***Concept # 01: (How to Install JMeter)***

* This is Java and Platform independent. Step 1: Check Java is installed on system.
* Check on the cmd and write “java –version” (This will tell us whether the java is installed or not)
* <https://www.youtube.com/watch?v=Wp6uS7CmivE>
* <https://www.youtube.com/watch?v=M-iAXz8vs48&list=PLhW3qG5bs-L-zox1h3eIL7CZh5zJmci4c&index=2&t=0s>
* Download JMeter from Online. Unzipped the Folder
* Start JMeter via jmeter batch file
* While working on Performance or Automation Testing it is always essential to have the requirements pre ahead.
* What will be the test data?
* This performance must not be done on existing environments.
* This must not be used for other activities
* Having baseline is essentials. This is set of test runs that will be used for future comparisons.
* Sometimes we have to create our own baselines.

***Concept # 02: (How to Create First JMeter Test)***

* <https://www.youtube.com/watch?v=8loLHbhfyh0&list=PLhW3qG5bs-L-zox1h3eIL7CZh5zJmci4c&index=3>
* Left side has the elements of the test plan
* Right has configurations.
* Test Plan is like a container which will have all the tests to be performed.
* All sorts of listeners will come under the Test Plan
* If you want your elements to be saved, this has to be in the test plan.
* First thing we will need to have in the Test Plan will be thread group.
* Thread group will be the users that will be used to create or run the tests.
* There are few important things that we need to consider and play around with all those options one or the other way:  
    
  1. Create the Test Plan

2. Create a Thread Group  
3. Add a Sampler  
4. Run the Test  
5. Add Listeners

***Concept # 03: (How to use Assertions)***

* Assertions is about check on the response. Format/ Duration / Time / Type of Response / Size of Response.
* All these checks are called Assertions.
* Response Assertion (This will check the Response Code against the Hits)
* Assertion Result (This is a Listener and this will tell that if there are any assertions are failed)
* Duration Assertions (This is primarily used to see the Response Time)
* Size Assertions (This is used to check the response size of the API being Hit)
* If there is compression being applied, then we may not be that much possibility to check the Size Assertions.
* HTML Assertion (This actually checks the format of the HTML)
* XML Assertion (Just like the HTML, this checks the format of the XML)
* XPath Assertion

***Concept # 04: (How to use Listeners)***

* Listeners are the elements that gathers the information regarding the performance of the test being run.
* They are result metrics.
* Listener # 01: **View Results in Table**:
* Time to first byte is LATENCY. This needs to be understood. The time when the tool start getting the first response.
* Listener # 02: **View Results in Tree**. Must not be used for Heavy Load or Performance Listener
* Listener # 03: **Aggregate Graph.** (Average shows the average response time. Median means half of the requests took this time and half less than this. Throughput is the number of requests per second and lastly is the size per second. This is also very important listener).
* Listener # 04: **Graph Results**: This actually shows off the factors like Throughput and Average. This is also not very important. Not for Heavy Load Tests
* Listener # 05: **Summary Report**: This is somehow the same as of the Aggregated. Not to be used if we are using the Aggregate Graph.
* We can log the data to the File on every listener. We don’t have to copy paste them.
* Listener # 06: **Simple Data Writer**: This will log the data in the file and save on to the location.

***Concept # 05: (How to record UI Tests)***

* Download the Tools and record them
* There are couple of Tools to do so. Bad Boy is one
* Blaze Meter Chrome Extension is another.
* Record the test
* Chose the api you want to be part of the script
* Import the jmx file inside the Jmeter.
* Add listeners
* Run and Validate

***Concept # 06: (How to record Login Tests)***

* Download the Tools and record them
* There are couple of Tools to do so. Bad Boy is one
* Blaze Meter Chrome Extension is another.
* Record the test
* Chose the api you want to be part of the script
* Import the jmx file inside the Jmeter.
* Add listeners
* Run and Validate

***Concept # 07: (How to record Login Tests)***

* Configuration Elements cann be used to set up defaults and variables for later use by samplers. Note that these elements are processed at the start of the scope in which they are found, i.e. before any samplers in the same scope.
* CSV Data Set Configuration:  
  This is used to set data from the csv file.

***Concept # 08: (How to record Config Elements)***

* Create a file i.e. csv.
* Enter the values in it.
* Specify the names of the fields in JMeter request e.g. HTTP Request or Java Request.
* Provide the location of the file
* In the request you can use the values from the csv files.
* E.g. Request ${firstname} ${lastname}
* Play around with the thread values
* Add listeners
* Counter Config element is also used.

These are the Tutorials I have to see again. For now we are short of the time so can not watch all of them.

***Concept # 09: (How to Create a Database Test Plan)***

* Add a thread Group
* Add JDBC connection configuration element and provide the details of our database.

<https://www.youtube.com/watch?v=l06nf9C8CPE&list=PLhW3qG5bs-L-zox1h3eIL7CZh5zJmci4c&index=8>

<https://www.youtube.com/watch?v=oy53KAKHpts&list=PLhW3qG5bs-L-zox1h3eIL7CZh5zJmci4c&index=9>

<https://www.youtube.com/watch?v=K26q5VgwLKk&list=PLhW3qG5bs-L-zox1h3eIL7CZh5zJmci4c&index=10>

<https://www.youtube.com/watch?v=tLtHW6edVlo&list=PLhW3qG5bs-L-zox1h3eIL7CZh5zJmci4c&index=11>

***Concept # 12: (Testing Web Services API)***

API – Application Programming Interface

Restaurant – Table < -- Waiter 🡪 Kitchen

* In the above example Waiter is API. It is playing as part of the middle man.
* In Web Services There is Client 🡨 API 🡪 Server
* There are two types of Web Services Rest and SOAP

How to test Rest API?

* Add HTTP Sampler

Rest is all same as we had been doing.

<https://www.youtube.com/watch?v=SmSieTKYky8&list=PLhW3qG5bs-L-zox1h3eIL7CZh5zJmci4c&index=13>

<https://www.youtube.com/watch?v=aHV5IizW7u4&list=PLhW3qG5bs-L-zox1h3eIL7CZh5zJmci4c&index=14>

<https://www.youtube.com/watch?v=KQfoBOK37ms&list=PLhW3qG5bs-L-zox1h3eIL7CZh5zJmci4c&index=15>

***Concept # 15: (How to read Data from a csv File – Parameterization)***

* We will test both SOAP and REST API in this
* Add Config element