requested account.

Setting this option to `false` prevents users from requesting request access to the system. Users can only be added via invitation from SUSE Studio Onsite administrator.

- ② Setting this option to `true` causes invitations to expire one week after the invitation was mailed to the user. If the user does not accept the invitation within the one week limit a new invitation must be issued.
- ③ Specifies the e-mail address that is used as return address for invitation mails.
- ④ Configure the feedback feature of SUSE Studio Onsite with `feedback_to`, `feedback_to_name`, and `feedback_from`. If all keywords are enabled, users will see a *Send Feedback* link on the left pane when creating appliances. Clicking the link will display a text field in the interface, allowing the user to enter feedback comments. Once a user clicks *Send feedback*, an e-mail will be sent to the address specified in the `feedback_to` option. As the return address of the e-mail the value of the `feedback_from` option will be used.
- ⑤ Use the `Notification Settings` to enable a notification e-mail when a user adds one or more additional repositories to a given appliance configuration. This generally indicates that the user is using a package not available in the pre-configured repositories. Set `repo_added_host` to the hostname of your SUSE Studio Onsite server. This will ensure that all generated URLs in the notification mails are correct. Set the recipient of the notification e-mail with the `repos_added_to` option.
- ⑥ Setting these options allows you to display messages on the SUSE Studio Onsite login screen.

2.5.2 Setting Administrator Passwords for Nagios and Munin

The SUSE Studio Onsite installation contains Nagios and Munin, both system and network monitoring tools:

Nagios

Nagios is a scalable and extensible enterprise-class network and system monitoring tool which allows administrators to monitor network and host resources such as HTTP, SMTP, POP3, disk usage and processor load. Find more information at <http://www.nagios.org/>.

Munin

Munin is a network and system monitoring tool. It can easily monitor networks, performance of your computers and show bottlenecks, peak loads and memory leaks. A summary of monitoring results can be accessed through the Munin Web interface. Find more information at <http://munin-monitoring.org/>.

It is recommended to set administrator passwords for both Nagios and Munin in case you need to configure these tools later. Both services can be accessed through a Web interface with the passwords set in the following procedure:

Procedure 2.7 *Setting Login Name and Passwords for Nagios and Munin*

- 1** Set the Nagios password with:

```
htpasswd2 -c /etc/nagios/htpasswd.users nagiosadmin
```

- 2** Set the Munin password with:

```
htpasswd2 -c /etc/munin/htpasswd.users admin
```

- 3** Authenticate with the above usernames and passwords as follows (replace 192.168.1.1 with the IP address of your server):

- 3a** Start a Web browser and login into Nagios with the URL
<http://192.168.1.1/nagios/index.html>.

By default, Nagios starts and monitors some services automatically. Refer to Appendix B, *SUSE Studio Onsite Services* (page 33) to get an overview of these services.

- 3b** Open another window in your Web browser and login into Munin with the URL `http://192.168.1.1/munin/index.html`.

In general it is sufficient to use the default configuration of Nagios and Munin to monitor the SUSE Studio Onsite server. For custom configuration of the services refer to the Nagios and Munin documentation.

Administering SUSE Studio Onsite Servers

3

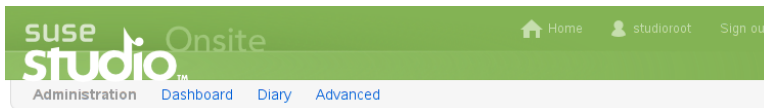
In this chapter, learn how to log in to SUSE Studio Onsite and how to execute basic administration tasks, like viewing statistics or checking events on your server, how to manage repositories, builds and appliances, and how to add cron jobs.

3.1 Logging into SUSE Studio Onsite

To log in to the SUSE Studio Onsite Web interface, enter the URL of your SUSE Studio Onsite server in your browser and click *Create account/Sign in* (in upper right hand corner).

After you have successfully logged in, your home page of SUSE Studio Onsite gives you an overview of all your appliances. To switch to the administration settings, click on your login name to show the administration panel, see Figure 3.1, “The Administration Panel” (page 19).

