Blugenius User Documentation
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1. What is Bluage Velocity?

BLU AGE provides tools and services that modernize legacy mainframe and client-server applications to modern cloud ready architecture more quickly and efficiently than any other solution.

The tool we are using today is Velocity, a fully automated modernization solution for transforming COBOL into high quality object oriented Java.

2. What is Blugenius?

Blugenius is a portal that allows us to perform Velocity projects directly to the Cloud.
Blugenius processes the modernization of your legacy applications through different and easy to follow steps.

3. Blugenius modernization

3.1 Log in the Blugenius application

From the Blugenius portal, the first step you have to do is choosing your Cloud provider (AWS, Azure). After that, you need to log in the application with the credentials given to you once you have registered in the portal for the first time.
3.2 Setup your project

To modernize via Blugenus, you first need to create a project and configure it. To do so, go under the “administration->project management” menu.

Then click on the “Create new project” button. In the displayed page, you need to enter different information.

The first section contains general parameters:
Make sure you click “Active” so that your project will show up in the dashboard.

The next section contains information specific to your cloud provider:

The last section enables you to activate different steps of the process that you wish to perform. The first three steps are available in the sandbox now.

Once the project is setup, click on the “Save” button at the right top of the page.
You can now go to the “Dashboard” where you will see your project listed on the left.
3.3 Classification

The first step is the classification.

This step checks the eligibility of the legacy inputs. In the sandbox mode, the files of a demo project have already been uploaded, so you just need to start the classification. In normal mode, you will need to upload your own inputs in a "zip" or "7z" format.

This step uses a classification engine built on machine learning and Tensorflow library from Google. It will give you an accurate line of code count and you will receive a confirmation email once the process is over. In Blugenius, you can see the classification result and also download the classification report, which is an excel file containing the same information displayed.
3.4 Sizing

Once the classification is done when you go back to the dashboard, you will have access to more options.

First of the newly activated options is the sizing tool. It will help you build a basic budget. To have a more customizable version of the pricing tool, go to www.bluage.com/evaluate.
3.5 POC Analysis

The analysis step is the first stage in the velocity modernization process.

This step launches the analyzer tool which will perform a detailed analysis of the inputs (dependencies, used programs, files categorization, cyclomatic complexity...).

In sandbox mode, the inputs are already uploaded. In normal mode, you will need to upload your POC inputs that will be parsed during the analysis phase.

You need to click on “Start” button and then “Analysis” button. A popup will appear where you have to choose one of the available analyzer versions to proceed with.
When you refresh the project, you will see that it is in progress. If you click on the “Console” button, you can see what the analyzer tool is doing.

Once the process is over, you will receive an email confirmation indicating that your analysis results are available on the Blugenius portal.
The new buttons available are for:

- **Download results**: enables you to download an excel file containing the issues if there are some, and also the ignored files. Under the ignored files section, you will find the copybooks because they are called upon when they are actually used in a program.
- **Download assets**: enables you to download an excel file containing the inputs classified by type. Available types are “Data”, “Module” and “Program Fragment”. It also contains different information on each file listed like the total line count, the file nature (Cobol Program, JCL Program...).
- **Download VLC**: enables you to download the VLC file that you will use to activate your velocity project under the license server so you can run the modernization.

### 3.6 POC modernization

Next step is the modernization itself.
During this phase, you are going to launch the velocity modernization process.

In sandbox mode, inputs are already uploaded. In normal mode, you will need to upload your POC inputs.

To launch the modernization, first click on the “Start” button, then “Modernize”. A popup will be displayed, where you can configure your velocity modernization.

As it is running, you can keep track of the progress on the Blugenuis portal.

You will also receive an email confirming that your virtual machine is under construction.
Once the process is finished, you will receive another email, pretty different from the ones you have received before. This one will contain different links to access your application, the Sonar results, the Jacoco results, the Jenkins...

