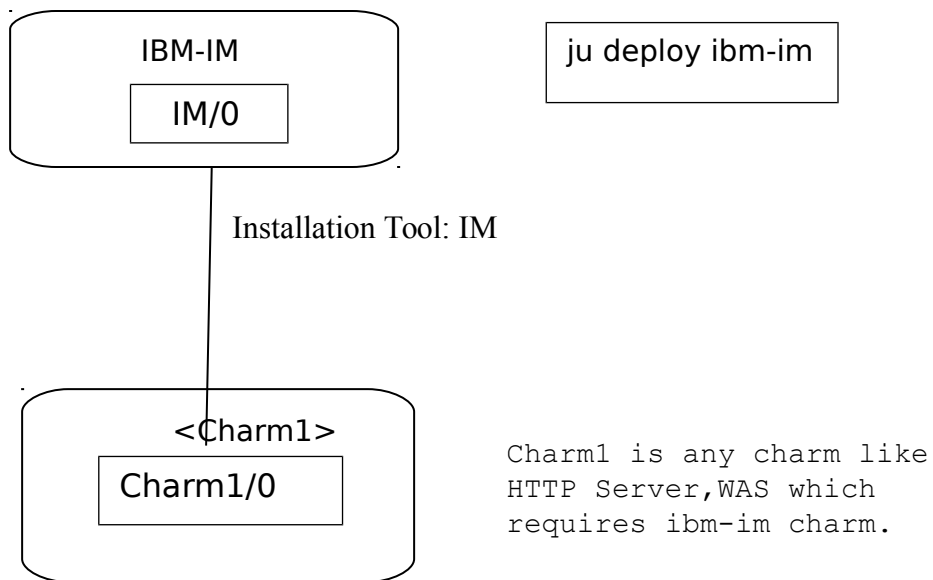


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IBM-IM charm design

This charm is supported for Ubuntu (Trusty) on X86 and Power.

— Principle



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Design Considerations

1. IBM- Installation Manager is a principle charm that can be used by any other charm which requires IBM-IM .This charm is supported on Ubuntu x86 and ppc64le (Power little endian) architectures.
2. The IBM-IM provides an application environment to install many other IBM Products.
3. In order to test IBM -IM installation tool. User can login into IM console.

The basic layer use [charms.reactive](#) to coordinate with ibm-im layer. This makes it easy to coordinate the state of multiple layers, relations, configuration options, etc. Code for reactive handlers will be under a reactive/ folder in ibm-im charm layer. In our case, we'll use reactive/install.sh.

Install.sh

The pattern is “reactive” because usage of `@when` and similar decorators to indicate that blocks of code react to certain conditions, such as a relation reaching a specific state, a file changing, certain config values being set, etc. More importantly, you can react to not just individual conditions, but meaningful combinations of conditions that can span multiple hook invocations, in a natural way.

@when *not 'expect.instaledl'*

- This decorator installs expect tool which is required to download IM installable packages from the host. Since expect tool has to be installed only once it is mentioned under install hook decorator pattern.

@when *'license.accepted'*

@when *not 'im.installed'*

- This decorator pattern runs when IBM IM license is accepted and when IM is not installed.
- Appropriate IM package needs to be downloaded from the SFTP server using hostname, package dir, username, password which are configured in config.yaml file. If any of these values are missing, user is alerted and it will not go through installation. If no package

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name is selected by user, based on the architecture a default value is selected for the package name.

- Check whether user has selected right package name from the package name string. If he selects wrong package name, alert the user using status-set.
- If already IM is installed with a different package name, and if the user has configured a different name or if it is first time installation for IM, download the package. If an old package file is present, delete it
- After the download is completed, the package integrity is checked using the provided checksum. The checksum is a configurable value and differs as per the package name. If no checksum value is provided, installation will not proceed further and user will be notified with the message using status-set blocked “Failed to download files from repository. Please provide vales for host, package_dir, username and password in config.yaml”.
- IM is then installed using the silent_install.xml file provided along with the IM software.
- IM is ready to install any other products.

@when 'im.installed'

@when_not 'im.ready'

- This decorator pattern runs when IBM IM license is accepted and when IM is already installed.
- It compares the version of im which is already installed with the version which the user feeds thru config.yaml file. If it is not matching, im which is already installed on the machine will be removed and new IM will be installed.
- Appropriate IM package needs to be downloaded from the SFTP server using hostname, package dir, username, password which are configured in config.yaml file. If any of these values are missing, user is alerted and it will not go through installation. If no package name is selected by user, based on the architecture a default value is selected for the package name.
- Check whether user has selected right package name from the package name string. If he selects wrong package name, alert the user using status-set.
- If already IM is installed with a different package name, and if the user has configured a different name or if it is first time installation for IM, download the package. If an old package file is present, delete it
- After the download is completed, the package integrity is checked using the provided checksum. The checksum is a configurable value and differs as per the package name. If no checksum value is provided, installation will not proceed further and user will be notified with the message using status-set blocked “Failed to download files from

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repository. Please provide vales for host, package_dir, username and password in config.yaml”.

- IM is then installed using the silent_install.xml file provided along with the IM software.
- IM is ready to install any other products.
- Then ‘im.ready’ state is active .

@when_not 'license.accepted'

@when 'im.installed'

- This decorator pattern runs when IBM IM license is not accepted and im is installed.
- Uninstalls all IBM IM versions.

NOTE:

We are developing this charm by following layered approach as it is required by many IBM products as a prerequisite, so that any charm that needs IM can extend this layer to support any IBM software that can be installed with IBM IM.