Figure 3.1 *The Administration Panel*



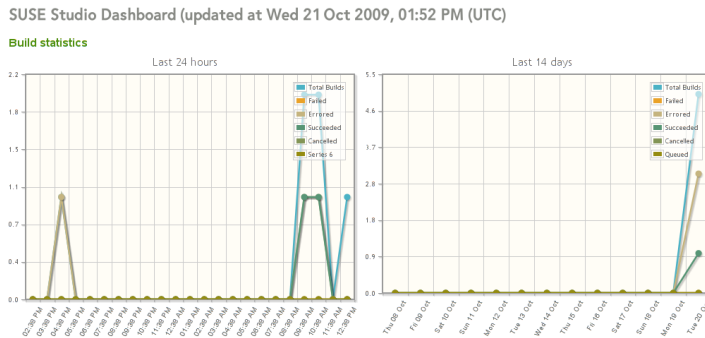
3.2 Viewing Build Statistics

SUSE Studio collects data about appliance builds in various categories and appliance testdrives. This data can be visualized by using the *Dashboard* menu. Each category lists the image, its version, its format, the architecture, and other useful information. Click the *Log* link on each line to get detailed information. The categories are:

Build statistics

Gives a general overview, see Figure 3.2, “SUSE Studio Onsite Dashboard” (page 20). By drawing a rectangle with your mouse on the graph you can zoom in on a particular area of interest. Double-click to return to the original view.

Figure 3.2 *SUSE Studio Onsite Dashboard*



Active builds

Lists appliances that are currently being built.

Errored builds

Indicates internal errors of your SUSE Studio Onsite server.

Failed builds

Lists appliances which could not be built because of errors. Usually these errors are file conflicts or problems with some RPM packages.

Completed builds

Lists all appliances which succeeded. Narrow the list with the pop-up menu or click *View all*. Each appliance contains a detailed graph of the build times.

Testdrives

Lists all appliances which were started through the testdrive environment.

3.3 Getting Diary Information

The administration panel contains a link named *Diary*. Use this link to further investigate events in SUSE Studio. Events are listed to the left. A link to the right allows you access more detailed information about the event. The *Only show* drop-down list allows you to filter the list based on event type. Activate the filter with *Apply filter*.

Figure 3.3 SUSE Studio Onsite's Diary

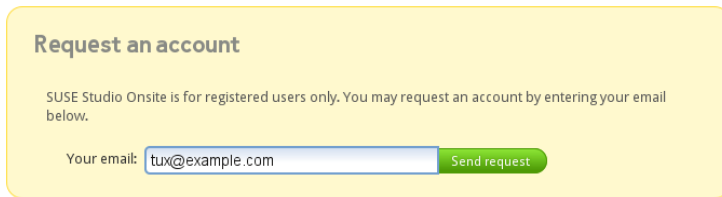


3.4 Inviting New Users

Accessing SUSE Studio Onsite is permission based. Access can be granted by the administrator based on a user access request or via administrator invitation:

- 1. User Issues An Account Request:** The user requests an account from the SUSE Studio Onsite home page by entering an appropriate e-mail address as shown in Figure 3.4, “Requesting an Account” (page 22) and clicking the *Send request* button. A request is generated and sent to the SUSE Studio Onsite administrator for approval.

Figure 3.4 *Requesting an Account*



The screenshot shows a yellow rounded rectangle containing the text "Request an account" in bold. Below this, it says "SUSE Studio Onsite is for registered users only. You may request an account by entering your email below." There is a text input field with "tux@example.com" and a green "Send request" button.

- 2. Administrator Initiates Account:** The administrator issues an invitation to a user (without a prior user request).

For both approval and invitation of a user, use the administration panel. To approve a request you have received, select *Advanced > Users > Signups* and click the *Invite* link.

If you want to initiate an account, select *Advanced > Users > Invitations* and enter the e-mail address of the user you want to invite.

After administrator approval or by direct invitation, a user account will be created and an invitation e-mail is sent to the specified e-mail address. The user must activate the account by following the instructions in the invitation e-mail. Activation requires the user to log into SUSE Studio Onsite with a username and a password.