--- MODERNIZATION LINKS ---

<table>
<thead>
<tr>
<th>Element</th>
<th>Label</th>
<th>Links</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tools</td>
<td>Source code management</td>
<td>GitBlit 1.9.0</td>
</tr>
<tr>
<td></td>
<td>Continuous integration</td>
<td>Jenkins 2.107.3</td>
</tr>
<tr>
<td></td>
<td>Quality assurance</td>
<td>SonarQube 6.3.1</td>
</tr>
<tr>
<td></td>
<td>Application server</td>
<td>Tomcat 8.5.9</td>
</tr>
<tr>
<td></td>
<td>Code coverage</td>
<td>JacCoC0.0.7.9</td>
</tr>
<tr>
<td>Application</td>
<td>Front-End (if eligible)</td>
<td>front-end</td>
</tr>
<tr>
<td></td>
<td>Back-end</td>
<td>back-end</td>
</tr>
<tr>
<td></td>
<td>Consoles</td>
<td>job link</td>
</tr>
<tr>
<td></td>
<td></td>
<td>job stage view link</td>
</tr>
<tr>
<td>Job</td>
<td>Build</td>
<td>build link</td>
</tr>
<tr>
<td></td>
<td></td>
<td>build console link</td>
</tr>
<tr>
<td></td>
<td></td>
<td>build steps link</td>
</tr>
<tr>
<td>Build</td>
<td># 1</td>
<td>artifacts</td>
</tr>
</tbody>
</table>

Under all those links in the email, you will find the Jenkins results for all the configured jobs from the installation of Blu Age velocity software, to the push of your code under GitBlit on your spawned machine.

--- MODERNIZATION RESULTS ---

<table>
<thead>
<tr>
<th>Job</th>
<th>Build</th>
<th>Status</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>01 · Install</td>
<td>#1</td>
<td>SUCCESS</td>
<td>8 min 40 sec</td>
</tr>
<tr>
<td>02 · Initialize</td>
<td>#1</td>
<td>SUCCESS</td>
<td>5.7 sec</td>
</tr>
<tr>
<td>03 · Analyze</td>
<td>#1</td>
<td>SUCCESS</td>
<td>1 min 28 sec</td>
</tr>
<tr>
<td>04 · Modernize</td>
<td>#1</td>
<td>SUCCESS</td>
<td>3 min 27 sec</td>
</tr>
<tr>
<td>05 · Compile</td>
<td>#1</td>
<td>SUCCESS</td>
<td>3 min 47 sec</td>
</tr>
<tr>
<td>06 · Assess</td>
<td>#1</td>
<td>SUCCESS</td>
<td>3 min 26 sec</td>
</tr>
<tr>
<td>07 · Deploy</td>
<td>#1</td>
<td>SUCCESS</td>
<td>5 min 47 sec</td>
</tr>
<tr>
<td>08 · Coverage</td>
<td>#1</td>
<td>SUCCESS</td>
<td>23 sec</td>
</tr>
<tr>
<td>09 · Configure</td>
<td>#1</td>
<td>SUCCESS</td>
<td>3 min 51 sec</td>
</tr>
<tr>
<td>10 · Share</td>
<td>#1</td>
<td>SUCCESS</td>
<td>6.9 sec</td>
</tr>
<tr>
<td>11 · Push</td>
<td>#1</td>
<td>SUCCESS</td>
<td>12 sec</td>
</tr>
<tr>
<td>12 · Clear</td>
<td>#1</td>
<td>SUCCESS</td>
<td>24 sec</td>
</tr>
</tbody>
</table>

You can also see the same progress on Blugenius portal if click the refresh button.
The different Jenkins jobs run are:

- **Install**: installs velocity software on the spawned virtual machine.
- **Initialize**: initializes the workspace.
- **Analyze**: analyzes the code to prepare it for modernization job.
- **Modernize**: reverse engineer the code into an UML model and uses it to modernize into a Java code.
- **Compile**: compiles the generated code.
- **Assess**: assesses the quality of the generated code using SonarQube.
- **Deploy**: deploys the generated code under Tomcat server.
- **Coverage**: checks the code coverage.
- **Configure**: configures software accounts.
- **Share**: shares the code into the root directory.
- **Push**: pushes the code under Gitblit.
- **Clear**: cleans all temporary information.

If you check the top of your email, you will see a password associated to your Blugenius user name. This password has been generated and will allow you to connect to the different links.

You can now go Jenkins via the link provided in the email. You can log in using the given password.
From Jenkins you have access to different tools and links like:

- **GitBlit**: your Git repository containing the legacy code and the modernized code.

- **SonarQube**: you can visit SonarQube to check your code quality.
- Coverage report: you can use this link to check your code coverage report. To have the results, you need to run your code first.

- Root directory: you can access your different elements like UML model, logs files, installed software files, workspaces...
- Programs, scripts, transactions: list of the programs, JCL scripts and CICS transactions.

- Front-end: this is the actual modernized application.
- BAC: this is the Bluesam administration console, which is the Blu Age VSAM console. This console can be used to check data and modify the database. You can also go into any dataset and read what is in it. You can filter data using different masks.

- JAC: it is the Java CICS administration console. It lists all the CICS transactions. You can also perform many operations on the transactions via this console.