Golang Programming Workshop Preparation

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1 Prerequisites

Expected background knowledge and skills for the workshop:

- Have 1-year hands-on experience in other programming language.
- Know how to work with the Command Line Interface in Linux or OSX.

2 Your workstation

- Linux or OSX recommended;
- Basic:
  - Golang,
  - Git.
- An IDE or code editor to work with Golang, e.g.:
  - vscode,
  - Jetbrains Goland.
- Docker;
- SQL and noSQL exercise (recommended with Docker):
  - Postgres,
  - MongoDB.

3 How to prepare your workstation

3.1 Ubuntu Linux

We recommend Ubuntu, one of the LTSes - wiki.ubuntu.com/Releases.

1. Install Golang, following the instructions from github.com/golang/go/wiki/Ubuntu:

```
sudo add-apt-repository ppa:longsleep/golang-backports
sudo apt-get update
sudo apt-get install golang-go
```

```
# check whether it works.
go version
```

2. Install vscode (code.visualstudio.com/) or Goland (jetbrains.com/go/):

```
# vscode with snap
# https://code.visualstudio.com/docs/setup/linux
sudo snap install --classic code
```

For Jetbrain Goland follow the standalone installation:
www.jetbrains.com/help/go/installation-guide.html.
You will find on github.com/golang/go/wiki/IDEsAndTextEditorPlugins information on to configure your favorite editor to develop in Golang.

3. Install Git:

```
sudo apt-get update
sudo apt-get install git
```

4. Install Docker after docs.docker.com/engine/install/ubuntu, copy and paste to your terminal:

```
# install necessary packages
sudo apt-get update
sudo apt-get install -y ca-certificates curl gnupg

# Add Docker's official GPG key:
sudo install -m 0755 -d /etc/apt/keyrings
curl -fsSL https://download.docker.com/linux/ubuntu/gpg \
    | sudo gpg --dearmor -o /etc/apt/keyrings/docker.gpg

# Setting up the repository:
echo \
 "deb [arch="$(dpkg --print-architecture)"
 ↪  signed-by=/etc/apt/keyrings/docker.gpg]
 ↪  https://download.docker.com/linux/ubuntu \
 "$(. /etc/os-release && echo "$VERSION_CODENAME")" stable" |\
 sudo tee /etc/apt/sources.list.d/docker.list > /dev/null
```

Install `docker-ce`:

```
sudo apt-get update
sudo apt-get install docker-ce docker-ce-cli
```

Check whether it works:

```
sudo docker run hello-world
```

3.2 MacOS

1. Install *homebrew*, a package manager for MacOS, follow the instructions from the official website - brew.sh/.

2. With *homebrew*, install Golang is easy:

```
brew install golang
```

```
go version
```

3. Choose your IDE - *vscode* (recommended for this workshop) or *Goland*:

```
# for vscode
brew install --cask visual-studio-code
```

```
# for goland community edition
brew install --cask goland
```

3. To install Docker, go to docs.docker.com/desktop/install/mac-install/.

4 References

- The Missing Semester of Your CS Education: missing.csail.mit.edu;
- Quick start with *Goland*: jetbrains.com/help/idea/quick-start-guide-goland.html;
- Quick start with VSCode: learn.microsoft.com/en-us/azure/developer/go/configure-visual-studio-code.