It is possible to disable user requests by modifying the SUSE Studio Onsite configuration file. See Example 2.1, “Central Configuration File” (page 14) for additional details.

3.5 Managing Your Repositories

Information about the repositories available for your appliance builds can be accessed in the administration panel by clicking *Advanced > Repositories*.

To add a new repository to the list, insert the name and URL into the corresponding text fields and click *Add*.

To modify an already configured repository, click the *Details* link on the right. This will display a page containing the details of the selected repository, see Figure 3.5, “Editing Repository Information” (page 23). Make the desired changes, such as setting the *Trusted* or *Internal* flag and click the *Save changes* button when finished.

Figure 3.5 *Editing Repository Information*

Editing repository
ID: 1

Name:

Base URL:
 Trusted Internal

Repo Type:

Update repo for:

Base system:

Status: Ready
0 total packages
0 packages to be downloaded (0.0% complete)

Last updated: 2009-05-13
Digest: 495337facc49428c263d4d65104432d7

Current version: Wed May 13 10:33:13 +0000 2009

Available versions: [Wed May 13 10:33:13 +0000 2009 Rollback to this version](#)
[Thu May 07 13:13:34 +0000 2009 Rollback to this version](#)
[Wed Apr 01 09:25:35 +0000 2009 Rollback to this version](#)
[Wed Jan 28 13:42:36 +0000 2009 Rollback to this version](#)
[Wed Jan 28 13:39:48 +0000 2009 Rollback to this version](#)

Used by: [2 appliances](#)

[Save changes](#)

Actions

[Update](#) [Enable updates](#) [Disable updates](#) [Delete](#) [Ban this URL & delete repository](#)












Next to the label *Used by* a link indicates the number of appliances built using this repository. Click the link to modify or replace the references to this repository. With the action buttons at the bottom of the page you enable or disable automatic updates to the repository or delete the repository from your system. You can also disallow the URL for future addition to the repository list by clicking *Ban this URL & delete repository*.

3.6 Managing Builds and Appliances

To get an overview of all your builds, go to *Builds > Appliances*. The page shows a tabular view of all appliances that have already been built, see Figure 3.6, “Overview of Built Appliances” (page 24).

Figure 3.6 Overview of Built Appliances

Appliances owned by SUSE Studio Team ([show all appliances](#))

Id	Name	Description	Author	Version	Is template	Base system	Number of total packages	Deleted	Actions
29275	openSUSE 11.1, Just enough OS (JeOS)		SUSE Studio Team 	0.0.1	true	11.1	137	0	Show Diary Edit Delete
29305	SLES 10, Server		SUSE Studio Team 	0.0.1	true	SLES10	248	0	Show Diary Edit Delete
29306	SLES 11, Just enough OS (JeOS)		SUSE Studio Team 	0.0.1	true	SLES11	155	0	Show Diary Edit Delete
29307	SLES 11, Server		SUSE Studio Team 	0.0.1	true	SLES11	298	0	Show Diary Edit Delete
29302	SLED 10, GNOME desktop		SUSE Studio Team 	0.0.1	true	SLED10	509	0	Show Diary Edit Delete
29304	SLED 11, GNOME desktop		SUSE Studio Team 	0.0.1	true	SLED11	648	0	Show Diary Edit Delete
29303	SLED 11, KDE 4 desktop		SUSE Studio Team 	0.0.1	true	SLED11	501	0	Show Diary Edit Delete
29301	SLED 10, KDE 3 desktop		SUSE Studio Team 	0.0.1	true	SLED10	597	0	Show Diary Edit Delete
29280	openSUSE 11.1, GNOME desktop		SUSE Studio Team 	0.0.1	true	11.1	455	0	Show Diary Edit Delete
29279	openSUSE 11.1, KDE 4 desktop		SUSE Studio Team 	0.0.1	true	11.1	400	0	Show Diary Edit Delete
29278	openSUSE 11.1, KDE 3 desktop		SUSE Studio Team 	0.0.1	true	11.1	385	0	Show Diary Edit Delete

Clicking the filter icon next to the author will filter the displayed list to only show appliances created by this author. As can be seen in Figure 3.6, “Overview of Built Appliances” (page 24), the table shows details for each appliance, like the appliance name, a description, the author, the version and other information. In the right most column of the table the following action links are available:

Show

Displays information about this appliance, like its ID or name.

