Using SUSE Studio™ to Build and Deploy Applications on Amazon EC2
Quickly and Easily Build and Deploy Your Applications to the Cloud

SUSE Studio™ gives Amazon Elastic Compute Cloud (EC2) users a simple, rapid on-ramp to the cloud for new and existing applications. SUSE Studio makes it fast and easy to develop and deploy application stacks, virtual appliances and custom SUSE Linux Enterprise Server builds on Amazon EC2.

The award-winning SUSE Studio allows developers and IT professionals to quickly create customized server images and new applications or extend their existing applications to Amazon EC2 with little or no extra configuration. With just a few clicks, its easy-to-use web interface enables users to rapidly build, test and deploy fully supported application stacks and appliances for deployment on Amazon EC2. Even better, existing application certifications for SUSE Linux Enterprise Server hold when running in Amazon EC2.

Now let’s see how the magic happens!

Introducing Amazon EC2
If you’re new to Amazon EC2, it’s a web service that provides dynamically scalable computing capacity. It is one model of cloud computing that is often referred to as Infrastructure-as-a-Service (IaaS). EC2 allows you to rent reliable computing resources (e.g., CPU, memory, disk storage) in a highly flexible and affordable manner with prices starting at just several cents per hour per instance.

These resources can be quickly scaled up or down on demand, reducing or even eliminating the need for companies to buy and maintain expensive server farms in-house. Before we proceed with building an EC2 image in SUSE Studio, there’s some Amazon-specific terminology we should clarify. Before launching a workload in EC2, you must first create an Amazon Machine Image (AMI). SUSE has found that EBS-backed images make sense for most use cases and have automated the process to build and upload SUSE Linux Enterprise Server images into EBS-backed AMIs.

Building Amazon EC2 images with SUSE Studio
The easiest way to get started is to find an existing EC2 image in SUSE Studio Gallery, such as a LAMP Server appliance. Let’s walk through the steps to create one from scratch. First, login to SUSE Studio and create a new appliance based on SUSE Linux Enterprise Server 11 SP3 JeOS. This template gives you the most flexibility to add features while keeping the image size low.
Choose your preferred architecture. The selection of 32-bit or 64-bit architecture depends on the instance size that you want to use on EC2. All EC2 instance types support 64-bit architecture, so this will provide the most flexibility if you need to launch on larger instances after testing. Change the default appliance name, and hit “Create appliance.” Note: Currently, SUSE Studio can only be used to create paravirtualized images.

You will now be in the appliance editor interface where you can perform software selection and configuration, but we’ll skip that for now and jump to the Build tab. (For an overview of SUSE Studio, visit the quickstart guide at: http://susestudio.com/help/quickstart/index.html)

In addition to formatting the image for use on Amazon EC2, there are a number of packages that will be added during the build process to ensure that your image will run and receive updates when you launch on EC2. Once you’re satisfied with the configuration, hit “Build.” It usually takes only about five minutes for the build to complete.

**Uploading an AMI to Your Amazon Account from the SUSE Studio-Built Image**

Once the Build is complete, you can upload the image to EC2. However, before proceeding you will first need to add your Amazon Web Services (AWS) Access Credentials to SUSE Studio. The recommended approach to security in AWS is to create users using the AWS Identity and Access Manager (IAM) system. The first step is to create a user in IAM. As part of the creation, the user will be assigned security credentials. Note: This is the only time that you can display or download the Secret Access Key, so we recommend that you download the file for future reference. These credentials will be added to Studio in a later step.
Once the user has been created, you will need to assign permissions to the user, or optionally, add the user to a pre-defined group with the appropriate permissions. Permissions are assigned by attaching a policy to the user; we recommend using the AWS Power User policy for access from Studio.

Returning to SUSE Studio, the access to AWS is managed on the EC2 Dashboard. From this page, you will first select “Manage EC2 Credentials.”

Once the credentials are added, you can use the dashboard to upload the instance.

After pressing upload, SUSE Studio will now take you back to the EC2 dashboard.
You will need to specify in which AWS region you want to put the image. If you want to have the image in more than one region, instead of doing multiple uploads, it is faster to upload the image to one region and then log into AWS and copy the image using the AWS management console. You can optionally launch the instance as soon as it is uploaded, but we recommend using the AWS management console for launching and monitoring your instances. Once you have selected the region, press “Upload to Amazon” to start the process.

It will take a few minutes, but once the image is loaded, it will appear in your AWS management console as a private AMI. And just like that you are now ready to begin using your new image in Amazon EC2.