Documentation (Javadoc)

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Contents

Less talk, more code?

- Inform other coders how to use your code without having to read it.
- Understanding your code
  - Know what the intention is.
  - Know what the code does and does not need to handle.
- Specification
  - Reminder to yourself what you need to do.
  - Makes you think about your responsibilities.
- Only necessary for public interface.

What is Good Documentation?

- Concise
  - Do *not* repeat what the code says, don't explain *how*.
  - No fillers – *This method...* is not necessary.
  - Make the first sentence count – JavaDoc assumes it to be the summary.
  - Link to other documentation – with `@see` or `@link`
- Complete
  - Responsibilities (pre- & post-conditions)
  - Corner cases. e.g. `null`? negative `int`s?

Class Comments

- What is the class responsible for? What information does it hold, what things can it do?
- Who uses this class? Does it for example generate itself?
- Does this class need special treatment, for example a lifetime?

Method Comments

- Use `@param` to
  - Define constraints
  - What are your preconditions?
- Use `@return` to
  - Offer more specific information.
  - What are your postconditions?

What not to do

```
public class ServerProxy implements IServer{
```

What not to do

```
/**
 * Constructor.
 */
public ServerProxy(String url, int port) throws
    NetworkConnectionException {
        // ...
}
```

What not to do

```
/**
 * Ends the connection.
 */
public void disconnect() throws DeadConnectionException {
        // ...
}

/**
 * Returns the number of jobs.
 */
public int getJobCount() throws DeadConnectionException {
        // ...
}
```

What not to do

```
/**
 * Returns the url of the server.
 */
public String getUrl() {
        return url;
}
```

How to do it better

```
public class ServerProxy implements IServer{
```

How to do it better

```
/**
 * Relays method calls to a remote {@see Server}.
 * <p>
 * The proxy is responsible for establishing and
 * keeping a connection to the server. The caller
 * must ensure that a connection is destroyed with
 * the {@see #disconnect} method.
 */
public class ServerProxy implements IServer {
```

How to do it better

```
/**
 * Constructor.
 */
public ServerProxy(String url, int port) throws
    NetworkConnectionException {
        // ...
}
```

How to do it better

```
/**
 * Established a connection to a remote server.
 * Throws if it fails to do so.
 *
 * @param url address that can either be resolved
 *            via hosts.conf or DNS or is an IP
 *            address.
 * @param port port to connect to on the server. A
 *             positive integer, typically above 1024.
 *             Must be the same as the {@see Server}
 *             uses with its {@see Server#listenOn} method.
 * @throws NetworkConnectionException if it was
 *            not able to initiate a connection.
 */
public ServerProxy(String url, int port)
        throws NetworkConnectionException {
        // ...
}
```

How to do it better

```
/**
 * Ends the connection.
 */
public void disconnect() throws DeadConnectionException {
        // ...
}

/**
 * Returns the number of jobs.
 */
public int getJobCount() throws DeadConnectionException {
        // ...
}
```

How to do it better

```
/**
 * Ends the connection. After this call, no other
 * method call is valid, including this one. The
 * server is not affected by this.
 */
public void disconnect() throws DeadConnectionException {
        // ...
}

/**
 * Returns the number of jobs running on the server.
 *
 * @return a non-negative integer that is the
 *         number of jobs that are alive.
 */
public int getJobCount() throws DeadConnectionException {
        // ...
}
```

How to do it better

```
/**
 * Returns the url of the server.
 */
public String getUrl() {
        return url;
}
```

How to do it better

```
public String getUrl() {
        return url;
}
```