Diary

Displays the events diary for this appliance.

Edit

Allows you to grant other users read and write permissions.

Delete

Allows you to delete this appliance and its configuration from the server after confirming the respective pop-up message.

3.7 Adding New Cron Jobs

SUSE Studio allows you to easily setup pre-configured periodic task. These are also known as *cron jobs*. The following table provides a list of the available pre-configured jobs:

Table 3.1 *Description of Cron Jobs*

Task	Description
<code>cleanup_testdrives</code>	This job removes expired testdrives and makes sure that testdrive sessions ended by users are removed.
<code>delete_expired_images</code>	This job removes all appliance images that are older than one week. The configuration of the appliances is not affected by this job—the appliance configuration is retained and will continue to be displayed in the Web interface for the given user. Appliance builds completed as the admin user never expire; this cron job has no effect on those images. Activating this job can help you reduce the disk space requirements for SUSE Studio.
<code>delete_old_testdrive_images</code>	This job removes uncompressed image files that are older than one week. These uncompressed files are only used for testdrive. If a testdrive is started for a build whose uncompressed image file was removed it is regenerated on the fly. Activating this job can help you reduce the disk space requirements for SUSE Studio. However, accessing the testdrive feature for a particular appliance may take initial time as the appliance image has to be extracted.
<code>process_queue</code>	Internal job to process the build queue.
<code>sync_all_runners</code>	Internal job to keep the state of the different services synchronized.

To create a new cron job, proceed as follows:

- 1 From your administration panel select *Advanced* > *Cron*.
- 2 Click *New Cron Job*.
- 3 Choose a task from the pop-up menu, see the description in Table 3.1, “Description of Cron Jobs” (page 25).

New Cron Job

check_read_only_mode

Frequency (in minutes)

5

First run in UTC (server time now: Thu Oct 22 13:40:48 +0000 2009)

2009 | October | 22 | — | 13 | : | 40

Create

- 4 Modify the *Frequency (in minutes)* value to change the cron job execution frequency.
- 5 Optionally, change the initial start date and time by modifying the date and time entries.
- 6 Click *Create*. The configured cron job will be executed at the configured intervals.

SUSE Studio Onsite Repositories



SUSE Studio Onsite needs access to various repositories (installation repositories and update repositories) that are used to build appliances. The repositories can be local to your network or located on the Internet. Initial repository configuration is described in Section 2.3, “Completing the Installation and Configuring SUSE Studio Onsite” (page 11).

The following procedures describe how to set up a local mirror, consisting of an SMT server for the update repositories and of an Installation Server for the installation repositories.

Procedure A.1 *Providing Update Repositories with SMT*

The preferred method to make update repositories available to SUSE Studio Onsite is to use SMT. For detailed information about SMT refer to <http://www.novell.com/documentation/smt11/>.

- 1 Set up a SUSE Linux Enterprise Server (i586/x86_64) with SMT 11 as add-on.

For details about the SUSE Linux Enterprise Server installation, refer to the *Installation Quick Start*, available at <http://www.novell.com/documentation/sles11/#start>. For details about the SMT installation, refer to the *Subscription Management Tool Guide*, available at <http://www.novell.com/documentation/smt11/>.

Download the corresponding images from the following URLs:

SLES 11 Images

<http://download.novell.com/Download?buildid=hwRS9NNA004~>

SMT 11 Images

<http://download.novell.com/Download?buildid=5qJ9eEidDzs~>

- 2 Configure the SMT mirroring credentials as described at http://www.novell.com/documentation/smt11/smt_sle_11_guide/?page=documentation/smt11/smt_sle_11_guide/data/smt_yast_credentials.html.

