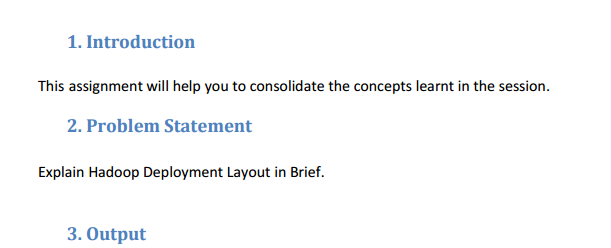
**Assignment 15.3**

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## With increased complexity and evolving Hadoop ecosystem, having standard deployment layout ensures better integration between Hadoop sub-projects. By making the installation process easier, we can lower the barrier to entry and increase Hadoop adoption.

## Packages

We need to divide Hadoop up into packages that can be independently upgraded.

* The list of packages should include:
* **Hadoop Common** - Common including the native code and required jar files.
* **HDFS Client** - HDFS jars, scripts, and shared libraries.
* **HDFS Server** - jsvc executable
* **Yarn Client** - Yarn client jars and scripts
* **Yarn Server** - Yarn server jars and scripts
* **MapReduce** - MapReduce jars, scripts, and shared libraries
* **LZO** - LZ0 codec from github.com/omally/hadoop-gpl-compression
* **Metrics** - Plugins for Chukwa and Ganglia
* Packages from other teams will include:
* **Pig**
* **Hive**
* **Oozie client**
* **Oozie server**
* **Howl client**
* **Howl server**

**Deployment**

It is important to have a standard deployment that results from installing the packages regardless of the package manager. Here are the top level directories and a sample of what would be under each.

Note that all of the packages are installed "flattened" into the prefix directory. For compatibility reasons, we should create "share/hadoop" that matches the old HADOOP\_HOME and set the HADOOP\_HOME variable to that.

$PREFIX/ bin / hadoop

| | mapred

| | pig -> pig7

| | pig6

| + pig7

|

+ etc / hadoop / core-site.xml

| | hdfs-site.xml

| + mapred-site.xml

|

+ include / hadoop / Pipes.hh

| | + TemplateFactory.hh

| + hdfs.h

|

+ lib / jni / hadoop-common / libhadoop.so.0.20.0

| |

| | libhdfs.so -> libhdfs.so.0.20.0

| + libhdfs.so.0.20.0

|

+ libexec / task-controller

|

+ man / man1 / hadoop.1

| | mapred.1

| | pig6.1

| + pig7.1

|

+ share / hadoop-common

| | hadoop-hdfs

| | hadoop-mapreduce

| | pig6

| + pig7

|

+ sbin / hdfs-admin

| | mapred-admin

|

+ src / hadoop-common

| | hadoop-hdfs

| + hadoop-mapreduce

|

+ var / lib / data-node

| + task-tracker

|

| log / hadoop-datanode

| + hadoop-tasktracker

|

+ run / hadoop-datanode.pid

+ hadoop-tasktracker.pid

## Path Configurations

Path can be configured at compile phase or installation phase. For RPM, it takes advantage of the --relocate directive to allow path reconfiguration at install phase. For Debian package, path is configured at compile phase.

**Build phase parameter:**

* package.prefix - Location of package prefix (Default /usr)
* package.conf.dir - Location of configuration directory (Default /etc/hadoop)
* package.log.dir - Location of log directory (Default /var/log/hadoop)
* package.pid.dir - Location of pid directory (Default /var/run/hadoop)