



SAFESeqr Suite

User Guide

Version 1.1

Table of Contents

| | |
|--|---|
| I Introduction..... | 1 |
| 1 Contact..... | 1 |
| 2 System Requirement..... | 1 |
| 3 Software Licensing..... | 1 |
| 4 Starting the Application..... | 1 |
| II User Interface..... | 2 |
| 1 Navigation in the Home Page..... | 2 |
| 2 Navigation in the Content Pages..... | 2 |
| III Data Analysis..... | 4 |
| 1 Project Details..... | 4 |
| 2 Project Details Validation..... | 5 |
| 3 Negative Controls Settings..... | 5 |
| 4 Analysis submission and results..... | 6 |
| IV Download Sample Data for Testing..... | 7 |
| V Frequently Asked Questions (FAQ)..... | 7 |

I Introduction

1 Contact

SAFESeqr Suite is developed and maintained by BioEasy Sdn. Bhd. For enquiries, contact:

BioEasy Sdn. Bhd.,
Setia Avenue, 33A-3 Jalan Setia Prima S,
U13/S, Setia Alam, Seksyen U13,
40170 Shah Alam, Selangor Darul Ehsan,
Malaysia.

T: +603-3358-1708

F: +603-3341-6687

E: support@bioeasy.com.my.

2 System Requirement

SAFESeqr Suite is recommended to be installed on a computer running the Ubuntu 12.04 LINUX operating system with at least 24 processing threads and 16GB RAM.

3 Software Licensing

SAFESeqr Suite is a licensed software. Please see the SAFESeqr Suite Installation Guide for software installation and licensing instructions.

4 Starting the Application

SAFESeqr Suite can be started by searching for SAFESeqr at the Ubuntu Dash, and clicking on the SAFESeqr Suite application icon.

II User Interface

1 Navigation in the Home Page

When SAFESeqr Suite is started, the home page contains three navigation buttons that each allows the user to create a new project for data analysis, download a set of sample data for system testing and read the frequently asked questions page.

Create Project

The button is a grey rectangle with the text "Create Project" in black. To the right of the text is a small icon of a bar chart with a magnifying glass over it.

The **Create Project** button takes the user to a project data submission page.

Get Sample Data

The button is a grey rectangle with the text "Get Sample Data" in black. To the right of the text is a small icon of a downward-pointing arrow.

The **Get Sample Data** button will open a new window that allows the user to select where the sample data should be saved.

FAQ

The button is a grey rectangle with the text "FAQ" in black. To the right of the text is a small icon of a question mark inside a circle.

The **FAQ** button will takes the user to a page with frequently asked questions.

2 Navigation in the Content Pages

At the project submission page, result page and FAQ page, there is a navigation panel on the top right corner, each allowing the user to return to the home page, create a new project for data analysis, download a set of sample data for system testing, read the frequently asked questions page, or print the results report. The navigation panel is not available during the process of project data submission.

Home



The **Home** button takes takes the user back to the home page. This button is available in the project data submission page, the analysis results page and the FAQ page.

Create Project



The **Create Project** button takes the user to a project data submission page. This button is disabled in the project data submission page, and is available in the analysis results page and the FAQ page.

Get Sample Data



The **Get Sample Data** button will open a new window that allows the user to select where the sample data should be saved. This button is available in the project data submission page, the analysis results page and the FAQ page.

FAQ



The **FAQ** button will take the user to a page with frequently asked questions. This button is disabled in the FAQ page, and is available in the project data submission page and the analysis results page.

Print Report



The **Print Report** button will open a new window containing only the analysis report and the browser printing settings, allowing the user to print the report using a paper printer or a PDF printer. This button is only available in the analysis results page.

III Data Analysis

The data analysis process in SAFESeqr Suite is divided into four main step:

1. Submission of project details;
2. Validation of project details; and
3. Setting of negative control filtering options; and
4. Preview of analysis data.

1 Project Details

Here, the user can and should provide information about the project, including samples to be included in the analysis, and information that will be printed in the analysis report.

Project Name

The user can give a short descriptive project name to the current analysis. This information will be included in the analysis report.

Project Description

The user can give a longer description for the project in the current analysis, which may include sample source and experimental design. This information will be included in the analysis report.

Run Name

The user can specify the name of the Illumina MiSeq run that generated these sequencing reads. This information will be included in the analysis report.

Select Sample Sequencing Reads (FASTQ files)

The user can click on the “Browse...” button to navigate around the filesystem and select for sample sequencing reads that the user wishes to analyse. The user should select sequencing reads files for all samples including the negative control samples. Only FASTQ and gzipped FASTQ files are accepted. This information is required, and the user will not be allowed to proceed without selecting samples to analyse.

Select Organisation Letterhead for Report (PNG/JPG/BMP Image file)

The user can and should click on the “Browse...” button to navigate around the filesystem and select for an image file containing the organisation letterhead that the user wishes to use for the analysis report. The selected letterhead will be used as the header for all report pages, and if the user does not select a file here, the report

will be printed with the software logo as letterhead.

Officer-in-charge

The user can and should provide the name of the officer-in-charge of the analysis of the current project. This information will be included in the analysis report.

Submit

After filling in various project information, the user should click this button to submit the project details.

2 Project Details Validation

After submission of the project details, the user is presented with the details that was entered in the previous page. The user is advised to read through the form again to confirm the information submitted.

Reset

If there the user wishes to cancel the project detail submission or make changes to the project details, clicking on this button deletes all the previous information and takes the user back to the project data submission page for a new submission.

Confirm

If all of the information shown is correct, clicking on this button will submit the project details for analysis.

3 Negative Controls Settings

After submitting project details, the user can and should select negative control samples and negative control filtering criteria.

Select Negative Controls

The user is given a list of the samples that was submitted in the project submission, and should select any negative control samples here for results filtering. The user can select any number of samples here as negative controls. Negative control filtering will calculate the number of positive reads in these samples and perform filtering according to these numbers.

Filtering Options

The user can select the criteria for negative control filtering here. Allowed selections

are no negative control filtering, or one, two, three, four, five and six standard deviations from the mean. The recommended option is filtering to three standard deviations from the mean. If no samples are selected as negative controls, no negative control filtering will be performed regardless of which option is selected.

Run Analysis

After selecting the negative controls and filtering options, the user should click this button to start analysis.

4 Analysis submission and results

Once analysis is started, the user will be presented with a waiting page as the analysis runs. Upon completion, the window will automatically open the analysis result page, which is complete with a report list on the left side of the screen. The user can click on the **Print Report** button in the navigation panel on the top right corner to print all the reports.

Overview

The analysis overview is the first page of the analysis report. It contains the project detail (including project name, project description, run name and name of officer-in-charge) as well as an overview of the genus distribution of each sample (including a table and a bar chart).

Negative Controls

The negative control page contains an overview of the reads present in the negative control samples and their genus distribution (including a table and a bar chart).

Individual Sample Reports

The detailed analysis report for each sample containing a table and a pie chart of the genus distribution is shown separately and can be accessed by clicking on the sample name in the report list.

IV Download Sample Data for Testing

SAFESeqr Suite comes with a set of sample data that the user can download and perform a demo run. The sample data can be obtained by clicking on the **Get Sample Data** button in the home page or the content page navigation panel. The downloaded zip file contains seven samples, including three negative control samples and an example letterhead image file.

V Frequently Asked Questions (FAQ)

The frequently asked questions are answered in the FAQ page, which can be viewed by clicking on the **FAQ** button in the home page or the content page navigation panel.