- 3 To mirror the update repositories, execute the following commands on the SMT server:

```
smt catalogs -e SLES11-Updates sle-11-i586
smt catalogs -e SLES11-Updates sle-11-x86_64
smt catalogs -e SLES10-SP3-Updates sles-10-i586
smt catalogs -e SLES10-SP3-Updates sles-10-x86_64
smt catalogs -e SLED11-Updates sle-11-i586
smt catalogs -e SLED11-Updates sle-11-x86_64
smt catalogs -e SLED10-SP3-Updates sled-10-i586
smt catalogs -e SLED10-SP3-Updates sled-10-x86_64
smt mirror -D
```

After you have executed these commands all update repositories needed for building appliances based on SUSE Linux Enterprise10 and SUSE Linux Enterprise11 are ready.

Procedure A.2 *Creating Installation Repositories*

- 1 To create the installation repositories, start the YaST Installation Server module. Use the following values for setup:
 - Select *Configure as HTTP Repository*.
 - Set *Directory to Contain Repositories* to `/srv/www/htdocs/repo`.
 - Make sure the firewall port is open and the directory alias is *install*.
 - Create the directories for the installation repositories you would like to use for the appliances.

The table below shows a mapping between the product and the directory name.

Product	Directory name
SLES10 SP3 i586	SLES-10-i586
SLES10 SP3 x86_64	SLES-10-x86_64
SLED10 SP3 i586	SLED-10-i586
SLED10 SP3 x86_64	SLED-10-x86_64
SLES11 i586	SLES-11-i586
SLES11 x86_64	SLES-11-x86_64
SLED11 i586	SLED-11-i586
SLED11 x86_64	SLED-11-x86_64
SDK11 i586	SDK-11-i586
SDK11 x86_64	SDK-11-x86_64

2 Download the product images from the Novell home page:

NOTE: Images for SUSE Linux Enterprise 10 SP3

For products based on SUSE Linux Enterprise 10 SP3, it is recommended to use the DVD images.

SLES 10 SP3

<http://download.novell.com/Download?buildid=Z4ysu62Q4gw~>

SLED 10 SP3

<http://download.novell.com/Download?buildid=zZOX5rRmXMA~>

SLES 11

<http://download.novell.com/Download?buildid=hwRS9NNA004~>

SLED 11

<http://download.novell.com/Download?buildid=3105iweTHlg~>

SLE SDK 11

<http://download.novell.com/Download?buildid=fQKpDcAhPVY~>

Table A.1, “Repository URLs for Configuring SUSE Studio Onsite” (page 30) provides an overview of the URLs for the SUSE Studio Onsite configuration (installation and update repositories). The URLs are listed in the order they appear in the SUSE Studio Onsite setup page. You only need to configure the repositories of interest to you. Configuring fewer repositories will allow you to reduce the disk space requirements for SUSE Studio Onsite.

Table A.1 *Repository URLs for Configuring SUSE Studio Onsite*

SLES10

Base i386	http://SERVER/repo/SLES-10-i586/CD1
Base x86_64	http://SERVER/repo/SLES-10-x86_64/CD1
Updates i386	http://SERVER/repo/\$RCE/SLES10-SP3-Updates/sles-10-i586
Updates x86_64	http://SERVER/repo/\$RCE/SLES10-SP3-Updates/sles-10-x86_64

SLED10

Base i386 <http://SERVER/repo/SLED-10-i586/CD1>

Base x86_64 http://SERVER/repo/SLED-10-x86_64/CD1

Updates i386 [http://SERVER/repo/\\$RCE/
SLED10-SP3-Updates/sled-10-i586](http://SERVER/repo/$RCE/SLED10-SP3-Updates/sled-10-i586)

Updates x86_64 [http://SERVER/repo/\\$RCE/
SLED10-SP3-Updates/sled-10-x86_64](http://SERVER/repo/$RCE/SLED10-SP3-Updates/sled-10-x86_64)

SLES11

Base i386 <http://SERVER/repo/SLES-11-i586/CD1>

Base x86_64 http://SERVER/repo/SLES-11-x86_64/CD1

Updates i386 [http://SERVER/repo/\\$RCE/SLES11-Updates/
sle-11-i586](http://SERVER/repo/$RCE/SLES11-Updates/sle-11-i586)

Updates x86_64 [http://SERVER/repo/\\$RCE/SLES11-Updates/
sle-11-x86_64](http://SERVER/repo/$RCE/SLES11-Updates/sle-11-x86_64)

SDK i386 <http://SERVER/repo/SDK-11-i564/CD1>

SDK x86_64 http://SERVER/repo/SDK-11-x86_64/CD1

SLED11

Base i386 <http://SERVER/repo/SLED-11-i586/CD1>

Base x86_64 http://SERVER/repo/SLED-11-x86_64/CD1

Updates i386 [http://SERVER/repo/\\$RCE/SLED11-Updates/
sle-11-i586](http://SERVER/repo/$RCE/SLED11-Updates/sle-11-i586)

Updates x86_64 [http://SERVER/repo/\\$RCE/SLED11-Updates/
sle-11-x86_64](http://SERVER/repo/$RCE/SLED11-Updates/sle-11-x86_64)

B

SUSE Studio Onsite Services

The table below list the pre-configured SUSE Studio Onsite services running on the server. These services are started at boot time and care controlled by Nagios. It is generally not necessary, and it is not recommended to apply any changes to these services.

Table B.1 *SUSE Studio Onsite Services*

Service	Description
<code>/etc/init.d/studio _backgroundrb</code>	Service for running Ruby tasks in the background. Used in the KIWI runner for running the build jobs asynchronously.
<code>/etc/init.d/studio _crontick</code>	SUSE Studio Onsite's internal cron job system. Runs administrative tasks repeatedly and is used in the user interface server.
<code>/etc/init.d/studio _delayed_job</code>	Service for running tasks asynchronously in the background.
<code>/etc/init.d/ flashpolicyd</code>	Adobe Flash daemon required for the Flash VNC applet to work correctly. Only needed for the testdrive.
<code>/etc/init.d/memcached</code>	A cache store service to increase performance (used in the user interface server).

Service	Description
<code>/etc/init.d/rmds</code> and <code>/etc/init.d/thoth</code>	Service to mirror repositories and do package resolution tasks.

Administration Panel—Menu Structure

C

The following list is a reference of the administration panel's menu structure.

C.1 Dashboard

The *Dashboard* gives you an overview of your build statistics and your builds. See Section 3.2, “Viewing Build Statistics” (page 20) for more information.

C.2 Diary

The *Diary* shows events on your server. See Section 3.3, “Getting Diary Information” (page 21) for more information.

C.3 Advanced

The availability of some menu items depend on the settings in the central SUSE Studio Onsite configuration file as mentioned below. For more information about the configuration file, see Example 2.1, “Central Configuration File” (page 14).

Servers & Services

Scheduler

Shows the processes, also referred to as runners, for appliance builds and for the testdrive feature. The backend of the appliance build process is KIWI.

Queue

Lists system relevant build processes, excluding the processes triggered by the administrator.

Cron

Shows the defined cron jobs and additionally lists information about the first, last, and next scheduled execution.

Repositories

Templates

Lists your available templates and predefined repositories.

Repositories

Lets you add repositories to the SUSE Studio Onsite configuration.

Builds

Appliances

Shows the list of all built appliances.

Downloads

Shows a list of the downloaded appliances.

Users

Users

Provides a list of SUSE Studio Onsite users. If the option `invitation_required` in the configuration file `/srv/studio/options.yml` is set to `false`, user cannot request accounts. In this case, users can only be added to the system via administrator invitation.

Signups

Allows you to manage the SUSE Studio Onsite users. This entry is only displayed if the option `invitation_required` in `/srv/studio/options.yml` is set to `true` (or if the option is turned into a comment or removed from the file).

Invitations

Lets you create e-mail invitations. This entry is only displayed if the option `invitation_required` in `/srv/studio/options.yml` is set to `true` (or if the option is turned into a comment or removed from the file).

Misc

Self test

Triggers self tests or creates a new one.

Messages

Displays a message in the login screen.

